

A. Articles in fully peer-reviewed journalsIn press or published(BOLD # – have pdf & may be available from <http://unicorn.mcmaster.ca>) (common CV # not complete)

- 335 A.P. Hitchcock, *Polymer surface characterization by near edge X-ray absorption fine structure spectroscopy*, Chapter 3, in *Polymer Surface Characterization*, L. Sabbatini (Ed.) 2nd edition (De Gruyter, Berlin, Germany, 2021) (Mar 2021, final submitted, in press)
- 334 A.P. Hitchcock, *PEM-FC analysis using soft X-ray spectromicroscopy: methods and applications*. Chapter in *PEMFC characterization and modelling - current trends and challenges*. J. Stumper and J. Jankovic (eds) (de Gruyter, Berlin, Germany 2021) (Feb 2021, final submitted, in press)
- 333 V. Berejnov, B. Rubinstein, L.G.A. Melo, and A.P. Hitchcock, *Calculating Absorption Dose When X-ray Irradiation Modifies Material Quantity and Chemistry*, Journal of Synchrotron Radiation **28** (2021) 834-838. doi:10.1107/S1600577521001703.
- 332 Hao Yuan, Hui Yuan, T. Casagrande, D. Shapiro, Y.-S. Yu, B. Enders, J.R.I. Lee, T. Van Buuren, M. M. Biener, St. A. Gammon, Th. F. Baumann and A.P. Hitchcock, *4D Imaging of ZnO-Coated Nanoporous Al₂O₃ Aerogels by Chemically-Sensitive Ptychographic Tomography: Implications for Designer Catalysts*, ACS Applied Nanomaterials **4** (2021) 621-632. doi:10.1021/acsanm.0c02924
- 331 D. Stanescu, M. Piriyeve, V. Villard, C. Mocuta, A. Besson, D. Ihiawakrim, O. Ersen, J. Leroy, S.G. Chiuzbaian, A.P. Hitchcock and S. Stanescu, *Characterizing surface states in hematite nanorod photoanodes, both beneficial and detrimental to solar water splitting efficiency*, Journal of Materials Chemistry A **8** (2020) 20513-20530. DOI: 10.1039/d0ta06524b
- 330 I. Martens, Li.G.A. Melo, M.M. West, D.P. Wilkinson, D. Bizzotto, A.P. Hitchcock, *Imaging Reactivity of the Pt-Ionomer Interface in Fuel Cell Catalyst Layers*, ACS Catalysis **10** (2020) 8285-8292. DOI: 10.1021/acsaem.9b00982
- 329 P. Leão, L. Le Nagard, H. Yuan, J. Cypriano, I. Da Silva-Neto, D. A. Bazylnski, D. Acosta-Avalos, H. Lins de Barros, A. P. Hitchcock, U. Lins and F. Abreu, *Magnetosome magnetite biomineralization in a flagellated protist: evidence for an early evolutionary origin for magnetoreception in eukaryotes*, Environmental Microbiology **22** (2020) 1495-1506. doi:10.1111/1462-2920.14711
- 328 L. Le Nagard, X.-. Zhu, H. Yuan, K. Benzerara, D. Bazylnski, C. Fradin, S. Swaraj, A. Besson, S. Stanescu, R. Belkhou and A.P. Hitchcock, *Magnetite Magnetosome Biomineralization in Magnetospirillum magneticum strain AMB-1: a Time Course Study*, Chemical Geology **530** (2019) 119348, 1-12. doi: 10.1016/chemgeo.2019.119348
- 327 L. Le Nagard, L. Yu, M. Rajkotwala, S. Barkley, D.A. Bazylnski, A.P. Hitchcock and C. Fradin, *Misalignment between the magnetic dipole moment and the cell axis in the magnetotactic bacterium Magnetospirillum magneticum AMB-1*, Physical Biology **16** (2019) 066008. doi: /10.1088/1478-3975/ab2858
- 326 I. Martens, L.G.A. Melo, D. Wilkinson, D. Bizzotto and A.P. Hitchcock, *Characterization of X-ray Damage to Perfluorosulfonic acid Using Correlative Microscopy*, J. Phys. Chem. C **123** (2019) 16023-16033. DOI: 10.1021/acs.jpcc.9b03924
- 325 L.G.A. Melo and A.P. Hitchcock, *Electron beam damage of perfluorosulfonic acid studied by soft X-ray spectromicroscopy*, Micron **121** (2019) 8-20 doi.org/10.1016/j.micron.2019.02.006
- 324 W. Zhang, L.G.A. Melo, A.P. Hitchcock and N. Bassim, *Electron beam damage of epoxy resin film studied by scanning transmission X-ray spectromicroscopy*, Micron **120** (2019) 74-79. doi: 10.1016/j.micron.2019.02.003.
- 323 P. Krüger, Y. Maekawa, A.P. Hitchcock and C. Bittencourt, *Polarization dependent X-ray absorption near-edge spectra of boron nitride nanotubes*, Radiation Physics and Chemistry **175** (2020) 108129. doi: 10.1016/j.radphyschem.2019.01.014
- 322 A.P. Hitchcock, X. Wang, K. Grandfield, J. Everett, J.F. Collingwood and N.D. Telling,

- Correlative Spectromicroscopy and Tomography for Biomedical Applications involving Electron, Ion, and Soft X-ray Microscopies*, *Microscopy Today* **27** (2019) 12-17. [cover](#)
doi.org/10.1017/S1551929518001256
- 321** J. Wu, X.H. Zhu, D.A. Shapiro, J.R.I. Lee, T. van Buuren, M.M. Biener, S.A. Gammon, T.T. Li, T.F. Baumann and A. P. Hitchcock, *4D imaging of ZnO coated alumina aerogels by scanning transmission X-ray microscopy and ptychographic tomography*, *Journal of Physical Chemistry C* **122** (2018) 25374–25385. doi: 10.1021/acs.jpcc.8b07363
- 320** A.F.G. Leontowich, R. Berg, C.N. Regier, D.M. Taylor, J. Wang, D. Beauregard, J. Geilhufe, J. Swirsky, J. Wu, C. Karunakaran, A. P. Hitchcock and S.G. Urquhart, *Cryo scanning transmission X-ray microscope optimized for spectrotomography*, *Review of Scientific Instruments* **89** (2018) 09374–(1-14). doi:10.1063/1.5041009
- 319** A. Khondker, R.J. Alsop, S. Himbert, C.J. Tang, A.-C. Shi, A.P. Hitchcock and M.C. Rheinstädter, *Effects of membrane-modulating drugs on size of amyloid- β_{25-35} aggregates in anionic unsaturated lipid membranes*, *Scientific Reports* **8** (2018) 12367-1-16. DOI:10.1038/s41598-018-30431-8
- 318** L.G.A.Melo, A. P. Hitchcock, D. Susac, J. Stumper, V. Berejnov, *Polymer thin film thickness determination by ultraviolet spectral reflectance and soft X-ray microscopy*, *Physical Chemistry Chemical Physics*, **20** (2018) 16625 – 16640. doi: 10.1039/C7CP08621K
- 317** J. Wu, X.H. Zhu, M.M. West, T. Tylliszczak, H-W. Shiu, D. Shapiro, V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *High resolution imaging of polymer electrolyte membrane fuel cell cathode layers by soft X-ray spectro-ptychography*, *Journal of Physical Chemistry C* **122** (2018) 11709–11719 doi: 10.1021/acs.jpcc.8b02933
- 316** X. Wang, F. Ali Shah, B. Langelier, A. Korinek, M. Bugnet, A.P. Hitchcock, A. Palmquist and K. Grandfield, *Biom mineralization at Titanium Revealed by Correlative 4D Tomographies and Spectroscopies*, *Advanced Materials Interfaces* (2018) 1800262 (1-9). doi: 10.1002/admi.201800262
- 315** V. Prabu, M. Obst, H. Hosseinkhannazer, M. Reynolds, S. Rosendahl, J. Wang and A. P. Hitchcock, *Instrumentation for in-situ Flow Electrochemical Scanning Transmission X-ray Microscopy (STXM)* *Review of Scientific Instruments* **89** (2018) 063702 (1-12) DOI: 10.1063/1.5023288 [EDITOR'S PICK](#)
- 314** V. Berejnov, B. Rubinstein, L. Melo and A.P. Hitchcock, *First principles X-ray absorption dose calculation for time dependent mass and optical density*, *Journal of Synchrotron Radiation* **25** (2018) 833-847. doi.org/10.1107/S1600577518002655
- 313** J. Wu, L.G.A. Melo, X.H. Zhu, M.M. West, V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *4d imaging of polymer electrolyte membrane fuel cell catalyst layers by soft X-ray spectro-tomography*, *Journal of Power Sources* **381** (2018) 72-83. doi:10.1016/j.jpowsour.2018.01.074
- 312** S. Vidovic, P. Medihala, J.J. Dynes, P. Daida, V. Vujanovic, A. P. Hitchcock, D. Shetty, H. Zhang, D.R. Brown, J.R. Lawrence and D. R. Korber, *Importance of the RpoE Regulon in Maintaining the Lipid Bilayer during Antimicrobial Treatment with the Polycationic Agent, Chlorhexidine*, *Proteomics* **18** (2018) 1700285: 1-9. doi: 10.1002/pmic.201700285
- 311** Z. Yan, R. Hayes, L.G.A. Melo, G.R. Goward, and A.P. Hitchcock, *Spectroscopic Analysis of Fluorinated Proton Conducting Materials: Comparing NMR and X-ray Absorption Spectroscopies*, *Journal of Physical Chemistry C* **122** (2018) 3233-3244. doi: 10.1021/acs.jpcc.7b11592
- 310** A.P. Hitchcock, *Influence of local environment on inner shell excitation spectra, studied by electron and X-ray spectroscopy and spectromicroscopy*, *Zeitschrift für Physikalische Chemie*, **232** (2018) 723-745. doi: 10.1515/zpch-2017-1061
- 309** X.H. Zhu, A.P. Hitchcock, L. Le Nagard, D.A. Bazylnski, V. Morillo, F. Abreu, P. Leão and U. Lins, *X-ray Absorption Spectroscopy and Magnetism of Synthetic Greigite and Greigite Magnetosomes in Magnetotactic Bacteria*, *Geomicrobiology Journal* **35** (2018) 215-226. doi:10.1080/01490451.2017.1362078
- 308** N. D. Telling, J. Everett, J. F. Collingwood, J. Dobson, G. van der Laan, J. Gallagher, J. Wang and A.P. Hitchcock, *Iron biochemistry is correlated with amyloid plaque morphology in an*

- established mouse model of Alzheimer's disease, *Cell Chemical Biology* **24** (2017) 1205-1215. doi: 10.1016/j.chembiol.2017.07.014
- 307 J. Wu, M. Lerotic, R. Leary, S. Collins, Z. Saghi, P. Midgley, V. Berejnov, D. Susac, J. Stumper, G. Singh and A.P. Hitchcock, *Optimization of Three-Dimensional (3D) chemical imaging by soft X-ray spectro-tomography using a compressed sensing algorithm*, *Microscopy & Microanalysis* **23** (2017) 951-956 doi: 10.1017/S1431927617012466 (has supplemental info)
- 306 J.D. West, Y. Zhu, S. Saem, J. Moran-Mirabal, and A.P. Hitchcock, *X-ray absorption spectroscopy and spectromicroscopy of supported lipid bilayers*, *Journal of Physical Chemistry B* **121** (2017) 4492-4501 DOI: 10.1021/acs.jpcc.7b02646
- 305 X.H. Zhu, A.P. Hitchcock, D.A. Bazylinski, P. Denes, J. Joseph, U. Lins, S. Marchesini, H.-W. Shiu, T. Tyliszczak and D.A. Shapiro, *Measuring spectroscopy and magnetism of extracted and intracellular magnetosomes using soft X-ray ptychography*, *Proceedings of the National Academy of Sciences* **113** (51) (2016) E8219-E8227 doi:10.1073/pnas.1610260114
- 304 D. Erbahar, T. Susi, X. Rocquefelte, C. Bittencourt, M. Scardamaglia, P. Guttmann, G. Rotas, N. Tagmatarchis, X.H. Zhu, A.P. Hitchcock and C.P. Ewels, *Spectromicroscopy of C₆₀ and azafullerene C₅₉N: Identifying surface absorbed water*, *Scientific Reports* **6** (2016) 35605, pp 1-12 doi: 10.1038/srep35605
- 303 F. Ahrend, U. Glebe, L. Árnadóttir, J.E. Baio, D.A. Fischer, C. Jaye, B.O. Leung, A.P. Hitchcock, T. Weidner, U. Siemeling and A. Ehresmann, *Magnetic field landscapes guiding the chemisorption of diamagnetic molecules*, *Langmuir* **32** (2016) 10491-10496. doi: 10.1021/acs.langmuir.6b02208
- 302 J.R. Lawrence, M.J. Waiser, G.D.W. Swerhone, J. Roy, V. Tumber, A. Paule, A.P. Hitchcock, J.J. Dynes and D.R. Korber, *Effects of Fullerene (C₆₀), Multi-Wall Carbon Nanotubes (MWCNT), Single Wall Carbon Nanotubes (SWCNT) and hydroxyl and carboxyl modified Single Wall Carbon Nanotubes on riverine microbial communities*. *Environmental Science and Pollution Research* **23** (2016) 10090-10102 doi:10.1007/s11356-016-6244-x
- 301 L. G. de A. Melo, A.P. Hitchcock, V. Berejnov, D. Susac, J. Stumper and G.A. Botton, *Evaluating focused ion beam and ultramicrotome sample preparation for analytical microscopies of the cathode layer of a polymer electrolyte membrane fuel cell*, *Journal of Power Sources* **312** (2016) 23-35. doi: 10.1016/j.jpowsour.2016.02.019
- 300 J.R. Lawrence, G.D.W. Swerhone, J.J. Dynes, A.P. Hitchcock and D.R. Korber, *Complex organic corona formation on carbon nanotubes reduces microbial toxicity by suppressing reactive oxygen species production*, *Environmental Science: Nano*, **3** (2016) 181-189 DOI: 10.1039/C5EN00229J
- 299 D. Carta, A.P. Hitchcock, P. Guttmann, A. Regoutz, A. Khiat, A. Serb, I. Gupta and T. Prodromakis, *Spatially resolved TiO_x phases in RRAM conductive nanofilaments using soft-X-ray spectromicroscopy*, *Scientific Reports* **6** (2016) 21525: (1-10) doi: 10.1038/srep21525
- 298 A.F.G. Leontowich, A.P. Hitchcock and R.F. Egerton, *Radiation damage in organic solids across the carbon 1s ionization edge*, *Journal of Electron Spectroscopy and Related Phenomena* **206** (2016) 58-64. DOI: 10.1016/j.elspec.2015.11.010
- 297 J.R. Lawrence, G.D.W. Swerhone, J.J. Dynes, D.R. Korber and A.P. Hitchcock, *Soft x-ray spectromicroscopy for speciation, quantitation and nano-eco-toxicology of nanomaterials*, *J. Microscopy* **261** (2016) 130-147 doi: 10.1111/jmi.12156
- 296 X.H. Zhu, A.P. Hitchcock, C. Bittencourt, P. Umek and P. Krüger, *Individual Titanate Nanostructures Studied by 3D-resolved Polarization Dependent X-ray Absorption Spectra Measured with Scanning Transmission X-ray Microscopy*, *Journal of Physical Chemistry C* **119** (2015) 24192-24200. doi 10.1021/acs.jpcc.5b08539
- 295 K.L. Harding, S. Kalirai, R. Hayes, V. Ju, G. Cooper, A. P. Hitchcock and M.R. Thompson, *Inner-shell spectroscopy of peroxides*, *Chemical Physics* **461** (2015) 117-124. doi: 10.1016/j.chemphys.2015.09.004
- 294 A.P. Hitchcock, *Soft X-ray spectromicroscopy and ptychography*, *Journal of Electron Spectroscopy and Related Phenomena* **200** (2015) 49-63 doi: 10.1016/j.elspec.2015.05.013
- 293 G. Schmid, M. Obst, J. Wu and A.P. Hitchcock, *3D chemical imaging of nanoscale biological*,

- environmental and synthetic materials by soft X-ray spectro-tomography*, Chapter 2 in *X-ray and Neutron Techniques for Nanomaterials Characterization*, Vol. 5., C.S.S.R. Kumar, ed. (2016) 43 – 94 (Springer, Berlin, 2016) ISBN 978-3-662-48606-1_2, DOI: 10.1007/978-3-662-48606-1_2
- 292 C. Karunakaran, R. Lahlali, V. Perumal, C.R. Christensen, L.M. Blair; S.S. Miller and A. P. Hitchcock, *Introduction of soft X-ray spectromicroscopy as an advanced technique for plant biopolymers research*, PLOS One **10** (2015) e0122959. DOI:10.1371/journal.pone.0122959
- 291 X.H. Zhu, S.S. Kalirai, A.P. Hitchcock and D.A. Bazylinski, *What is the correct Fe L₂₃ X-ray absorption spectrum of magnetite?*, Journal of Electron Spectroscopy and Related Phenomena **199** (2015) 19-26. doi: 10.1016/j.elspec.2014.12.005
- 290 T. Rema, J.R. Lawrence, J. J. Dynes, A. P. Hitchcock and D.R. Korber, *Chlorhexidine-tolerance in Delftia acidovorans biofilms: microscopic and spectroscopic analyses*, Antimicrobial Agents and Chemotherapy **58** (2014) 5673-5686 DOI: 10.1128/AAC.02984-14
- 289 A.P. Hitchcock and M.F. Toney, *Spectromicroscopy and coherent diffraction imaging: focus on energy materials applications*. J. Synchrotron Radiation **21** (2014) 1019-1030 10.1107/S1600577514013046.
- 288 A.P. Hitchcock, V. Berejnov, V. Lee, M.M. West, M. Dutta, V. Colbow and S. Wessel, *Carbon corrosion of Proton Exchange Membrane Fuel Cell catalyst layers studied by Scanning Transmission X-ray Microscopy*, J. Power Sources **266** (2014) 66-78. 10.1016/j.jpowsour.2014.04.119
- 287 V. Lee, V. Berejnov, M.M. West, S. Kundu, D. Susac, J. Stumper, R.T. Atanasoski, M. Debe and A.P. Hitchcock, *STXM Investigations of Nano Structured Thin Film Catalysts for Proton-Exchange-Membrane Fuel Cell Applications*, J. Power Sources **263** (2014) 163-174. 10.1016/j.jpowsour.2014.04.020
- 286 R.D. Arrua, A.P. Hitchcock, W.B. Hon, M. West and E.F. Hilder, *Characterisation of Polymer Monoliths Containing Embedded Nanoparticles by Scanning Transmission X-Ray Microscopy (STXM)*, Analytical Chemistry **86** (2014) 2876–2881 doi: 10.1021/ac403166u
- 285 J. Liu, E. Rühl, A. P. Hitchcock, D.N. McIlroy, J.D. Bozek, T. Tylliszczak, A. Knop-Gericke, N.M. Boag and P.A. Dowben, *Double cation formation from the photo-fragmentation of the closo-carboranes*, Zeitschrift für Physikalische Chemie **228** (2014) 421-436. (Festschrift for Klaus Rademann) DOI 10.1515/zpch-2014-0447
- 284 E.M. Eickhoff, M. Obst, C.Schröder, A.P. Hitchcock, T. Tylliszczak, R.E. Martinez, L.J. Robbins, K.O. Konhauser and A. Kappler, *Nickel partitioning in biogenic and abiogenic ferrihydrite: the influence of silica and implications for ancient environments*, Geochim Cosmochim Acta **140** (2014) 65-79. doi: 10.1016/j.gca.2014.05.021
- 283 G. Schmid, F. Zeitvogel, L. Hao, P. Ingino, W. Kuerner, J.J. Dynes, C. Karunakaran, J. Wang, Y. Lu, T. Ayers, C. Schietinger, A.P. Hitchcock and M. Obst, *Synchrotron-based chemical nano-tomography of microbial cell-mineral aggregates in their natural, hydrated state*, Microscopy & Microanalysis **20** (2014) 531-536. doi:10.1017/S1431927613014104
- 282 E.M. Muehe, M. Obst, A.P. Hitchcock, T. Tylliszczak, S. Behrens, C.Schröde J.M. Byrne, M. Michel, U.Kraemer and A. Kappler, *Fate of Cd during microbial Fe(III) mineral reduction by a novel and Cd-tolerant Geobacter species*, Environmental Science and Technology **47** (2013) 14099-14109 doi: /10.1021/es403365w
- 281 M. Nagasaka, H. Yuzawa, T. Horigome, A.P. Hitchcock and N. Kosugi, *Electrochemical reactions of aqueous iron sulfate solutions studied by Fe L-edge soft X-ray absorption spectroscopy*, J. Phys. Chem. C **117** (2013) 16343-16348. doi: 0.1021/jp405112r
- 280 A.F.G. Leontowich and A.P. Hitchcock, *Fabrication of sealed nanofluidic channels using site-selective direct write (maskless) x-ray lithography*, Microfluidics and Nanofluidics **15** (2013) 509-518 doi: 10.1007/s10404-013-1170-4
- 279 A.F.G. Leontowich, A.P. Hitchcock, B. Watts and J. Raabe, *Direct write (maskless) x-ray nanolithography*, Microelectronic Engineering **108** (2013) 5-7. 10.1016/j.mee.2013.03.006
- 278 S.S. Kalirai, D.A. Bazylinski and A.P. Hitchcock, *Anomalous magnetic orientations of magnetosome chains in a magnetotactic bacterium: Magnetovibrio Blakemorei strain MV-1*, Public Library of Science One **8** (2013) e53368-(1-7). doi:10.1371/journal.pone.0053368

- 277 D. Rossouw, G.A. Botton, E. Najafi, V. Lee, and A.P. Hitchcock, *Metallic and Semiconducting Single-Walled Carbon Nanotubes: Differentiating Individual SWCNTs by Their Carbon 1s Spectra* ACS Nano **12** (2012) 10965–10972.
- 276 W. Cao, M. Masnadi, Q-F. Xiao, Y.-F. Hu, J.-M. Baribeau, J.C. Woicik, A.P. Hitchcock and S.G. Urquhart, *Quantification of Strain Through Linear Dichroism in the Si K-edge X-ray Absorption Spectra of Strained Si_{1-x}Ge_x Thin Films*, Applied Surface Science **265** (2013) 358-362. doi:10.1016/j.apsusc.2012.11.012
- 275 A.P. Hitchcock, B.O. Leung, J.L. Brash, A. Scholl and A. Doran, *Soft X-ray spectromicroscopy of protein interactions with phase segregated polymer surfaces*, chapter 34 in *Proteins at Interfaces III State of the Art*, T. Horbett, J.L. Brash and W. Norde, eds., (American Chemical Society, Washington USA, 2012) pp 732-760 DOI: 10.1021/bk-2012-1120.ch034
- 274 A.F.G. Leontowich, A.P. Hitchcock, T. Tylliszczak, M. Weigand, J. Wang and C. Karunakaran, *Accurate dosimetry in scanning transmission X-ray microscopes via the cross-linking threshold dose of poly(methyl methacrylate)*, J. Synchrotron Radiation **19** (2012) 976-987. doi:10.1107/S0909049512034486
- 273 B.O. Leung, A.P. Hitchcock, R.M. Cornelius, J.L. Brash, A. Scholl and A. Doran, *Using X-PEEM to study biomaterials: protein and peptide adsorption to a polystyrene-poly(methyl methacrylate)-b-polyacrylic acid blend*, J. Electron Spectrosc. Rel. Phenom. **185** (2012) 406-416. doi:10.1016/j.elspec.2012.06.004
- 272 C. Bittencourt, A. P. Hitchcock, X. Ke, G. Van Tendeloo, C. P. Ewels and P. Guttman, *X-ray absorption spectromicroscopy of a thin graphite flake: Imaging and electronic structure via the carbon K-edge*, Beilstein Journal of Nanotechnology **3** (2012) 345-350. doi:10.3762/bjnano.3.39
- 271 V.S. Coker, J.M. Byrne, N.D. Telling, G. van der Laan, J.R. Lloyd, A.P. Hitchcock, J. Wang and R.A.D. Patrick, *Characterisation of the dissimilatory reduction of Fe(III)-oxyhydroxide at the microbe – mineral interface: the application of STXM–XMCD*, Geobiology **10** (2012) 347-354. DOI 10.1111/j.1472-4669.2012.00329.x
- 270 A.F.G. Leontowich and A.P. Hitchcock, *Secondary electron deposition mechanism of carbon contamination*, Journal of Vacuum Science & Technology B **30** (2012) 030601:1-3 DOI: 10.1116/1.3698602
- 269 V. Berejnov, Z. Martin, M.M. West, S. Kundu, D. Bessarabov, J. Stumper D. Susac and A.P. Hitchcock, *Probing platinum degradation in polymer electrolyte membrane fuel cells by scanning transmission X-ray microscopy*, Phys. Chem. Chem. Phys. **14** (2012) 4835 – 4843. doi:10.1039/C2CP40338B
- 268 J. Hilhorst, M. M. van Schooneveld, J. Wang, Emiel de Smit, T. Tylliszczak, J. Raabe, A.P. Hitchcock, M. Obst, F. M.F. de Groot and A.V. Petukhov, *Three dimensional structure and defects in colloidal photonic crystals revealed by tomographic scanning transmission X-ray microscopy*, Langmuir **28** (2012) 3614–3620 doi:10.1021/la204580y
- 267 A.P. Hitchcock, M. Obst, J. Wang, Y.S. Lu and T. Tylliszczak, *Advances in the detection of As in environmental samples using low energy X-ray fluorescence in a scanning transmission X-ray microscope: Arsenic immobilization by an Fe(II)-oxidizing freshwater bacteria*, Environmental Science and Technology **46** (2012) 2821–2829 doi:10.1021/es202238k
- 266 S.S. Kalirai, K.P. Lam, D. Bazylnski, U. Lins and A.P. Hitchcock, *Examining the chemistry and magnetism of magnetotactic bacterium Candidatus Magnetovibrio blakemorei strain MV-1 using scanning transmission X-ray microscopy*, Chemical Geology **300-301** (2012) 14-23. doi:10.1016/j.chemgeo.2012.01.005
- 265 E. Najafi, A.P. Hitchcock, D. Rossouw and G. Botton, *Mapping defects in a carbon nanotube by momentum transfer dependent electron energy loss spectromicroscopy*, Ultramicroscopy **113** (2012) 158-164. doi:10.1016/j.ultramic.2011.11.017
- 264 A.F.G. Leontowich and A.P. Hitchcock, *Experimental investigation of beam heating in a soft X-ray scanning transmission X-ray microscope*, Analyst **137** (2012) 370-375. DOI: 10.1039/C1AN15688H
- 263 J.A. Bradley, A. Sakko, G.T. Seidler, A. Rubio, M. Hakala, K. Hämäläinen, G. Cooper, A.P. Hitchcock, K. Schlimmer and K.P. Nagle, *Understanding the Lyman Birge Hopfield Band of N₂*, Physical Review A **84** (2011) 022510_1-8.

- 262 J.R. Lawrence, J.J. Dynes, D.R. Korber, G.D.W. Swerhone, G.G. Leppard, *Monitoring the fate of copper nanoparticles in river biofilms using scanning transmission X-ray microscopy (STXM)*, *Chemical Geology* **329** (2012) 18-25. doi:10.1016/j.chemgeo.2011.07.013
- 261 G. E. Mitchell, B. Mickols, D. Hernández-Cruz and A.P. Hitchcock, *Unexpected new phase detected in FT30 type reverse osmosis membranes using scanning transmission x-ray microscopy*, *Polymer* **52** (2011) 3956-3962. doi:10.1016/j.polymer.2011.07.001
- 260 G. Idiong, A. Won, A. Ruscito, **B.O. Leung**, A. P. Hitchcock and A. Ianoul, *Investigating the Effect of Single Glycine to Alanine Substitution on Membrane Interactions of Antimicrobial Peptide Latarcin 2a*, *European Biophysics Journal* **40** (2011) 1087-1100. DOI: 10.1007/s00249-011-0726-z
- 259 **J. Li**, M.A.J. Mazumder, H.D.H. Stöver, A. P. Hitchcock and I.M. Shirley, *Studies on Polyurea Microcapsules: Surface Modifications and Capsule Size Control*, *J. Polymer Science A, Polymer Chemistry* **49** (2011) 3038–3047.
- 258 A.P. Hitchcock, *Soft X-ray Imaging and Spectromicroscopy* Chapter 22 in Volume II of the Handbook on Nanoscopy, eds. Gustaaf Van Tendeloo, Dirk Van Dyck and Stephen J. Pennycook (Wiley, 2012) pp 745-791 invited **BOOK CHAPTER** DOI: 10.1002/9783527641864.ch22
- 257 Z. Martín, I. Jiménez, M.A. Gómez–Fatou, M.M. West and A.P. Hitchcock, *Interfacial Interactions in Polypropylene-Organoclay-Elastomer nanocomposites: influence of polar modifications on the location of the clay*, *Macromolecules* **44** (2011) 2179-2189.
- 256 J.R. Lawrence and A.P. Hitchcock, *Synchrotron-based X-ray and FTIR absorption spectromicroscopies of organic contaminants in the environment*. Chapter 14 in: *Biophysico-Chemical Processes of Anthropogenic Organic Compounds in Environmental Systems*. (2011) 341-368, B.N. Xing, N. Senesi, and P.M. Huang (eds) (International Union of Pure and Applied Chemistry Books Series, John Wiley & Sons) invited **BOOK CHAPTER**
- 255 **B.O. Leung**, A.P. Hitchcock, A. Won, A. Ianoul and A. Scholl, *Imaging Interactions of Cationic Antimicrobial Peptides with Model Lipid Membranes using X-ray Spectromicroscopy*, *European Biophysical Journal* **40** (2011) 805-810.
- 254 M. Vos, R.P. McEachran, G. Cooper and A.P. Hitchcock, *Understanding energy loss in large-angle scattering of keV electrons from Ar and Ne*, *Phys. Rev. A* **83** (2011) 022707-1-9.
- 253 J. Wang, J. Zhou, H. Fang, T.K. Sham, C. Karunakaran, Y. Lu, G. Cooper and A.P. Hitchcock, *Effect of humidity on individual SnO₂ coated carbon nanotubes studied by in situ STXM*, *J. Electron Spectrosc. Rel. Phenomena*, **184** (2011) 296–300 (special issue on Advances in VUVX Physics)
- 252 **A.F.G. Leontowich** and A.P. Hitchcock, *Zone Plate Focused Soft X-ray Lithography*, *Applied Physics A: Materials Science and Processing* **103** (2011) 1–11. DOI 10.1007/s00339-010-6172-4
- 251 A. Won, M. Khan, S. Gustin, A. Akpawu, D. Seebun, T. Avis, **B.O. Leung**, A. P. Hitchcock and A. Ianoul, *Investigating the Effects of L- to D- Amino Acid Substitution and Deamidation on the Activity and Membrane Interactions of Antimicrobial Peptide Anoplin*, *Biochimica et Biophysica Acta (BBA)-Biomembranes* **1808** (2011) 1592-1600 doi:10.1016/j.bbamem.2010.11.010
- 250 **J. Li**, A.P. Hitchcock and H.D.H. Stöver, *Pickering Emulsion Templated Interfacial Atom Transfer Radical Polymerization for Microencapsulation*, *Langmuir* **26** (2010) 17926–17935.
- 249 **B.O. Leung**, A.P. Hitchcock, J.L. Brash and A. Scholl and A. Doran, *An X-ray spectromicroscopy study of protein adsorption to polystyrene-polyethylene oxide blends*, *Langmuir* **26** (2010) 14759–14765.
- 248 J.A. Bradley, G.T. Seidler, G. Cooper, M Vos, A.P. Hitchcock, A. P. Sorini, C. Schlimmer and K.P. Nagle, *A comparative study of electronic excitations of N₂ by inelastic X-ray and electron scattering*, *Phys. Rev. Lett* **105** (2010) 053202-1-4.
- 247 A. Felten, X. Gillon, M. Gulas, J.-J. Pireaux, X. Ke, G. Van Tendeloo, C. Bittencourt, E. Najafi and A.P. Hitchcock, *Measuring Point Defect Density in Individual Carbon Nanotubes Using Polarization-Dependent X-ray Microscopy*, *ACS Nano* **4** (2010) 4431–4436.
- 246 **B.O. Leung**, J. L. Brash and A.P. Hitchcock, *Characterization of biomaterials by soft X-ray spectromicroscopy*, *Materials* **3** (2010) 3911-3938 (**invited review**).

- 245** E. Najafi, J. Wang, A.P. Hitchcock, J. Guan, S. Denommee and B. Simard, *Characterization of Single-Walled Carbon Nanotubes by Scanning Transmission X-ray Spectromicroscopy: Purification, Order and Dodecyl Functionalization*, Journal of the American Chemical Society **132** (2010) 9020-9029.
- 244** T.R. Neu, B. Manz, F. Volke, J.J. Dynes, A.P. Hitchcock and J.R. Lawrence. *Advanced imaging techniques for assessment of structure, composition and function in biofilm systems*. FEMS Microbiology Ecology **72** (2010) 1–21. (invited review)
- 243** B.O. Leung, J. Wang, J.L. Brash and A.P. Hitchcock, A. Scholl and A. Doran, *An X-ray spectromicroscopy study of albumin adsorption to cross-linked polyethylene oxide films*, Advanced Engineering Materials **12** (2010) B133-B138.
- 242** A.P. Hitchcock, G. Cooper, R.A. Bonham and C.A. Chatzidimitriou-Dreisemann, *Quasi-elastic electron scattering from atoms and molecules*, J. Electron Spectroscopy and Related Phenomena, **181** (2010) 135–139
- 241** K.P. Lam, A.P. Hitchcock, M. Obst, J.R. Lawrence, G.D.W. Swerhone, G.G. Leppard, T. Tyliczszak, C.Karunakaran, J.Wang, K. Kaznatcheev, D. Bazyliniski and U. Lins, *X-ray magnetic circular dichroism of individual magnetosomes by Scanning Transmission X-ray Microscopy*, Chemical Geology **270** (2010) 110-116.
- 240** B.O. Leung, J. Wang, J.L. Brash and A.P. Hitchcock, *Imaging Hydrated Albumin on a Polystyrene-Poly(methyl methacrylate) blend surface with X-ray Spectromicroscopy*, Langmuir (letters) **25** (2009) 13332–13335.
- 239** M. Obst, J. Wang and A.P. Hitchcock, *Soft X-ray spectro-tomography study of cyanobacterial biomineral nucleation*, Geobiology **7** (2009) 577-591.
- 238** K.L.I. Norlund, G. Southam, T. Tyliczszak, Y. Hu, C. Karunakaran, M. Obst, A.P. Hitchcock and L.A. Warren, *A novel syntrophic microbial sulphur metabolising consortia: new evidence for microbial global carbon cycling*, Environmental Science & Technology **43** (2009) 8781–8786. **COVER**
- 237** A. P. Hitchcock, J.J. Dynes, J.R. Lawrence, M. Obst, G.D.W. Swerhone, D.R. Korber and G.G. Leppard, *Soft X-ray Spectromicroscopy of Nickel Sorption in a Natural River Biofilm*, Geobiology **7** (2009) 432-453.
- 236** E. Rühl, A.P. Hitchcock, J.D. Bozek, T. Tyliczszak, A.L.D. Kilcoyne, D.N. McIlroy, A. Knop-Gericke and P.A. Dowben, *Fission Processes following Core Level Excitation in Closo-Orthocarborane*, Phys. Stat. Sol. B **246** (2009) 1496-1503.
- 235** S. Hanhan, A.M. Smith, M. Obst and A.P. Hitchcock, *Optimization of analysis of Ca 2p soft X-ray spectromicroscopy*, J. Electron Spectrosc. Rel. Phenom. **173** (2009) 44-49.
- 234** B.O. Leung, J. Wang, J.L. Brash, A.P. Hitchcock, R. Cornelius, A. Doran and A. Scholl, *An X-ray spectromicroscopy study of protein adsorption to a polystyrene-poly lactide blend*, Biomacromolecules **10** (2009) 1838–1845.
- 233** M. Obst, J.J. Dynes, J.R. Lawrence, G.D.W. Swerhone, C. Karunakaran, K.V. Kaznatcheev, D. Bertwistle, K. Benzerara, T. Tyliczszak and A.P. Hitchcock, *Precipitation of amorphous CaCO₃ (aragonite) controlled by cyanobacteria: a multi-technique study of the influence of EPS on the nucleation process*, Geochimica et Cosmochimica Acta **73** (2009) 4180-4198
- 232** R.A. Bonham, G. Cooper and A. P. Hitchcock, *Electron Compton-Like Quasi-Elastic Scattering from H₂, D₂ and HD*, Journal of Chemical Physics **130** (2009) 144303-1-9.
- 231** J. Wang, G.A. Botton, M.M. West and A.P. Hitchcock, *Quantitative evaluation of radiation damage to polyethylene terephthalate by soft X-rays and high energy electrons*, J. Phys. Chem B **113** (2009) 1869–1876.
- 230** B.O. Leung, A.P. Hitchcock, J.L. Brash, A. Scholl and A. Doran, *Phase segregation in polystyrene-poly lactide blends*, Macromolecules **42** (2009) 1679–1684.
- 229** J. Li, A.P. Hitchcock, H.D.H. Stöver and I. Shirley, *A new approach to experimentally studying microcapsule wall growth mechanisms*, Macromolecules **42** (2009) 2428-2432.
- 228** M. R. Howells, A.P. Hitchcock and C.J. Jacobsen, *Introduction: Special issue on radiation*

- damage, J. Electron Spectrosc. Rel. Phenom. 170 (2009) 1-3
- 227 J. Wang, C. Morin, L. Li, A.P. Hitchcock, X. Zhang, T. Araki, A. Doran and A. Scholl, *Radiation Damage in Soft X-ray Microscopy*, J. Electron Spectrosc. Rel. Phenom. 170 (2009) 25-36.
- 226 J.J. Dynes, J.R. Lawrence, D.R. Korber, G.D.W. Swerhone, G.G. Leppard and A.P. Hitchcock, *Morphological and Biochemical Changes in Pseudomonas fluorescens Biofilms Induced by Sub-lethal Exposure to Antimicrobial Agents*, Canadian Journal of Microbiology 55 (2009) 163-178.
- 225 E. Najafi, D. Hernández Cruz, M. Obst, A.P. Hitchcock, B. Douhard, J.-J. Pireaux and A. Felten, *Polarization dependence of the C 1s X-ray absorption spectra of individual multi-walled carbon nanotubes*, Small 4 (2008) 2279-2285.
- 224 B.O. Leung, A.P. Hitchcock, J.L. Brash, A. Scholl, A. Doran, P. Henklein, J. Overhage, K. Hilpert, J.D. Hale and R.E.W. Hancock, *An X-ray spectromicroscopy study of competitive adsorption of protein and peptide onto polystyrene-poly(methyl methacrylate)*, Biointerphases 3 (2008) F27-F35.
- 223 D.Feng, J. Liu, A.P. Hitchcock, A.L.D. Kilcoyne, T. Tyliczszak, N.F. Riehs, E. Rühl, J.D. Bozek, D. McIlroy and P.A. Dowben, *Photo-fragmentation of the closo-carboranes Part I: Energetics of Decomposition*, J. Phys. Chem. B 112 (2008) 3311-3318.
- 222 L. Li, J. Brash, R. Cornelius and A. P. Hitchcock, *X-ray microscopy studies of protein adsorption on a phase segregated polystyrene/ polymethylmethacrylate surface, II pH dependence of albumin adsorption* J. Phys. Chem B 112 (2008) 2150-2158.
- 221 R.C. Hunter, A.P. Hitchcock, J.J. Dynes, M. Obst and T.J. Beveridge, *Mapping the speciation of iron minerals in Pseudomonas aeruginosa biofilms using scanning transmission x-ray microscopy*, Environmental Science and Technology 42 (2008) 8766–8772.
- 220 H. Ade and A.P. Hitchcock, *NEXAFS microscopy and resonant scattering: Composition and orientation probed in real and reciprocal space*, Polymer 49 (2008) 643-675. **COVER**
- 219 A.P. Hitchcock, J.J. Dynes, G.A. Johansson, J. Wang and G. Botton, *Comparison of NEXAFS microscopy and TEM-EELS for studies of soft matter*, Micron 39 (2008) 741-748; ALSO printed by mistake as Micron 39 (2008) 311-319.
- 218 G. Cooper, A. P. Hitchcock and C. A. Chatzidimitriou-Dreismann, *Anomalous quasi-elastic electron scattering from single H₂, D₂ and HD molecules at large momentum transfer: Indications of Nuclear Spin Effects*, Physical Review Letters 100 (2008) 043204-(1-4).
- 217 C. Lepiller, V. Gauthier, J. Gaudet, A. Pereira, M. Lefebvre, D. Guay and A.P. Hitchcock, *Studies of Nafion - RuO₂.xH₂O composite membranes* J. Electrochemical Society 155 (2008) B70-B78.
- 216 K.V. Kaznatcheev, P. Dudin, A.P. Hitchcock and O.D. Lavrentovich, *An x-ray microscopy study of chromonic liquid crystal texture*, Physical Review E 76 (2007) 061703:1-14.
- 215 G. Cooper, E. Christensen and A.P Hitchcock, *Quasi-elastic electron scattering from methane, methane-d₄, methane-d₂, ethylene, 2-methylpropane and acetylene*, J. Chem. Phys. 127 (2007) 084315 (1-6)
- 214 J. Wang, H.D.H. Stöver and A.P. Hitchcock, *Chemically selective soft X-ray direct-write patterning of multilayer polymer films*, J. Phys. Chem. C 111 (2007) 16330-16338
- 213 G.A. Johansson, T. Tyliczszak, G.E. Mitchell, M. Keefe and A. P. Hitchcock, *Three dimensional chemical mapping by scanning transmission X-ray spectromicroscopy*, J. Synchrotron Radiation 14 (2007) 395-402. **COVER**
- 212 A. Felten, C. Bittencourt J.-J. Pireaux, M.Reichelt, J. Mayer, D. Hernández Cruz and A. P. Hitchcock *Individual multi-wall carbon nanotubes Spectroscopy by Scanning Transmission X-ray Microscopy*, Nanoletters 7 (2007) 2435-2440.
- 211 J. Stewart-Ornstein, A.P. Hitchcock, Daniel Hernández-Cruz, P. Henklein, J. Overhage, K. Hilpert, J. Hale and R.E.W. Hancock, *Using intrinsic X-ray absorption spectral differences to identify and map peptides and proteins*, J. Phys. Chem. B 111 (2007) 7691-7699.
- 210 D. Hernández-Cruz, A.P. Hitchcock, T. Tyliczszak, M.E. Rousseau and M. Pézolet, *In situ*

- azimuthal rotation device for linear dichroism measurements in scanning transmission x-ray microscopy*, Rev.Sci. Inst. 78 (2007) 033703 -1-6. (reproduced in the Virtual Journal of Biological Physics Research, 1-Apr-07)
- 209 M.E. Rousseau, D. Hernández Cruz, M.M. West, A.P. Hitchcock and M. Pézolet, *Nephilia clavipes Spider Dragline Silk Microstructure Studied by Scanning Transmission X-Ray Microscopy*, J. American Chemical Society 129 (2007) 3897-3905.
- 208 J. Wang, H.D.H. Stöver, A.P. Hitchcock and T. Tylliszczak. *Chemically selective soft X-ray patterning of polymers*, J. Synchrotron Radiation 14 (2007) 181-190. **COVER**
- 207 C.C. Turci, A.B. Rocha, M. Barbatti, C.E. Bielschowsky, I.G. Eustatiu, T. Tylliszczak, G. Cooper, A. P. Hitchcock, *Experimental and theoretical study of S 2p and C 1s generalized oscillator strengths in CS₂*, J. Electron Spectrosc. Rel. Phenom. 155 (2007) 21-27.
- 206 I.G. Eustatiu, T. Tylliszczak, G. Cooper, A. P. Hitchcock, C.C. Turci, A.B. Rocha, M. Barbatti, and C.E. Bielschowsky, *Experimental and theoretical study of S 2p and C 1s spectroscopy in CS₂*, J. Electron Spectrosc. Rel. Phenom. 156-158 (2007) 145-149.
- 205 A.P. Hitchcock, J. Li, S. Reijerkerk, P. Foley, H.D.H. Stöver and I. Shirley, *X-ray absorption spectroscopy of polyureas and polyurethanes and their use in characterizing chemical gradients in thin-walled polyurea capsules*, J. Electron Spectrosc. Rel. Phenom. 156-158 (2007) 467-471.
- 204 G. Cooper, A.P. Hitchcock, C.A. Chatzidimitriou-Dreismann and M. Vos, *Electron Compton scattering from methane and methane-d₄*, J. Electron Spectrosc. Rel. Phenom., 155 (2007) 28-34.
- 203 G.C. Cooper, J. Stewart-Ornstein and A.P. Hitchcock, *Design and performance of an (e,e⁺ion) spectrometer for studies of fragmentation of dipole and non-dipole states of gaseous molecules*, J. Electron Spectrosc. Rel. Phenom. 156-158 (2007) 86-91.
- 202 R. Lessard, J. Cuny, G. Cooper and A.P. Hitchcock, *Inner-shell excitation of gas phase carbonates and α,γ -dicarbonyl compounds*, Chemical Physics 331 (2007) 289-303.
- 201 A. Felten, H. Hody, C. Bittencourt, J.-J. Pireaux, D. Hernández Cruz and A.P. Hitchcock, *Scanning transmission X-ray microscopy of isolated multi-wall carbon nanotubes*, Applied Physics Letters 89 (2006) 093123 –(1-3).
- 200 L. Li, A. P. Hitchcock, N. Robar, R. Cornelius, J.L. Brash, A. Scholl, A. Doran, *X-ray microscopy studies of protein adsorption on a phase segregated polystyrene/polymethylmethacrylate surface. I. concentration and exposure time for albumin adsorption*, J. Phys. Chem B 110 (2006) 16763-16773.
- 199 J.J. Dynes, J.R. Lawrence, D.R. Korber, G. D.W. Swerhone, G.G. Leppard and A.P. Hitchcock, *Quantitative mapping of chlorhexidine in diatoms in natural river biofilms*, Science of the Total Environment 369 (2006) 369-383.
- 198 A.C.O. Guerra, J.B. Maciel, C.C. Turci, H. Ikeura-Sekiguchi and A. P. Hitchcock, *Ionic fragmentation of C 1s excited and ionized formic acid*, Chemical Physics 326 (2006) 589-599.
- 197 D. Hernández Cruz, A. P. Hitchcock, M. M. West, M.-E. Rousseau and M. Pézolet, *Quantitative mapping of the orientation of fibroin β -sheets in B. mori cocoon fibers by scanning transmission X-ray microscopy*, Biomacromolecules 7 (2006) 836-843.
- 196 J.J. Dynes, T. Tylliszczak, T. Araki, J.R. Lawrence, G. D.W. Swerhone, G.G. Leppard and A.P. Hitchcock, *Speciation and quantitative mapping of metal species in bacterial biofilms using scanning transmission X-ray microscopy*, Environmental Science and Technology 40 (2006) 1556-1565.
- 195 N. Iwata, K. Tani, A. Watada, H. Ikeura-Sekiguchi, T. Araki and A.P.Hitchcock, *Chemical Component Mapping of Pulverized Toner by Scanning Transmission X-ray Microscopy*, Micron 37 (2006) 290-295.
- 194 H. Bluhm, K. Andersson, T. Araki, K. Benzerara, G.E. Brown, J.J. Dynes, S. Ghosal, M.K. Gilles, H.-Ch. Hansen, J.C. Hemminger, A.P. Hitchcock, G. Ketteler, A.L.D. Kilcoyne, E. Kneedler, J.R. Lawrence, G.G. Leppard, J. Majzlam, B.S. Mun, S.C.B. Myneni, A. Nilsson, H. Ogasawara, D.F. Ogletree, K. Pecher, M. Salmeron, D.K. Shuh, B. Tonner, T. Tylliszczak, T.

- Warwick and T.H. Yoon, *Soft X-ray Microscopy and Spectroscopy at the Molecular Environmental Science Beamline at the Advanced Light Source*, J. Electron Spectroscopy and Related Phenomena **150** (2006) 86-104.
193. J. Wang, G. Cooper, D. Tulumello and A.P. Hitchcock, *Inner Shell Excitation Spectroscopy of biphenyl and substituted biphenyls: probing delocalization and fluorination effects*, J. Phys. Chem. A **109** (2005) 10886-10896
192. A.P. Hitchcock, H.D.H. Stöver, L.M. Croll and R.F. Childs, *Chemical mapping of polymer microstructure using soft X-ray spectromicroscopy*, Australian Journal of Chemistry **58** (2005) 423-432. doi: 10.1071/CH05054
191. D. Guay, J. Stewart-Ornstein, X. Zhang and A.P. Hitchcock, *in situ spatial and time resolved studies of electrochemical reactions by scanning transmission X-ray microscopy*, Analytical Chemistry **77** (2005) 3479-3487.
190. D. Tulumello, G. Cooper, I. Koprinarov, A.P. Hitchcock, E.G. Rightor, G.E. Mitchell, S. Rozeveld, G.F. Meyers and T.M. Stokich, *Inner shell excitation spectroscopy of adhesion promoters*, J. Phys. Chem B **109** (2005) 6343-6354.
189. R. Feng, R.G. Cavell and A.P. Hitchcock, *Ionic photofragmentation of SO₂ in the sulfur 2p and 2s regions*, Journal of Electron Spectroscopy and Related Phenomena **144-147** (2005) 231-235.
188. A.P. Hitchcock, C. Morin, X. Zhang, T. Araki, J.J. Dynes, H. Stöver, J.L. Brash, J.R. Lawrence and G.G. Leppard, *Soft X-ray Spectromicroscopy of Biological and Synthetic Polymer Systems*, Journal of Electron Spectroscopy and Related Phenomena **144-147** (2005) 259-269.
187. R. Takekoshi, M. Okubo, T. Araki, H.D.H. Stöver and A.P. Hitchcock, *Quantitative chemical mapping of nano-structured "onion-like" poly(methyl methacrylate)/ polystyrene composite particles by soft X-ray microscopy*, Macromolecules **38** (2005) 542-551.
186. T. Araki, A.P. Hitchcock, F. Shen, P. Chang, M. Wang, and R.F. Childs, *Quantitative chemical mapping of poly(sodium acrylate-co-N-vinylpyrrolidone) enhanced alginate microcapsules*, Journal of Biomaterials Science Polymer Edition **16** (2005) 611-627.
185. L.M. Croll, H.D.H. Stöver and A. P. Hitchcock, *Composite Tectocapsules containing Porous Polymer Microspheres as Release Gates* Macromolecules **38** (2005) 2903-2910.
184. J.R. Lawrence, A.P. Hitchcock, G.G. Leppard and T.R. Neu, *Mapping biopolymer distributions in microbial communities*, in Flocculation in natural and engineered environmental processes, I.G. Droppo, G.G. Leppard, and T.M. Milligan and S.N. Liss (eds) CRC Press (2004) Chapter 6, pp. 121-141
183. A.C.O. Guerra, J.B. Maciel, C.C. Turci, R.C. Bilodeau and A. P. Hitchcock, *Quantitative oscillator strengths for ionic fragmentation of C 1s and O 1s excited CO*, Can. J. Chem. **82** (2004) 1052-1060.
182. C. Morin, A. P. Hitchcock, R. M. Cornelius, J. L. Brash, S.G. Urquhart, A. Scholl, A. Doran, *Selective adsorption of protein on polymer surfaces studied by soft X-ray photoemission electron microscopy*, J. Electron Spectroscopy **137-140** (2004) 785-794.
181. G. Cooper, M. Gordon, D. Tulumello, C.C. Turci, K. Kaznatcheev and A.P. Hitchcock, *Inner shell excitation of glycine, glycyl-glycine, alanine and phenylalanine*, J. Electron Spectroscopy **137-140** (2004) 795-799.
180. M.L. Gordon, D. Tulumello, G. Cooper, A.P. Hitchcock, P. Glatzel, S.P. Cramer, O.C. Mullins and U. Bergmann, *Inner shell excitation spectroscopy of fused aromatic molecules by electron energy loss and X-ray Raman techniques*, J. Phys. Chem. A **107** (2003) 8512-8520.
179. J.R. Lawrence, G. D.W. Swerhone, G.G. Leppard, T. Araki, X. Zhang, M.M. West and A.P. Hitchcock, *Scanning transmission X-ray, laser scanning, and transmission electron microscopy mapping of the exopolymeric matrix of microbial biofilms*, Applied Environmental Microbiology **69** (2003) 5543-5554.
178. M.L. Gordon, G. Cooper, C. Morin, T. Araki, C.C. Turci, K. Kaznatcheev, and A. P. Hitchcock, *Inner shell spectroscopy of the peptide bond: comparison of the C 1s, N 1s and O 1s spectra of glycine, glycyl-glycine and glycyl-glycyl-glycine*, J. Phys. Chem A **107** (2003) 6144-6159.

177. L.M. Croll, J.F. Britten, C. Morin, A.P. Hitchcock and H.D.H. Stöver, *Integrating near edge X-ray absorption fine structure (NEXAFS) microscopy and crystallography: the effects of molecular order*, J. Synchrotron Rad. **10** (2003) 265-268.
176. A.L.D. Kilcoyne, T. Tylicszak, W.F. Steele, S. Fakra, P. Hitchcock, K. Franck, E. Anderson, B. Harteneck, E.G. Rightor, G.E. Mitchell, A. P. Hitchcock, L. Yang, T. Warwick, H. Ade, *Interferometrically controlled Scanning Transmission Microscopes at the Advanced Light Source*, J. Synchrotron Radiation **10** (2003) 125-136.
175. T. Warwick, H. Ade, A.L.D. Kilcoyne, M. Kritscher, T. Tylicszak, S. Fakra, A. P. Hitchcock, P. Hitchcock, H.A. Padmore, *A New Bend Magnet Beam Line for Scanning Transmission X-ray Microscopy at the Advanced Light Source*, J. Synchrotron Radiation **9** (2002) 254-257
174. A.P. Hitchcock, C. Morin, Y.M. Heng, R.M. Cornelius and J.L. Brash, *Towards practical soft X-ray spectromicroscopy of biomaterials*, J. Biomaterials Science, Polymer Ed. **13** (2002) 919-938.
173. A.P. Hitchcock, S. Johnston, T. Tylicszak, C.C. Turci, M. Barbatti, A.B. Rocha and C.E. Bielschowsky, *Generalized oscillator strengths for C 1s excitation of acetylene and ethylene*, J. Electron Spectroscopy Related Phenomena **123** (2002) 303-314.
172. A.T. Young, E. Arenholz, S. Marks, R. Schlueter, C. Steier, H.A. Padmore, A.P. Hitchcock, and D.G. Castner, *Variable Linear Polarization from an X-ray Undulator*, J. Synchrotron Radiation **9** (2002) 270-274.
171. I.N. Koprinarov, A.P. Hitchcock, C. McCrory and R.F. Childs, *Quantitative Mapping of Structured Polymeric Systems Using Singular Value Decomposition Analysis of soft X-ray Images*, J. Phys. Chem. B **106** (2002) 5358-5364.
170. E.G. Rightor, S.G. Urquhart, A.P. Hitchcock, H. Ade, A.P. Smith, G.E. Mitchell, R.D. Priester, A. Aneja, G. Appel, G. Wilkes and W.E. Lidy, *Identification and Quantitation of Urea Precipitates in flexible Polyurethanes by X-ray Spectromicroscopy*, Macromolecules **35** (2002) 5873-5882.
169. K. Kaznacheyev, A. Osanna, C. Jacobsen, O. Plashkevych, O. Vahtras, H. Ågren, V. Carravetta and A.P. Hitchcock, *Inner-Shell Absorption Spectroscopy of Amino Acids*, J. Phys.Chem. A **106** (2002) 3153-3168.
168. G.E. Mitchell, L. R. Wilson, M.T. Dineen, S.G. Urquhart, F. Hayes, E.G. Rightor, A.P. Hitchcock and H. Ade, *Characterization of Microscopic Variations in the Crosslink Density of a Gel*, Macromolecules **35** (2002) 1336 -1341.
167. A.P. Hitchcock, C. Morin, T. Tylicszak, I.N. Koprinarov, H. Ikeura-Sekiguchi, J.R. Lawrence and G.G. Leppard, *Soft X-ray microscopy of soft matter - hard information from two softs*, Surface Reviews and Letters **9** (2002) 193-202.
166. A.P. Hitchcock and J.J. Neville, *Photoionization Dynamics from Inner shell Mass Spectrometry*, chapter 4 of "Chemical Applications of Synchrotron Radiation" (T.K. Sham, ed.) Part I: Dynamics and VUV Spectroscopy, Advanced Series in Physical Chemistry Vol 12A, (World Scientific, Singapore, 2002) pp.154-227 .
165. A.P. Hitchcock, *Chemical mapping with soft X-ray spectromicroscopy*, American Laboratory, **33** (2001) 30-36. (also International Laboratory News **32** (2002) 24-25).
164. C. Morin, H. Ikeura-Sekiguchi, T. Tylicszak, R. Cornelius, J.L. Brash, A.P. Hitchcock A. Scholl, F. Nolting, G. Appel, A. D. Winesett, K. Kaznacheyev and H. Ade, *X-ray Spectromicroscopy of immiscible polymer blends: polystyrene-poly(methyl methacrylate)*, J. Electron Spectroscopy **121** (2001) 203-224
163. R. Flesch, A.A. Pavlychev, J.J. Neville, J. Blumberg, M. Kuhlmann, W. Tappe, F. Senf, O. Schwarzkopf, A.P. Hitchcock, and E. Rühl, *Dynamic Stabilization in $1\sigma_u \rightarrow 1\pi_g$ Excited Nitrogen Clusters*, Physical Review Letters **86** (2001) 3767-3770.
162. I.N. Koprinarov, A.P. Hitchcock, W.H. Li, Y.M. Heng and H.D.H. Stöver, *Quantitative Compositional Mapping of Core-Shell Polymer Microspheres by Soft X-ray Spectromicroscopy*, Macromolecules **34** (2001) 4424-4429.
161. A.P. Hitchcock, I. Koprinarov, T. Tylicszak, E.G. Rightor, G.E. Mitchell, M.T. Dineen, F. Hayes, W. Lidy, R.D. Priester, S.G. Urquhart, A.P. Smith and H. Ade, *Optimization of scanning*

- transmission X-ray microscopy for the identification and quantification of reinforcing particles in polyurethanes*, *Ultramicroscopy* **88** (2001) 33-49.
160. A.P. Hitchcock, L.E. Ennis, J.F. Lehmann and M.K. Denk, *Transient ISEELS: a new probe of chemical reactions*, *J. Electron Spectroscopy and Related Phenomena* **114-116** (2001) 1037-1042.
159. T. Tyliczszak, I.G. Eustatiu, A.P. Hitchcock, C.C. Turci, A.B. Rocha and C.E. Bielschowsky, *Generalized Oscillator Strength Profiles for Inner Shell Excitation of CO₂ Derived from Variable Angle Electron Energy Loss Spectroscopy*, *J. Electron Spectroscopy and Related Phenomena* **114-116** (2001) 93-98.
158. A.P. Hitchcock, *Soft X-Ray Spectromicroscopy of Polymers and Bio-polymer interfaces*, *Journal of Synchrotron Radiation* **8** (2001) 66-71.
157. B.W. Loo, Jr., I.M. Sauerwald, A.P. Hitchcock and S.S. Rothman, *A new sample preparation method for soft X-ray microscopy: nitrogen based contrast and radiation tolerance properties of glycol methacrylate-embedded and sectioned tissue*, *J. Microscopy* **204** (2001) 69-86.
156. A.P. Hitchcock, *Inner shell Excitation Spectroscopy of Molecules using Inelastic Electron Scattering*, *J. Electron Spectroscopy Rel. Phenom.* **112** (2000) 9-29.
155. I.G. Eustatiu, J.T. Francis, T. Tyliczszak, C.C. Turci, A.L.D. Kilcoyne and A.P. Hitchcock, *Generalized oscillator strengths for inner-shell excitation of SF₆ recorded with a high-performance electron energy loss spectrometer*, *Chem. Phys.* **257** (2000) 235 - 252.
154. I.G. Eustatiu, T. Tyliczszak, A.P. Hitchcock, C.C. Turci, A.B. Rocha and C.E. Bielschowsky, *Experimental and theoretical study of generalized oscillator strengths for C 1s and O 1s excitation in CO₂*, *Physical Review A* **61** (2000) 042505 (14 pages)
153. Z.H. Lu, T. Tyliczszak, A.P. Hitchcock and M.W.C. Dharma-wardana, *Structure of the Cl-passivated Ge(111) surface determined using X-ray absorption and first principles calculations*, *Surface Science* **442** (1999) L948-L952.
152. Z.H. Lu, T. Tyliczszak, P. Brodersen, A.P. Hitchcock, J.B. Webb, H. Tang, and J. Bardwell *Local microstructures of Si in GaN studied by X-ray absorption spectroscopy*, *Applied Physics Letters* **75** (1999) 534-538.
151. L.E. Ennis and A.P. Hitchcock, *Inner Shell Excitation Spectroscopy of Transient Molecules: HBS, HBO and H₃B₃O₃*, *Journal of Chemical Physics* **111** (1999) 3468-3478.
150. A.P. Hitchcock and J.J. Neville, *Applications of Synchrotron Radiation to Chemistry and Physics*, *Physics in Canada* **55** (1999) 191-198.
149. S.G. Urquhart, A.P. Hitchcock, A.P. Smith, H. Ade, W. Lidy, E. G. Rightor and G.E. Mitchell, *NEXAFS spectromicroscopy of polymers: overview and quantitative analysis of polyurethane polymers*, *J. Electron Spectrosc. Rel. Phenom.* **100** (1999) 119-135.
148. I.T. Steinberger, C.M. Teodorescu, D. Gravel, R. Flesch, B. Wassermann, G. Reinhardt, C.W. Hutchings, A.P. Hitchcock and E. Rühl, *Kr 3p and Xe 4p Rydberg and core exciton series*, *Phys. Rev. B* **60** (1999) 3995-4004.
147. S.G. Urquhart, A.P. Smith, H.W. Ade, A.P. Hitchcock, E.G. Rightor and W. Lidy, *Near Edge X-ray Absorption Fine Spectroscopy of MDI and TDI Polyurethane Polymers*, *J. Phys. Chem. B* **103** (1999) 4603 -4610.
146. J.C. Aubry, T. Tyliczszak, A.P. Hitchcock, J.-M. Baribeau and T.E. Jackman, *First shell bond lengths in Si_xGe_{1-x} single crystal alloys*, *Phys. Rev. B* **59** (1999) 12872-12883.
145. J.F. Lehmann, S.G. Urquhart, L. Ennis, A.P. Hitchcock, K. Hatano, S. Gupta and M.K. Denk, *Core Excitation Spectroscopy Study of Delocalization in Stable Cyclic Diamino Carbenes, Silylenes and Germylenes*, *Organometallics* **18** (1999) 1862-1872.

- 144 I. G. Eustatiu, T. Tyliczszak and A. P. Hitchcock, *Inner-shell electron energy-loss spectroscopy of SF₆ at very high momentum transfer*, Chem. Phys. Lett. **300** (1999) 676-680.
- 143 J.J. Neville, T. Tyliczszak, A.P. Hitchcock, A. Jürgensen and Ron G. Cavell, *P 1s spectroscopy of SPF₃: spectral assignments aided by angle-resolved photodissociation*, Chem. Phys. Lett. **300** (1999) 451-459.
- 142 J.J. Neville, T. Tyliczszak and A.P. Hitchcock, *Photofragmentation of OCS at the S 1s edge*, J. Electron Spectrosc. **101-103** (1999) 119-124.
- 141 T. Warwick, H. Ade, S. Cerasari, J. Denlinger, K. Franck, A. Garcia, S. Hayakawa, A.P. Hitchcock, J. Kikuma, S. Klinger, J.B. Kortwright, G. Morisson, M. Moronne, E.G. Rightor, E. Rotenberg, S. Seal, H.-J. Shin, W.F. Steele and B. Tonner, *Development of Scanning X-ray Microscopes for Materials Science Spectromicroscopy at the Advanced Light Source*, Journal of Synchrotron Radiation, **5** (1998) 1090-1092.
- 140 T. Warwick, K. Franck, J.B. Kortwright, G. Meigs, M. Moronne, S. Myneni, E. Rotenberg, S. Seal, W.F. Steele, H. Ade, A. Garcia, S. Cerasari, J. Denlinger, S. Hayakawa, A.P. Hitchcock, T. Tyliczszak, J. Kikuma, E.G. Rightor, H.-J. Shin and B. Tonner, *A scanning transmission x-ray microscope for materials science spectromicroscopy at the Advanced Light Source*, Review of Scientific Instruments, **69** (1998) 2964-2973.
- 139 J.J. Neville, A. Jürgensen, R.G. Cavell, N. Kosugi and A.P. Hitchcock, *Inner-shell excitation of PF₃, PCl₃, PCl₂CF₃, OPF₃ and SPF₃. Part I. Spectroscopy*, Chem. Phys. **238** (1998) 201-220.
- 138 Z.H. Lu, T. Tyliczszak and A.P. Hitchcock, *The structure of Cl-passivated GaAs(111) surface*, Phys. Rev. B **58** (1998) 13820-13823.
- 137 I.G. Eustatiu, B. Huo, S.G. Urquhart and A.P. Hitchcock, *Isomeric Sensitivity of the C 1s spectra of xylenes*, J. Electron Spectrosc. **94** (1998) 243-252.
- 136 C.W. Hutchings, A.P. Hitchcock, A.T. Wen, S-D. Hwang, J.A. Glass, J T. Spencer, Y.-F. Hu, G.M. Bancroft and P.A. Dowben, *Valence Band Photoemission and Near Edge Core Excitation Spectroscopy of Di-t-butylchlorophosphine*, J. Electron Spectrosc. **94** (1998) 187-194.
- 135 S.G. Urquhart, A.P. Hitchcock, J.F. Lehmann and M. Denk, *Probing Delocalization in Stable Silylenes: Core Excitation Spectra of Si(NRCH=CHNR), Si(NRCH₂CH₂NR), H₂Si(NRCH=CHNR) and H₂Si(NRCH₂CH₂NR) (R = ^tBu)*, Organometallics **17** (1998), 2352-2360.
- 134 A.P. Hitchcock, J.J. Neville, A. Jürgensen and R.G. Cavell, *Ionic Fragmentation of Inner-shell Excited Molecules*, J. Electron Spectrosc. **88-91** (1998) 71-75.
- 133 A.P. Hitchcock, I.G. Eustatiu, J.T. Francis and C.C. Turci, *Electron Impact Core excitation of molecules: Non-dipole spectroscopy and generalised oscillator strengths*, J. Electron Spectrosc. **88-91** (1998) 77-82.
- 132 S. Wu, Z. Shi, J. Lipkowski, A.P. Hitchcock and T. Tyliczszak, *Early Stages of Copper Electrocrystallisation: Electrochemical and in situ X-ray Absorption Fine Structure Studies of Coadsorption of Copper and Chloride at the Au(111) Electrode Surface* J. Phys. Chem. B **101** (1997) 10310-10320.
- 131 T. Warwick, H. Ade, A.P. Hitchcock, H. Padmore, E.G. Rightor and B. Tonner, *Soft x-ray spectromicroscopy development for materials science at the Advanced Light Source* J. Electron Spectrosc. **84** (1997) 85-98.
- 130 H. Ade, A.P. Smith, H. Zhang, J. Kirz, E. Rightor and A.P. Hitchcock, *X-ray spectromicroscopy of polymers and tribological surfaces at beamline X1A at the NSLS*, J. Electron Spectrosc. **84** (1997) 53-72.
- 129 S.G. Urquhart, C.C. Turci, T. Tyliczszak, M.A. Brook and A.P. Hitchcock, *Core excitation spectroscopy of phenyl- and methyl-substituted silanol, disiloxane and disilane compounds: Evidence for π-Delocalisation across the Si-C_{phenyl} Bond*. Organometallics **16**, (1997) 2080-2088.
- 128 S.G. Urquhart, A.P. Hitchcock, A.P. Smith, H. Ade and E.G. Rightor, *Inner-shell Excitation Spectroscopy of polymer and monomer forms of dimethyl phthalate*, J. Phys. Chem. B **101** (1997) 2267-2276.

127. N. Kosugi, R.G. Cavell and A.P. Hitchcock, *(LS) versus (jj) coupling in P 2p inner-shell excited states*, Chem. Phys. Lett **265** (1997) 490-496
126. A.P. Hitchcock, [S.G. Urquhart](#), [A.T. Wen](#), A.L.D. Kilcoyne, T. Tylliszczak, E. Rühl, N. Kosugi, J.D. Bozek, J.T. Spencer, D.N. McIlroy and P.A. Dowben, *Inner-shell excitation spectroscopy of closo-carboranes*, J. Phys. Chem.B **101** (1997) 3483-3493.
125. E.G. Rightor, A.P. Hitchcock, H. Ade, R.D. Leapman, [S.G. Urquhart](#), A.P. Smith, G. Mitchell, D. Fischer, H.J. Shin and T. Warwick, *Spectromicroscopy of poly(ethylene terephthalate): Comparison of Spectra and Radiation Damage Rates in X-ray Absorption and Electron Energy Loss*, J. Phys. Chem. B **101** (1997) 1950-1961.
124. [C.C. Turci](#), S.G. Urquhart and A.P. Hitchcock, *Inner-shell Spectra of aniline, nitrobenzene and the nitroanilines*, Can. J. Chem. **74** (1996) 851-869.
123. J.Z. Xiong, D.T. Jiang, Z.F. Liu, K.M. Baines, T.K. Sham, [S.G. Urquhart](#), [A.T. Wen](#), T. Tylliszczak and A.P. Hitchcock, *Si core level excitation of hexamethyldisilane studied by synchrotron radiation and multiple scattering Xa calculation*, Chem. Phys. **203** (1996) 81-92.
122. [C.C. Turci](#), [J.T. Francis](#), T. Tylliszczak, G.G.B. de Souza and A.P. Hitchcock, *Electron impact core excitation of SF₆: Part II: Generalized Oscillator Strengths for S 2p states*, Phys. Rev. A **52** (1995) 4678-4688.
121. [J.T. Francis](#), [C.C. Turci](#), T. Tylliszczak, G.G.B. de Souza, N. Kosugi and A.P. Hitchcock, *Electron impact core excitation of SF₆: Part I: S 2p, S 2s and F 1s spectroscopy*, Phys. Rev. A **52** (1995) 4665-4677.
120. [S.G. Urquhart](#), A.P. Hitchcock, R.D. Priester and E.G. Rightor, *Analysis of Polyurethanes using Core Excitation Spectroscopy. Part II. Inner-shell Spectra of Ether, Urea and Carbamate Model Compounds*, J. Polymer Science B: Polymer Physics, **33** (1995) 1603-1620.
119. [S.G. Urquhart](#), A.P. Hitchcock, R.D. Leapman, R.D. Priester and E.G. Rightor, *Analysis of Polyurethanes using Core Excitation Spectroscopy. Part I. Model Polyurethane Foam Polymers*, J. Polymer Science B: Polymer Physics, **33** (1995) 1593-1602.
118. A.P. Hitchcock and T. Tylliszczak, *Surface studies by core-excitation reflection electron energy loss spectroscopy*, Surface Review and Letters **2** (1995) 43-61.
117. E. Rühl, A.P. Hitchcock, P. Morin and M. Lavollée, *Core Excitation in Atomic and Molecular Clusters*, Journal de Chimie et Physique **92** (1995) 521-534.
116. T. Tylliszczak, A.P. Hitchcock, Z.H. Lu, J-M. Baribeau and T.E. Jackman, *X-ray Absorption Studies of strain in epitaxial (Si-Ge) atomic layer superlattices and alloy films*, Scanning Microscopy **8** (1994) 795-802
115. [J.T. Francis](#), N. Kosugi and A.P. Hitchcock, *Experimental and Theoretical Studies of the (C 1s⁻¹, π^*)³ Π State of CO: Momentum Transfer Dependence and Vibrational Structure*, J. Chem. Phys. **101** (1994) 10429-10435.
114. [S.G. Urquhart](#), J.Z. Xiong, [A.T. Wen](#), T.K. Sham, K.M. Baines, G.G.B. de Souza and A.P. Hitchcock, *Inner-shell Spectroscopy of compounds containing Si-Si bonds: Is there a localised, low-energy Si-Si resonance?*, Chem. Phys. **189** (1994) 757-768.
113. [J.T. Francis](#), C. Enkvist, S. Lunell and A.P. Hitchcock, *Studies of C 1s $\rightarrow$ π^* Triplet states of Carbon Monoxide, Benzene, Ethylene and Acetylene*, Can. J. Phys. **72** (1994) 879-884.
112. A. Knop, H.W. Jochims, A.L.D. Kilcoyne, A.P. Hitchcock, and E. Rühl, *ZEKE Spectroscopy of Ar(2p) Excited Argon Clusters*, Chem. Phys. Lett. **223** (1994) 553-560.
111. [J.T. Francis](#) and A.P. Hitchcock, *Distinguishing Keto and Enol Structures by Inner-shell Spectroscopy*, J. Phys. Chem. **98** (1994) 3650-3657.
110. A.P. Hitchcock, T. Tylliszczak, M.L.M. Rocco, [J.T. Francis](#), S.G. Urquhart, X.H. Feng, Z.H. Lu, J.M. Baribeau and T.E. Jackman, *Polarization Dependence of the Si 1s X-ray Absorption Spectra of Single Crystal Si-Ge Alloys and Atomic Layer Superlattices*, J. Vac. Sci. Tech. A **12** (1994) 1142-1147.

109. A.P. Hitchcock, T.Tyliszczak, P. Aebi, X.H. Feng, Z.H. Lu, J.M. Baribeau and T.E. Jackman, *Polarization Dependence of the Si 1s X-ray Absorption Spectra of Si-Ge Atomic Layer Superlattices*, Surf. Sci. **301** (1994) 260-272.
108. A.P. Hitchcock and D.C. Mancini, *Bibliography and Database of Inner-shell Excitation Spectra of Gas Phase Atoms and Molecules*, J. Electron Spectrosc. **67** (1994) 1-123.
107. A.P. Hitchcock, [A.T. Wen](#), S. Lee, J.A. Glass, Jr., J.T. Spencer and P.A. Dowben, *Inner-shell Excitation of Boranes and Carboranes*, J. Phys. Chem. **97** (1993) 8171-8181.
106. A.P. Hitchcock, M.J. McGlinchey, A.L. Johnson, W.K. Walter, M. Perez Jigato, D.A. King, D.L. Norman, E. Rühl, C. Heinzl, H. Baumgärtel, *Inner-shell Excitation of Solid and Gaseous Alkylidyne Tricobalt Nonacarbonyl Complexes: An Investigation of the Spectral Dependence on Sample Phase, Excitation Probe and Detection Scheme*, Trans. Faraday Soc. **89** (1993) 3331-3345.
105. [A.T. Wen](#) and A.P. Hitchcock, *Inner-shell Spectroscopy of $(\eta^5\text{-C}_5\text{H}_5)_2\text{TiCl}_2$, $(\eta^5\text{-C}_5\text{H}_5)\text{TiCl}_3$, and TiCl_4* , Can. J. Chem. **71** (1993) 1632-1644.
104. E. Apen, A.P. Hitchcock and J.L. Gland, *Experimental Studies of the Core Excitation of Imidazole, 4,5 Dicyanoimidazole and s-Triazine*, J. Phys. Chem. **97** (1993) 6859-6866.
103. A.P. Hitchcock, T. Tyliszczak, P. Aebi, J.Z. Xiong, T.K. Sham, K.M. Baines, K.A. Mueller, X.H. Feng, J.M. Chen, B.X. Yang, Z.H. Lu, J.M. Baribeau and T.E. Jackman, *Si K-edge and Ge K-edge X-ray Absorption Spectroscopy of the Si-Ge Interface in $[(\text{Si})_m(\text{Ge})_n]_p$ Atomic Layer Superlattices*, Surface Science **291** (1993) 349-369.
102. E. Rühl, C. Heinzl, A.P. Hitchcock, H. Schmeltz, C. Reynaud, H. Baumgärtel, W. Drube and R. Frahm, *K-shell spectroscopy of Ar clusters*, J. Chem. Phys. **98** (1993) 6820-6826.
101. P. Aebi, M. Erbudak, T. Tyliszczak, A.P. Hitchcock, M. Szymonski and E. Wetli, *Imaging of surfaces with Atomic Resolution by Means of Secondary Electrons*, Surf. Sci. **285** (1993) 275-281.
100. E. Rühl, C. Heinzl, A.P. Hitchcock and H. Baumgärtel, *Ar 2p Spectroscopy of free argon clusters*, J. Chem. Phys. **98** (1993) 2653-2663.
99. D.J. Lockwood, J.M. Baribeau, T.E. Jackman, P. Aebi, T. Tyliszczak, A.P. Hitchcock and R.L. Headrick, *Influence of Annealing on the Interface Structure and Strain Relief in Si/Ge Heterostructures*, Scanning Microscopy **7** (1993) 457-477.
98. G. Denes, Y.H. Yu, T. Tyliszczak and A.P. Hitchcock, *Sn-K and Pb-L₃ EXAFS, X-ray Diffraction and ^{119}Sn Mossbauer Studies of ordered $\beta\text{-PbSn}_n\text{F}_4$, disordered $\text{Pb}_{1-x}\text{Sn}_x\text{F}_4$ ($x=0.3,0.4$) solid solutions, and $\text{PbSn}_4\text{F}_{10}$: High Performance Fluoride Ion Conductors*, J. Solid State Chemistry **104** (1993) 239-252.
97. E. Rühl, C. Heinzl, H. Baumgärtel and A.P. Hitchcock, *Ionic Fragmentation of C 1s Excited Metallocenes*, Chem. Phys. **169** (1993) 243-257.
96. A. Pattanaik, G. Bachowski, J. Laib, C.F. Shaw III, D.H. Petering, A.P. Hitchcock and L. Saryan, *Properties of the Reaction of cis-dichlorodiammine-Pt(II) with Metallothionein*, J. Biol. Chemistry **267** (1992) 16121-16128.
95. E.G. Rightor, G.P. Young, [S.G. Urquhart](#), [A.T. Wen](#) and A.P. Hitchcock, *Correlation of polymer(PET) parallel-EELS spectra with spectra from related molecular analogues* Microscopy: The Key Research Tool **22** (1992) 67-72.
94. A.P. Hitchcock, [S.G. Urquhart](#) and E.G. Rightor, *Inner-shell Excitation Studies of Poly(ethyleneterephthalate) and Related Small Molecule Analogues by Electron Energy Loss Spectroscopy*, J. Phys. Chem. **96** (1992) 8736-8750.
93. [A.T. Wen](#), E. Rühl and A.P. Hitchcock, *Inner-shell Excitation of Organoiron Compounds by Electron Impact*, Organometallics **11** (1992) 2559-2569.
92. [J.T. Francis](#) and A.P. Hitchcock, *Inner-shell Spectroscopy of p-Benzoquinone, 1,3-cyclohexandione, p-Hydroxyquinone and Phenol: Quinoid versus Aromaticity as Viewed by the Unoccupied Orbitals*, J. Phys. Chem. **96** (1992) 6598-6610.

91. S. Bodeur, A.P. Hitchcock and N. Kosugi, *Inner-shell Spectroscopy of SF₄: Theory and Experiment*, Chem. Phys. **162** (1992) 293-302.
90. M. Szymonski, T. Tyliczszak, P. Aebi and A.P. Hitchcock, *Photon Stimulated Desorption of Na Atoms from NaCl Following Core-level Excitation*, Surf. Sci. **271** (1992) 287-294.
89. P. Aebi, T. Tyliczszak, A.P. Hitchcock, K.M. Baines, T.K. Sham, T.E. Jackman, J-M. Baribeau and D.J. Lockwood, *Simultaneous Analysis of Multiple Extended X-ray Absorption Fine Structure Spectra: Application to Studies of Buried Ge-Si Interfaces*, Phys. Rev. B **45** (1992) 13579-13590.
88. T.E. Jackman, J.M. Baribeau, D.J. Lockwood, P. Aebi, T. Tyliczszak and A.P. Hitchcock, *Thermal Stability of the (Si_mGe_n)_p Superlattice Interface*, Phys. Rev. B **45** (1992) 13591-13594.
87. A.P. Hitchcock, R.S. DeWitte, J. Van Esbroeck, P. Aebi, C.L. French, N.P.C. Westwood and R.T. Oakley, *A valence and inner-shell electronic and photoelectron spectroscopy study of the frontier orbitals of 2,1,3-Benzothiadiazole C₆H₄SN₂, 1,3,2,4-benzodithiadiazepine C₆H₄S₂N₂ and 1,3,5,2,4-benzotrithiadiazepine C₆H₄S₃N₂*, J. Electron Spectroscopy **57** (1991) 165-187.
86. E. Rühl, A. T. Wen, and A. P. Hitchcock, *Inner-shell excitation of η⁵-C₅H₅Co(CO)₂ and related compounds studied by electron energy loss spectroscopy*, J. Electron Spectroscopy **57** (1991) 137-164.
85. E. Rühl and A. P. Hitchcock, *Oxygen K-shell Spectroscopy of Hydrogen Peroxide*, Chem. Phys. **154** (1991) 323-329.
84. E. Rühl, H.W. Jochims, C. Schmale, E. Biller, A.P. Hitchcock and H. Baumgärtel, *Core Level Excitation In Argon Clusters*, Chem. Phys. Lett. **178** (1991) 558-564.
83. F.J. Esposto, P. Aebi, T. Tyliczszak, A.P. Hitchcock, M. Kasrai, J.D. Bozek, T.E. Jackman and S.R. Rolfe, *Boron K-shell spectroscopy of boron-doped silicon*, J. Vac. Sci. Tech. A **9** (1991) 1663-1669.
82. P. Aebi, T. Tyliczszak, A.P. Hitchcock, T.E. Jackman and J.-M. Baribeau, *X-ray Absorption Fine Structure Studies of Buried Ge-Si Interfaces*, J. Vac. Sci. Tech. A **9** (1991) 907-911.
81. J.-M. Baribeau, D.J. Lockwood, T.E. Jackman, P. Aebi, T. Tyliczszak and A.P. Hitchcock, *Characterization of Ultra-thin Ge Epilayers on (100) Si*, Canadian Journal of Physics, **69** (1991) 246-254.
80. G. Denes, Y.H. Yu, A.P. Hitchcock and T. Tyliczszak *Sn-K, Pb-L₃ and Ba-L₃ EXAFS, X-ray Diffraction and ¹¹⁹Sn Mossbauer Studies of Ordered MSnF₄ (M=Pb and Ba) Fluoride Ionic Conductors with the α-PbSnF₄ Structure*, Journal of Solid State Chemistry **91** (1991) 1-15.
79. A.P. Hitchcock, A.T. Wen and E. Rühl, *Transition Metal 2p Excitation of Organometallic Compounds by Electron Energy Loss Spectroscopy*, Chemical Physics **147** (1990) 51-63.
78. A.T. Wen, A.P. Hitchcock, N.H. Werstiuk, N. Nguyen and W.J. Leigh, *Studies of the Electronic Excited States of Substituted Norbornenes by UV Absorption, Electron Energy Loss and HeI Photoelectron Spectroscopy*, Can. J. Chem. **68** (1990) 1967-1973.
77. F. Edard, A.P. Hitchcock and M. Tronc, *π* and σ* Shape Resonances in the Vibrational Excitation of HCN, CH₃CN and CH₃NC by Low-energy Electron Impact*, Journal of Physical Chemistry **94** (1990) 2768-2774.
76. C. Dezarnaud, M. Tronc and A.P. Hitchcock, *Inner Shell Spectroscopy of the-Carbon-Sulfur bond*, Chemical Physics **142** (1990) 455-462.
75. Y. Yu, T. Tyliczszak and A.P. Hitchcock, *Pb L₃ EXAFS Studies of Lead metal and Lead oxides*, J. Physics and Chemistry of Solids **51** (1990) 445-451.
74. T. Tyliczszak and A.P. Hitchcock, *Near Edge Electron Energy Loss Fine Structure: Core Excitation of Chemisorbed Molecules in the Laboratory*, J. Vac. Sci. Tech. A **8** (1990) 2552-2556.
73. T. Tyliczszak, A.P. Hitchcock and T.E. Jackman, *X-ray Absorption Studies of As-low-energy Ion Implanted into Si(100) Grown by Molecular Beam Epitaxy*, J. Vac. Sci. Tech. A **8** (1990) 2020-2024.

72. A.P. Hitchcock, G. Tourillon, R. Garrett, G.P. Williams, C. Mahatsekake and C. Andrieu, *Inner-shell Excitation of 3-Alkyl Thiophenes by Electron Energy Loss and X-ray Photoabsorption Spectroscopy*, J. Phys. Chem. **94** (1990) 2327-2333.
71. N. Kosugi, S. Bodeur and A.P. Hitchcock, *Bond-Angle and Bond-length Dependence of bound State Resonances in Inner-shell Excitation Spectra of SF₄*, J. Electron Spectrosc. **51** (1990) 103-114.
70. B.P. Hollebone, A.T. Wen, T. Tylizszczak and A.P. Hitchcock, *Extended Fine Structure of Gases by Inelastic Electron Scattering*, J. Electron Spectrosc. **51** (1990) 661-672.
69. A.P. Hitchcock, A.T. Wen and E. Rühl, *Inner-shell Electron Energy Loss Spectroscopy of Organometallic Compounds*, J. Electron Spectrosc. **51** (1990) 653-660.
68. A.P. Hitchcock, *Core Excitation and Ionization of Molecules*, Physica Scripta **T31** (1990) 159-170.
67. A.P. Hitchcock, G. Tourillon and W. Braun, *Inner-shell Excitation Studies of Conducting Organic Polymers: Selenophene, 3-methyl Selenophene and Their Polymers*, Canadian Journal of Chemistry **67** (1989) 1819-1826.
66. A.P. Hitchcock, G.P. Williams, R. Garrett and G. Tourillon, *C 1s Excitation of Azulene and poly-Azulene Studied by Electron Energy-loss and X-ray Absorption Spectroscopy*, J. Phys. Chem. **93** (1989) 7624-7628.
65. E. Rühl and A.P. Hitchcock, *Carbon K-shell Excitation of Metallocenes*, J. Am. Chem. Soc. **111** (1989) 5069-5075.
64. T. Tylizszczak, F. Esposto and A.P. Hitchcock, *First Observation by Reflection Electron Energy Loss Spectroscopy of Carbon and Nitrogen K-shell Near Edge Spectra of Chemisorbed Molecules*, Phys. Rev. Lett. **62** (1989) 2551-2554.
63. M. De Crescenzi, A.P. Hitchcock and T. Tylizszczak, *Temperature and Core Hole Dependence of EXFAS: The Auger Extended Fine Structure of Ag and Cu*, Phys. Rev. B **39** (1989) 9839-9851.
62. M. Tronc, A.P. Hitchcock and F. Edard, *Low Energy Electron Scattering by Silane (SiH₄)*, J. Phys. B: **22** (1989) L207-212.
61. E. Rühl and A.P. Hitchcock, *Inner-Shell Excitation of 3d Transition-metal Carbonyls [Mn₂(CO)₁₀, Mn(CO)₅Br and Mn(CO)₅H] Studied by Electron Energy Loss Spectroscopy*, J. Am. Chem. Soc. **111** (1989) 2614-2622.
60. A.P. Hitchcock, M. Tronc and A. Modelli, *Electron Transmission and Inner-shell Electron Energy Loss Spectroscopy of CH₃CN, CH₃NC, CH₃SCN and CH₃NCS*, J. Phys. Chem. **93** (1989) 3068-3077.
59. A.P. Hitchcock, *Electron Energy Loss Based Spectroscopies - A Molecular Viewpoint*, Ultramicroscopy **28** (1989) 165-183.
58. I. Ishii, R. McLaren, A.P. Hitchcock, K.D. Jordan, H. Choi and M.B. Robin, *The σ* Molecular Orbitals of Perfluoroalkanes as Studied by Inner Shell Electron Energy Loss and Electron Transmission Spectroscopies*, Can. J. Chem. **66** (1988) 2104-2121.
57. T. Tylizszczak, A.P. Hitchcock and M. De Crescenzi, *Origin and Structural Sensitivity of Surface Auger Extended Fine Structure*, Phys. Rev. B **38** (1988) 5768-5771.
56. T. Tylizszczak, M. De Crescenzi and A.P. Hitchcock, *Cu/Ag(111) Interface Studied by Surface Electron Energy Loss Fine Structure Spectroscopy*, Phys. Rev. B **38** (1988) 10664-10673.
55. K.H. Sze, C.E. Brion, M. Tronc, S. Bodeur and A.P. Hitchcock, *Inner- and Valence-Shell Electronic Excitation of Dimethyl Sulfoxide by Electron Energy Loss and Photoabsorption Spectroscopies*, Chem. Phys. **121** (1988) 279-297.
54. A.P. Hitchcock and M. Tronc, *Ionization Current Detection of Soft X-ray Absorption: Sulfur and Chlorine K-shell Absorption of Organo-sulfur Compounds*, Chem. Phys. **121** (1988) 265-277.
53. M.B. Robin, I. Ishii, R. McLaren and A.P. Hitchcock, *Fluorination Effects on the Inner-shell Spectra of Unsaturated Molecules*, J. Electron Spectrosc. **47** (1988) 53-92.

52. A.P. Hitchcock, P. Lablanquie, P. Morin, E. Lizon a Lugin, M. Simon, P. Thiry and I. Nenner, *Ionic Fragmentation Following K-shell Excitation and Ionization in CO*, Phys. Rev. A **36** (1988) 2448-2468.
51. I. Ishii and A.P. Hitchcock, *The Oscillator Strengths for Cls and Ols Excitation of Some Saturated and Unsaturated Organic Acids, Alcohols and Esters*, J. Electron Spectrosc. **46** (1988) 55-84.
50. F. Combet Farnoux and A.P. Hitchcock, *On the Relative Contributions of ϵs and ϵd Final States of M_{23} Ionization of 3d Transition Metals*, Sol. St. **64** (1987) 961-964.
49. A.P. Hitchcock and J. Stöhr, *K-shell Shape Resonances and Intramolecular Bond Length. 'Comments on the Relationship between shape resonances and bond lengths'*, J. Chem. Phys. **87** (1987) 3523-3525.
48. A.P. Hitchcock, S. Bodeur and M. Tronc, *Sulfur and Chlorine K-shell X-ray Absorption Spectra of SCl_2 , S_2Cl_2 , $SOCl_2$ and SO_2Cl_2* , Chem. Phys. **115** (1987) 93-101.
47. I. Ishii, R. McLaren, A.P. Hitchcock and M.B. Robin, *Inner-Shell Excitations in Weak Bond Molecules*, J. Chem. Phys. **87** (1987) 4344-4360.
46. I. Ishii and A.P. Hitchcock, *A Quantitative Experimental Study of the Core Excited Electronic States in Formamide, Formic Acid and Formyl Fluoride*, J. Chem. Phys. **87** (1987) 830-839.
45. R. McLaren, S.A.C. Clark, I. Ishii and A.P. Hitchcock, *Absolute Oscillator Strength from K-shell Electron Energy Loss Spectra of the Fluoroethenes and 1,2-perfluorobutadiene*, Phys. Rev. A **36** (1987) 1683-1701.
44. S. Bodeur and A.P. Hitchcock, *Inner and Valence Shell Excitation of SF_4 Studied by Photoabsorption and Electron Energy Loss Spectroscopy*, Chem. Phys. **111** (1987) 467-479.
43. A.P. Hitchcock, P. Fischer, A. Gedanken and M.B. Robin, *Antibonding σ^* Valence MO's in the Inner-Shell and Outer-Shell Spectra of the Fluorobenzenes*, J. Phys. Chem. **91** (1987) 531-540.
42. A.P. Hitchcock and T. Tylliszczak, *Orientation and Temperature Dependence of the Cd K-Shell EXAFS of Polycrystalline and Single Crystal Cd Metal*, J. Phys. C **20** (1987) 981-992.
41. D.W. Stephan and A.P. Hitchcock, *EXAFS Studies of $(N(C_2H_5)_4)_2M(SC_6H_5)_4$ and $N(C_2H_5)_4)_2M_4(SC_6H_5)_{10}$, $M = Zn, Cd$: Model Compounds for Zn and Cd Metallothioneins*, Inorganica Chimica Acta **136** (1987) L1-L5.
40. A.P. Hitchcock and I. Ishii, *Carbon K-Shell Excitation Spectra of Linear and Branched Alkanes*, J. Electron Spectrosc. **42** (1987) 11-26.
39. J.P. Doering, A. Gedanken, A.P. Hitchcock, P. Fischer, J. Moore, J.K. Olthoff, J. Tossell, K. Raghavachari and M.B. Robin, *Electronic Excitation and π -Electron Interaction in Borazine*, J. Am. Chem. Soc. **108** (1986) 3602-3608.
38. D.C. Newbury, I. Ishii and A.P. Hitchcock, *Inner Shell Electron Energy Loss Spectroscopy of Some Heterocyclic Molecules*, Can. J. Chem. **64** (1986) 1145-1155.
37. T. Tylliszczak and A.P. Hitchcock, *M_{23} Electron Energy Loss Studies of Ni(100) at Small Scattering Angles*, J. Vac. Sci. Tech. A **4** (1986) 1372-1375.
36. A.P. Hitchcock, C.J.L. Lock and B. Lippert, *Pt L_3 X-ray Absorption Studies of Pt Model Compounds and $[(NH_3)_2Pt(OH)_2Pt(NH_3)_2]^{2+}$ Bound to DNA*, Inorganica Chimica Acta **124** (1986) 101-114.
35. A.P. Hitchcock, J.A. Horsley and J. Stöhr, *Inner Shell Excitation of Thiophene and Thiolane: Gas, Solid and Monolayer States*, J. Chem. Phys. **85** (1986) 4835-4848.
34. A.P. Hitchcock, D.C. Newbury, I. Ishii, J. Stöhr, J.A. Horsley, R.D. Redwing, A.L. Johnson and F. Sette, *Carbon K-shell Excitation of Gaseous and Condensed Cyclic Hydrocarbons: C_3H_6 , C_4H_8 , C_5H_8 , C_5H_{10} , C_6H_{10} , C_6H_{12} and C_8H_8* , J. Chem. Phys. **85** (1986) 4849-4862.
33. J.A. Horsley, J. Stöhr, A.P. Hitchcock, D.C. Newbury, A.L. Johnson and F. Sette, *Resonances in the K-shell Excitation Spectra of Benzene and Pyridine: Gas Phase, Solid and Chemisorbed States*, J. Chem. Phys. **83** (1985) 6099-6107.
32. A.P. Hitchcock and C. H. Teng, *Extended Energy Loss Fine Structure in Reflection Electron Energy Loss Spectra of Cu and Ni*, Surf. Sci. **149** (1985) 558-576.

31. F. Sette, J. Stöhr and A.P. Hitchcock, *Determination of Intra-Molecular Bond Lengths in Gas Phase Molecules from K-Shell Shape Resonances*, J. Chem. Phys. **81** (1984) 4906-4914.
30. F. Sette, J. Stöhr and A.P. Hitchcock, *Correlation Between Intra Molecular Bond Lengths and K-shell Sigma-Shape Resonances in Gas Phase Molecules*, Chem. Phys. Lett. **110** (1984) 517-520.
29. A.P. Hitchcock, C.E. Brion, G. R. J. Williams and P. W. Langhoff, *Experimental and Theoretical Studies of the Valence-Shell Dipole Excitation Spectrum and Absolute Photoabsorption Cross Section of Hydrogen Fluoride*, Chem. Phys. **88** (1984) 65-80.
28. A.P. Hitchcock, S. Beaulieu, T. Steel, J. Stöhr and F. Sette, *Carbon K-Shell Electron Energy Loss Spectra of 1- and 2-Butenes, trans-1,3-Butadiene and Perfluoro-2-Butene*, J. Chem. Phys. **80** (1984) 3927-3935.
27. S. Daviel, C.E. Brion and A.P. Hitchcock, *A New High Performance Electron Energy Loss Spectrometer for Valence and Inner Shell Excitation Studies*, Rev. Sci. Instr. **55** (1984) 182-191.
26. A.P. Hitchcock, S. Zweep, T. Steel, M. Bekhazi and J. Warkentin, *Thermolysis of 2-methoxy-2,5,5-trimethyl-D-1,3,4-oxadiazoline*, Canadian Journal of Chemistry **60** (1982) 2914-2917.
25. A.P. Hitchcock, W.M.C. Pratt and C.J.L. Lock, *EXAFS Studies of a Pt-dimer DNA Complex*, Inorganica Chimica Acta **66** (1982) L45-L47.
24. A.P. Hitchcock, C.E. Brion, G.R.J. Williams and P.W. Langhoff, *Experimental and Theoretical Studies of the Valence-Shell Dipole Excitation Spectrum of Molecular Fluorine*, Chemical Physics **66** (1982) 435-442.
23. F. Carnovale, A.P. Hitchcock, J.P.D. Cook and C.E. Brion, *Absolute Dipole Oscillator Strengths for Molecular and Dissociative Photoionization of COS (10-50 eV) and CS₂ (10-40 eV)*, Chemical Physics **66** (1982) 249-259.
22. A.P. Hitchcock, *Bibliography of Atomic and Molecular Inner-Shell Excitation Studies*, J. Electron Spectroscopy **25** (1982) 245-275.
21. A.P. Hitchcock, N. Hao, N. H. Werstiuk, M. J. McGlinchey and T. Ziegler, *Electronic Structure of Zr(BH₄)₄ and Hf(BH₄)₄ Studied by Photoelectron Spectroscopy and LCAO-HFS Calculations*, Inorganic Chemistry **21** (1982) 793-798.
20. A.P. Hitchcock and C.E. Brion, *K-Shell Excitation of HF and F₂ Studied by Electron Energy Loss Spectroscopy*, J. Physics B: At. and Mol. Phys. **14** (1981) 4399-4414.
19. A.P. Hitchcock and C.E. Brion, *The Electronic Spectrum of Hydrogen Fluoride (7-46 eV)*, Chemical Physics **61** (1981) 281-291.
18. A.P. Hitchcock and C.E. Brion, *An Investigation into Allegations of Double Scattering in the Carbon K-Shell Electron Energy Loss Spectrum of Acetylene*, J. Electron Spectroscopy **22** (1981) 283-287.
17. C.E. Brion and A.P. Hitchcock, *Experiments with Hydrogen Fluoride - Is it Really HF?*, J. Phys. B: Atomic and Molecular Physics **13** (1980) L677-L680.
16. A.P. Hitchcock and C.E. Brion, *Neon K-Shell Excitation by Electron Energy Loss Spectroscopy*, J. Phys. B: Atomic and Molecular Physics **13** (1980) 3269-3273.
15. A.P. Hitchcock and C.E. Brion, *Inner Shell Excitation of Formaldehyde, Acetaldehyde and Acetone Studied by Electron Impact*, J. Electron Spectroscopy **19** (1980) 231-250.
14. A.P. Hitchcock, C.E. Brion and M.J. Van der Wiel, *Absolute Oscillator Strengths for Valence-Shell Ionic Photofragmentation of N₂O and CO₂ (8-75 eV)*, Chemical Physics **45** (1980) 461-478.
13. A.P. Hitchcock and C.E. Brion, *K-Shell Excitation Spectra of CO, N₂ and O₂*, J. Electron Spectroscopy **18** (1980) 1-21.
12. A.P. Hitchcock, C.E. Brion and M.J. Van der Wiel, *Ionic Fragmentation of Inner Shell Excited States of CO₂ and N₂O*, Chemical Physics Letters **66** (1979) 213-216.
11. A.P. Hitchcock and C.E. Brion, *On the Assignment of the Carbon K-Shell Spectra of the Methyl Halides*, J. Electron Spectroscopy **17** (1979) 139-148.

10. A.P. Hitchcock and M.J. Van der Wiel, *Absolute Oscillator Strengths (5-63 eV) for Photoabsorption and Ionic Fragmentation of SF₆*, J. Phys. B: Atomic and Molecular Physics **12** (1979) 2153-2169.
9. A.P. Hitchcock and C.E. Brion, *Inner Shell Electron Energy Loss Studies of HCN and C₂N₂*, Chemical Physics **37** (1979) 319-331.
8. A.P. Hitchcock and C.E. Brion, *Inner Shell Excitation and EXAFS-type Phenomena in the Chloromethanes*, J. Electron Spectroscopy **14** (1978) 417-441.
7. A.P. Hitchcock, C.E. Brion and M.J. Van der Wiel, *Ionic Fragmentation of SF₆ Ionised in the Sulphur 2p Shell*, J. Phys. B: At. Mol. Phys. **11** (1978) 3245-3261.
6. A.P. Hitchcock and C.E. Brion, *Inner Shell Excitation of SF₆ by 2.5 keV Electron Impact*, Chemical Physics **33** (1978) 55-64.
5. A.P. Hitchcock, M. Pocock, C.E. Brion, M. S. Banna, D.C. Frost, C.A. McDowell and B. Wallbank, *Inner Shell Excitation and Ionization of the Monohalobenzenes*, J. Electron Spectroscopy **13** (1978) 345-360.
4. A.P. Hitchcock and C.E. Brion, *Inner Shell Excitation of CH₃F, CH₃Cl, CH₃Br and CH₃I by 2.5 KeV Electron Impact*, J. Electron Spectroscopy **13** (1978) 193-218.
3. A.P. Hitchcock, M. Pocock and C.E. Brion, *Isotope Effects on Intensities in the K-Shell Excitation Spectra of CH₄ and CD₄ Studied by 2.5 KeV Electron Impact*, Chemical Physics Letters **49** (1977) 125-128.
2. A.P. Hitchcock and C.E. Brion, *Carbon K-Shell Excitation of C₂H₂, C₂H₄, C₂H₆ and C₆H₆ by 2.5 KeV Electron Impact*, J. Electron Spectroscopy **10** (1977) 317-330.
1. A.P. Hitchcock and J. D. Laposa, *Vibrational Frequencies of Toluene-d₅*, J. Molecular Spectroscopy **54** (1975) 223-230.

C. Refereed Conference Proceedings

- C96** A.P. Hitchcock, H.Yuan, L.G.A. Melo and N. Bassim, *Soft X-ray scanning transmission microscopy studies of radiation damage by electron, ion and X-ray beams*, Microscopy & Microanalysis, **26** S2 (2020) 2072-74. (VIRTUAL, Aug, 2020) doi.org/10.1017/S1431927620020346
- C95** A.P. Hitchcock, P. Krüger, C. Bittencourt, G.D.W. Swerhone and J.R. Lawrence, *Spatially resolved soft X-ray spectroscopy in scanning X-ray microscopes*, Microscopy & Microanalysis **25** (S2) (2019) 254-255. doi: :10.1017/S1431927619002009
- C94** J. Geilhufe, A.F.G. Leontowich, J. Wang, R. Berg, C. Regier, D. Taylor, D. Beauregard, J. Swirsky, C. Karunakaran, A.P. Hitchcock and S.G. Urquhart, *Soft X-ray Spectrotomographic Microscopy at Cryogenic Temperatures*, Int. Conf. on X-Ray Microscopy 2018 Saskatoon, SK Aug 2018, Microscopy & Microanalysis **24** (S2) (2018) 258-259. doi:10.1017/S1431927618013648
- C93** J. Wang, J. Geilhufe, Y. Lu, J. Dynes, J. Zhou, R. Berg, A. F.G. Leontowich, I. Coulthard, J. Swirsky, C. Karunakaran, A.P. Hitchcock and S.G. Urquhart, *Soft X-ray Spectromicroscopy at the Canadian Light Source*, Int. Conf. on X-Ray Microscopy 2018 Saskatoon, SK Aug 2018, Microscopy & Microanalysis **24** (S2) (2018) 228-229. doi:10.1017/S1431927618013491
- C92** M. Obst, P. Ingino, A.P. Hitchcock, V. Prabu and A. Picard, *Redox-Chemistry of Environmental Biofilms Probed on the Submicron Scale by in-situ Electrochemistry Scanning Transmission (soft) X-ray Microscopy*, Int. Conf. on X-Ray Microscopy 2018 Saskatoon, SK Aug 2018, Microscopy & Microanalysis **24** (S2) (2018) 502-504. doi:10.1017/S1431927618014745
- C91** L.G.A. Melo and A.P. Hitchcock, *Optimizing Soft X-ray Spectromicroscopy for Fuel Cell Studies: X-ray Damage of Ionomer*, Int. Conf. on X-Ray Microscopy 2018 Saskatoon, SK Aug 2018, Microscopy & Microanalysis **24** (S2) (2018) 460-461. doi:10.1017/S1431927618014538
- C90** L. Le Nagard, X.H. Zhu, A.P. Hitchcock, D.A. Bazylnski, S. Swaraj, S. Stanescu and R. Belkhou, *How do Magnetotactic Bacteria Synthesize Magnetite? – a Soft X-ray Spectroscopy, Spectromicroscopy and Magnetism Time Course Study*, Int. Conf. on X-Ray Microscopy 2018

- Saskatoon, SK Aug 2018, *Microscopy & Microanalysis* **24** (S2) (2018) 376-377. doi:10.1017/S1431927618014174
- C89** V. Berejnov, M.S. Saha, D. Susac, J. Stumper, M.M. West and A. P. Hitchcock, *Advances in Structural Characterization Using Soft X-ray Scanning Transmission Microscopy (STXM): Mapping and Measuring Porosity in PEM-FC Catalyst Layers*, Electrochemical Society Meeting, 1-5 Oct 2017, Washington, DC, ECS Transactions **80** (2017) 241-252. doi:10.1149/08008.0241ecst
- C88** J Wu, AP Hitchcock, M Lerotic, D.A. Shapiro, V. Berejnov, D. Susac and J. Stumper, *4d Imaging of Polymer Electrolyte Membrane Fuel Cell Cathodes by Scanning X-Ray Microscopy*, Microscopy and Microanalysis St. Louis, MO Aug 2017, Proc. Micros. Microanal. S1 **23** (2017) 1784-1785. doi: 10.1017/S1431927617009588
- C87** J. Geilhufe, A.F.G. Leontowich, R. Berg, C. Regier, D.M. Taylor, J. Wang, J. Swirsky, C. Karunakaran, R. Peters, M. Aktary, A.P Hitchcock and S.G Urquhart, *A new cryo scanning transmission x-ray microscope at the Canadian Light Source*, Proceedings of X-Ray Nanoimaging: Instruments and Methods III (San Diego, Aug 2017) Proc. SPIE 10389 (2017) 103890P doi: 10.1117/12.22755779
- C86** L.G.A. Melo, A.P. Hitchcock, J. Jankovic, D. Susac, J. Stumper and V. Berejnov, *Quantitative mapping of PFSA Ionomer in Catalyst Layers by Electron and X-ray Spectromicroscopy*, Electrochemical Society Meeting, 1-5 Oct 2017, Washington, DC, ECS Transactions **80** (2017) 275-282. doi:10.1149/08008.0275ecst
- C85** A.F.G. Leontowich, D.M. Taylor, J. Wang, C.N Regier, T.Z. Regier, R. Berg, D. Beauregard, J.J. Dynes, C. Senger, J. Swirsky, C. Karunakaran, A. P. Hitchcock and S.G. Urquhart, *Low background, UHV compatible scintillator detector for the CLS cryo scanning soft X-ray microscope*, Proc. of the 13th International Conference on x-ray Microscopy, Oxford, UK, 2016 IOP Conference Series: J. Phys. Conf. Series **849** (2017) 012045. doi:10.1088/1742-6596/849/1/012045
- C84** S. Swaraj , R. Belkhou, S. Stanescu, M. Rioult, A. Besson and A.P. Hitchcock, *Performance of the HERMES beamline at the carbon K-edge*, Proc. of the 13th International Conference on x-ray Microscopy, Oxford, UK, 2016 IOP Conference Series: J. Phys. Conf. Series **849** (2017) 012046. doi :10.1088/1742-6596/849/1/012046
- C83** A. Putz, D. Susac, V. Berejnov, J. Wu, A.P. Hitchcock and J. Stumper, *Doing More with Less: Challenges for Catalyst Layer Design*, ECS Transactions **75** (2016) 3-23 doi:10.1149/07514.0003ecst
- C82** A. P. Hitchcock, J.Wu, V. Lee, N. Appathurai, T. Tyliczszak, H.-W. Shiu, D. Shapiro, V. Berejnov, D. Susac and J. Stumper, *Progress in soft X-ray Microscopy Characterization of PEM Fuel Cell Catalyst Layers*, Microscopy & Microanalysis **22** S-3, (2016) 1290-1291. doi:10.1017/S1431927616007297
- C81** A.P. Hitchcock, Z. Qin, S.M. Rosendahl, V. Lee, M. Reynolds and H. Hosseinkhannazer, *Electro-deposition of Cu studied with in situ electrochemical scanning transmission x-ray microscopy* Proceedings of XRM2014. Am. Inst. Phys. Conf Series **1696** (2016) 02003 (1-5) doi: 10.1063/1.4937497
- C80** Z.H. Zhu, T. Tyliczszak, H.-W. Shiu, D. Shapiro, D.A.Bazylinski, U. Lins and A.P. Hitchcock, *Magnetic studies of magnetotactic bacteria by soft X-Ray STXM and ptychography*, Proceedings of XRM2014. Am. Inst. Phys. Conf Series **1696** (2016) 02002 (1-5) doi: 10.1063/1.4937496
- C79** A.P. Hitchcock, V. Lee, J. Wu, M.M. West, G. Cooper, V. Berejnov, T. Soboleva, D. Susac and J. Stumper, *Characterizing Automotive Fuel Cell Materials by Soft X-Ray Scanning Transmission X-Ray Microscopy*, Proceedings of XRM2014, Am. Inst. Phys. Conf Series **1696** (2016) 020012 (1-8) doi: 10.1063/1.4937506
- C78** T. Ohigashi, M. Nagasaka, T. Horigome, N. Kosugi, S. M. Rosendahl and A.P. Hitchcock, *Development of in-situ sample cells for scanning transmission x-ray microscopy*, AIP Conference Proceedings **1741** (2016) 050002 (1-2)
- C77** L. G. de A. Melo, G.A. Botton and A.P. Hitchcock, *Quantification of the critical dose for radiation damage to perfluorosulfonic acid membranes using soft X-ray microscopy*, Microscopy & Microanalysis **21** S-3, (2015) 2443-2444. doi: 10.1017/S1431927615012994

- C76** X.H. Zhu, A.P. Hitchcock, T. Tyliczszak and D.A. Bazylinski, *Probing Magnetic Polarities of Magnetotactic Bacteria by X-ray Magnetic Circular Dichroism in a Scanning Transmission X-ray Microscope*, *Microscopy & Microanalysis* **20** S3 (2014) 1176-1177. doi: 10.1017/S1431927614007612
- C75** A. P. Hitchcock, V. Berejnov, V. Lee, D. Susac and J. Stumper, *In situ methods for analysis of polymer electrolyte membrane fuel cell materials by soft X-ray scanning transmission x-ray microscopy*, *Microscopy & Microanalysis* **20** S3 (2014) 1532-1533. doi: 10.1017/S1431927614009398
- C74** L.G. de A. Melo, V. Lee, D. Susac, V. Berejnov J. Stumper, G.A. Botton and A.P. Hitchcock, *Effects of Sample Preparation Technique on Quantitative Analysis of Automotive Fuel Cell Catalyst Layers*, *Microscopy & Microanalysis* **20** S3 (2014) 472-473. doi: 10.1017/S1431927614004085
- C73** M.S. Saha, M. Tam, V. Berejnov, D. Susac, S. McDermid, A.P. Hitchcock and J. Stumper, *Characterization and Performance of Catalyst Layers Prepared by Inkjet Printing Technology*, *Electrochemical Society Transactions*, **58** (2013) 797-806. doi:10.1149/05801.0797ecst
- C72** V. Lee, D. Susac, S. Kundu, V. Berejnov, R.T. Atanasoski, A. P. Hitchcock and J. Stumper, *STXM Characterization of Nanostructured Thin Film Anode Before and After Start-up Shut-down and Reversal Tests*, *ECS Transactions*, **58** (2013) 473-479. doi:10.1149/05801.0473ecst
- C71** V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *3D Chemical Mapping of PEM Fuel Cell Cathodes by Scanning Transmission Soft X-ray Spectromotography*, *ECS Transactions*, **50** (2012) 361-368. doi: 10.1149/05002.0361ecst
- C70** D. Susac, V. Berejnov, A.P. Hitchcock and J. Stumper, *STXM Characterization of PEM Fuel Cell Catalyst Layers*, *ECS Transactions* **50** (2012) 405-413 doi: 10.1149/05002.0405ecst
- C69** A.F.G. Leontowich and A.P. Hitchcock, *Zone plate focused soft X-ray lithography for fabrication of nanofluidic devices*, *Alternative Lithographic Technologies IV and Direct-Write Mask-Less Lithography*, *SPIE Vol. 8323* (2012) D-1 – D-11. doi: 10.1117/12.915803
- C68** D. Susac, V. Berejnov, A.P. Hitchcock, and J. Stumper, *STXM Study of the Ionomer Distribution in PEM Fuel Cell Catalyst Layers*, *ECS Transactions* **41** (2011) 629 - 635 doi: 10.1149/1.3635596
- C67** V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *Nano to Micro Scale Characterization of Water Uptake in The Catalyst Coated Membrane Measured by Soft X-ray Scanning Transmission X-ray Microscopy*, *ECS Transactions* **41** (2011) 395 – 402 10.1149/1.3635573
- C66** A.F.G. Leontowich, T. Tyliczszak and A.P. Hitchcock, *Measurement of the point spread function of a soft X-ray microscope by single pixel exposure of photoresists*, in *Damage to VUV, EUV, and X-ray Optics*, L. Juha, ed. *Proc. SPIE Vol. 8077* (2011) 80770N 1-8 DOI: 10.1117/12.887553
- C65** J.Wang, A.P. Hitchcock, C. Karunakaran, A. Prange, B. Franz, T. Harkness, Y. Lu, M. Obst and J. Hormes, *3D Chemical and Elemental Imaging by STXM Spectro-Tomography* *Proceedings of XRM2010*, *Am. Inst. Phys. Conference Series* **1365** (2011) 215-218. doi 10.1063/1.3625342
- C64** Cédric Gaillard, Chithra Karunakaran, Brigitte Bouchet, Alain Buleon, Adam P. Hitchcock, *Analyse de surfaces biologiques par microscopie à balayage par transmission de rayons X mous*, *Materiaux2010* (October 2010). – NOT PUBLISHED
- C63** D. Susac, J. Wang, Z. Martin, A.P. Hitchcock, J. Stumper and D. Bessarabov, *Chemical Fingerprint Associated with the Formation of Pt in the Membrane in PEM Fuel Cells Catalysts: Durability*, *ECS Trans.* **33** (2010) 391-398. doi:10.1149/1.3484537
- C62** A.P. Hitchcock, T. Tyliczszak, M. Obst, G.D.W. Swerhone and J.R. Lawrence, *Improving sensitivity in soft X-ray STXM using low energy X-ray fluorescence*, *Microscopy and Microanalysis* **16** S-2 (2010) 924-925.
- C61** A.P. Hitchcock, J. Wang and M. Obst, *3-d chemical imaging with STXM spectro-tomography*, *Microscopy and Microanalysis* **16** S-2 (2010) 850-851.
- C60** A.L.D. Kilcoyne, H. Ade, D. Attwood, A.P. Hitchcock, P. McKean, G.E. Mitchell, P. Monteiro, T. Tyliczszak and T. Warwick, *A new Scanning Transmission X-ray Microscope at the ALS for operation up to 2500 eV*, *Proc. SRI 2009* (Melbourne AU, Sep 2009) AIP Conference Proceedings **1234** (2010) 465-468. doi: /10.1063/1.3463241 [Mac does not subscribe]
- C59** G. Ceccone, B. Leung, M. J. Perez-Roldan, A. Valsesia, P. Colpo, F. Rossi, A.P. Hitchcock and A. Scholl, *X-Ray spectromicroscopy study of ubiquitin adsorption to plasma polymerized micro*

- and nanostructures, Proc. of 13th European Conference on Applications of Surface and Interface Analysis (ECASIA'09) Surface and Interface Analysis 42 (2010) 830–834.
- C58** E.Najafi, D. Hernández Cruz M. Obst, A.P. Hitchcock, A. Felten, B. Douhard, J.-J. Pireaux, K. Kaznatcheev and Ch. Karunakaran, *Scanning Transmission X-ray Microscopy of multi-walled carbon nanotubes*, Proc. 9th Int. Conf. on X-ray Microscopy, J. Phys. Conf. Ser. 186 (2009) 012106 (1-3).
- C57** M. Obst, J. Wang and A.P. Hitchcock *3-d chemical imaging with STXM tomography*, Proc. 9th Int. Conf. on X-ray Microscopy, J. Phys. Conf. Ser. 186 (2009) 012045 (1-3).
- C56** T.Lefevre, M. Pézolet, D. Hernández Cruz, M.M. West, M. Obst, A.P. Hitchcock, C. Karunakaran and K.V. Kaznatcheev, *Mapping molecular orientation in dry and wet dragline spider silk*, Proc. 9th Int. Conf. on X-ray Microscopy, J. Phys. Conf. Ser. 186 (2009) 012089 (1-3).
- C55** A.P. Hitchcock, G.A. Johansson, D. Hernández Cruz, E. Najafi, J. Li and H. Stöver, *Quantitative chemistry and orientation of polymers in 2-d and 3-d by scanning transmission X-ray microscopy* EMC 2008, Vol. 2: Materials Science, S. Richter, A. Schwedt (Eds.), 2 (2008) 753–754
- C54** A.P. Hitchcock, E.Najafi, D. Hernández Cruz M. Obst A. Felten, B. Douhard, J.-J. Pireaux, *Scanning Transmission X-ray Microscopy of Individual Multi-Walled Carbon Nanotubes: Linear Dichroism and Functionalization Chemistry*, Microscopy and Microanalysis 14 S-2 (2008) 190-191.
- C53** A.P. Hitchcock, G.A. Johansson, G.E. Mitchell, M.H. Keefe and T. Tylliszczak, *3-d chemical imaging using angle-scan nanotomography in a soft X-ray scanning transmission X-ray microscope*, Proc.15th Int. Conf. Vac. UV Radiation Physics (Berlin, 29-Jul – 04-Aug 2007) Appl. Phys. A 92 (2008) 447-452.
- C52** N. Iwata, A. Watada, K. Tani, H. Ikeura-Sekiguchi, T. Araki, A.P. Hitchcock, *Application of Scanning Transmission X-ray microscopy for observation of organic compounds in toner particles*, Int. Conf on Digital Printing Technologies, NIP23, Anchorage, Alaska, 21-27 Sep, 2007.
- C51** K.V. Kaznacheyev, Ch. Karunakaran, F. He, M. Sigrist, T. Summers, M. Obst and A.P. Hitchcock, *CLS ID-10 Chicane Configuration: From "Simple Sharing" to Extended Performance with High Speed Polarization Switching*, US Synchrotron Radiation Instrumentation, April 2007, Baton Rouge, LA, Nucl. Inst. Meth. A 582 (2007) 103–106.
- C50** K.V. Kaznatcheev, Ch. Karunakaran, U.D. Lanke, S.G. Urquhart, M. Obst and A.P. Hitchcock, *Soft X-ray Spectromicroscopy Beamline at the CLS: commissioning results*, US Synchrotron Radiation Instrumentation, April 2007, Baton Rouge, LA, Nucl. Inst. Meth. A 582 (2007) 96-99
- C49** K.V. Kaznacheyev, Ch. Karunakaran, A. Sitnikov, D. Loken, T. Warwick and A.P. Hitchcock, *High Precision Mechanical Components for Soft X-ray Beamline: Engineering Goal and Test Results*, Synchrotron Radiation International, May 28 – Jun 3, 2006 Daegu, Korea. AIP Conf. Proc. 879 (2007) 730-732.
- C48** G.A. Johansson, J. J. Dynes, A. P. Hitchcock, T. Tylliszczak, G.D. W. Swerhone, and J. R. Lawrence, *Chemically sensitive 3D imaging at sub 100 nm spatial resolution using tomography in a scanning transmission x-ray microscope*, in Developments in X-Ray Tomography V, U. Bonse, ed. Proc. SPIE 6318, 1I-(1-9) (2006)
- C47** G.A. Johansson J.J. Dynes A.P. Hitchcock T. Tylliszczak G.D.W. Swerhone and J.R. Lawrence, *Chemically Sensitive Tomography at 50 nm Spatial Resolution using a Soft X-ray Scanning Transmission X-Ray Microscope*, Microscopy and Microanalysis, Volume 12, Supplement S02 (2006) 1412-1413.
- C46** A.P. Hitchcock D. Hernández-Cruz, J.J. Dynes, M.-E. Rousseau and M. Pézolet, *Chemical Imaging by Soft X-ray Scanning Transmission X-ray Microscopy*, Microscopy and Microanalysis, Volume 12, Supplement S02, (2006) 1396-1397.
- C45** A.P. Hitchcock, X. Zhang and D. Guay, *In situ STXM: Studies of Wet Electrochemical Systems under Potential Control*, Proceedings of XRM05, IPAP Conference Proceedings 7 (2006) 313.

- C44 U.D. Lanke, A.P. Hitchcock, P. Hitchcock, J. Stewart – Ornstein, K.Kaznatcheev, A. Kolmakov, I. Annelsey, A. McCready and S.G. Urquhart , *CaPeRS and LOX: Prospects for Photoemission Electron Spectromicroscopy at the Canadian Light Source*, Proceedings of XRM05, IPAP Conference Proceedings 7 (2006) 85-87.
- C43 N. Iwata, K. Tani, A.Watada, H. Ikeura-Sekiguchi, T. Araki, A.P. Hitchcock, *Mapping Very Similar Chemical Components in Micron-Scale Organic Rods by Scanning Transmission X-ray Microscopy*, Proceedings of XRM05, IPAP Conference Proceedings 7 (2006) 255-257.
- C42c A. P. Hitchcock, J. Wang, G.A. Botton and R.F. Egerton, *Quantitative dose-damage relationships for radiation damage to polymers and molecular compounds in X-ray and electron microscope*, Microscopy and Microanalysis, Volume 11, Supplement S02, (2005) 2046-2047.
- C42b A. P. Hitchcock, G. Gao and H. Stöver, *Self-assembled Nano-structured 3-d Polymer Spheres: Synthesis and Chemical Characterization by Scanning Transmission X-ray Microscopy* Microscopy and Microanalysis, Volume 11, Supplement S02, (2005) 1400-1401.
- C42a M. M. Reid, G. G. Leppard, J. J. Dynes, G. D. W. Swerhone, T. Tylicszak, T. Araki, D. R. Korber, A. P. Hitchcock and J. R. Lawrence, *Characterizing Riverine Biofilms Using Scanning Transmission X-ray and Transmission Electron Microscopies*, Microscopy and Microanalysis, Volume 11, Supplement S02, (2005) 448-449.
- C42 K. Kaznatcheev, I. Blomqvist, E. Hallin, S. Urquhart, D. Loken, T. Tylicszak, T. Warwick and A.P. Hitchcock, *Principles of optical design of the SM beamline at the CLS*, in *Synchrotron Radiation Instrumentation 2003: Eighth International Conference on Synchrotron Radiation Instrumentation*, T. Warwick, J. Arthur, H.A. Padmore, J. Stohr, AIP Conf. Proc. 705, (2004) 1303-1307. (SRI 2003, San Francisco, CA, Aug 25-29, 2003)
- C41 H.L. Marshall, A. Tennant, C.E. Grant, A.P. Hitchcock, S.L. O'Dell, and P.P. Plucinsky, *Composition of the Chandra ACIS contaminant*, in *X-Ray and Gamma-Ray Instrumentation for Astronomy XIII*, K. A. Flanagan and O. H. W. Siegmund, eds., *Proc. SPIE* 5165 (2004) 497-503.
- C40a A.P. Hitchcock, C. Morin, L. Li, J. Brash, A. Scholl and A. Doran, *Methods and Examples of Quantitative Chemical Mapping using Synchrotron Soft X-ray Spectromicroscopy*, Microscopy and Microanalysis, Volume 10, Supplement S02, (2004) 1050-1051.
- C40 A.P. Hitchcock, T. Araki, H. Ikeura-Sekiguchi, N. Iwata and K. Tani, *3d chemical mapping of toners by serial section scanning transmission X-ray microscopy*, (X-ray Microscopy 2002, Grenoble, France) *J. Phys. IV France* 104 (2003) 509-512.
- C39 H. Ade, A.L.D. Kilcoyne, T. Tylicszak, P. Hitchcock, E.Anderson, B.Harteneck, E.G.Rightor, G.E. Mitchell A.P. Hitchcock, and T. Warwick, *Scanning transmission X-ray microscopy at a bending magnet beamline at the Advanced Light Source* X-ray Microscopy 2002, Grenoble, France, *J. de Physique Coll* 104 (2003) 3-8.
- C38 L.M. Croll, C. Morin, I. Koprinarov, A.P.Hitchcock, and H.D.H. Stöver *Optimization of polymer capsules aided by scanning transmission x-ray microscopy* X-ray Microscopy 2002, Grenoble, France, *J. de Physique Coll* 104 (2003) 507-508.
- C37 A.P. Hitchcock, T. Tylicszak, I. Koprinarov, H. Stöver, W.H. Li, Y.M. Heng, K. Murti, P. Gerroir, J. R. Dutcher, K. Dalnoki-Veress and H.W. Ade, *X-ray Spectromicroscopy Studies of Polymer Microstructure*, X-ray Microscopy 99, Berkeley, CA, AIP Conf. Proc. 507 (1999) 231-234.
- C36 A.P. Hitchcock, T. Tylicszak, Y.M. Heng, R. Cornelius, J.L. Brash, H. Ade, S. Anders, A. Scholl and F. Nolting, *X-ray Spectromicroscopy Studies of Protein-Polymer Interactions* , X-ray Microscopy 99, Berkeley, CA, AIP Conf. Proc. 507 (1999) 235-238.
- C35 A.P. Hitchcock, T. Tylicszak, P. Brodersen, Z.H. Lu, M.W.C. Dharma-Wardana, *Structure of Chemically Prepared Passivation Layers on Single Crystal Semiconductor Surfaces*, *Surface Review and Letters* 6 (1999) 1109-1120.
- C34 A.P. Hitchcock, T. Tylicszak, Z.H. Lu, P. Brodersen, M.W.C. Dharma-Wardana, *Structure Of Chemically Passivated Semiconductor Surfaces Determined Using X-Ray Absorption Spectroscopy*, MRS Spring Meeting, Symposium on Compound Semiconductor Surface

- Passivation and Novel Device Processing, San Francisco, April 5-9, 1999. MRS Symp. Proc. 573 (1999) 31-41.
- C33 S.G. Urquhart, A.P. Hitchcock, E.G. Rightor, H. Ade and A.P. Smith, *Polymer Chemical Speciation by NEXAFS Spectromicroscopy: Insights from Molecular Modelling*, Proceedings of a Symposium on "Applications of SR to Materials Science", 1996 Spring meeting of the MRS (San Francisco, Apr 8, 1996), L.J. Terminello, S.M. Mini, H. Ade, D.L. Perry (eds) MRS Symp. Proc. 437 (1996) 243-248.
- C32 E. Rühl, A. Knop, A.P. Hitchcock, P.A. Dowben and D.N. McIlroy, *Core Excitation in Free Clusters: Ionization, Relaxation and Fragmentation*, Int. Conf. on Surfaces, Films and Clusters, (Kobe, Japan, Sep. 14-17, 1994) Surface Reviews and Letters 3 (1996) 557-565.
- C31 A.P. Hitchcock and E. Rühl, *Inner-shell Excitation, Relaxation and Fragmentation of Cluster Beams and Molecules*, XIX ICPEAC, Whistler, Jul-95, AIP Conf. Proc. 360 (1995) 89-104.
- C30 S. Wu, J. Lipkowski, T. Tyliczszak and A.P. Hitchcock, *Effect of Anion Adsorption on Early Stages of Copper Electrocrystallization at the Au(111) Surface*, Progress in Surface Science, 50 (1995) 227-236.
- C29 A.A. Pavlychev, E.V. Semenova, A.P. Hitchcock and E. Rühl, *Effect of cluster size and shape on the $2p_{3/2}$, $4s$ resonance in free argon clusters*, Proc. XAFS VIII, Physica B 208 (1995) 187-189.
- C28 E. Rühl, C. Heinzl, H. Baumgärtel, W. Drube and A.P. Hitchcock, *Ar 2p and Ar 1s Spectroscopy of Free Argon Clusters*, Proc. of XAFS-VII, (Kobe, Japan, Aug 23-29, 1992), Jap. J. Appl. Phys. 32 (1993) Suppl. 32-2, 791-793.
- C27 T. Tyliczszak, P. Aebi, A.P. Hitchcock, T.E. Jackman, J.-M. Baribeau and D.J. Lockwood, *Simultaneous Multiple file EXAFS Analysis: Methodology and Application to Buried Ge-Si Interfaces* Proc. of XAFS-VII, (Kobe, Japan, Aug 23-29, 1992) Jap. J. Appl. Phys. 32 (1993) Suppl. 32-2, 134-136.
- C26 A.P. Hitchcock, *Near Edge Spectroscopy by Electron Energy Loss: A Comparison to X-ray Absorption*, Proc. of XAFS-VII, (Kobe, Japan, Aug 23-29, 1992), Jap. J. Appl. Phys. 32 (1993) Suppl. 32-2, 176-181.
- C25 E. Rühl, C. Heinzl, A.P. Hitchcock and H. Baumgärtel, *Core Level Excitation in Atomic and Molecular Clusters*, Proc. of VUV-10 (Jul-1992 Paris) (World Scientific, 1993)
- C24 S. Lee, P.A. Dowben, A.T. Wen, A.P. Hitchcock, J.A. Glass and J.T. Spencer, *The Structures of Selected Boranes and Carboranes*, J. Vac. Sci. Tech. A 10 (1992) 881-884.
- C23 E. Rühl, C. Heinzl, H.W. Jochims, E. Biller, R. Loch, A.P. Hitchcock and H. Baumgärtel, *Core Excitation of Atomic and Molecular Clusters*, Synchrotron Radiation and Dynamic Phenomena, Grenoble, 9-13 Sep-1991, AIP Conference Proceedings 258 (1992) 230-239.
- C22 A.P. Hitchcock, *Inner-shell Studies of Molecules and Surfaces by Electron Impact*, "Collision Processes of Ion, Positron, Electron and Photon Beams with Matter", Proc. Escola Latino-Americana de Fisica (World Sci. Publ. Co, 1992, London) p. 104-120.
- C21 P. Aebi, T. Tyliczszak, A.P. Hitchcock, J.M. Baribeau, D.J. Lockwood and T.E. Jackman, *Interface Structure of Ge/Si Superlattices Determined by X-ray Absorption Spectroscopy*, Materials Research Symposium, "Silicon MBE" 220 (1991) 253-259.
- C20 E.G. Rightor, A.P. Hitchcock, S.G. Urquhart and A.T. Wen, *Core Excitation Studies of poly(Ethylene Terephthalate) and Molecular Analogues by EELS*, (49th EMSA), Proceedings of 49th EMSA, (San Francisco Press, CA, 1991)
- C19 A.P. Hitchcock, S. Bodeur and M. Tronc, *Sulfur and Chlorine K-shell Spectra of Gases*, Proceedings of XAFS 5 (Fifth Int. Conf. on X-ray Absorption Fine Structure), Seattle, WA, Aug, 1988, Physica 158 (1989) 257-258.
- C18 J.A. Sawicki, A.P. Hitchcock and T. Tyliczszak, *EY-EXAFS and Mössbauer Spectroscopy of the Au/Si Interface*, Proc. XAFS 5, Physica. 158 (1989) 681.
- C17 J.A. Sawicki, T. Tyliczszak, F.E. Wagner, J.H. Rolston, A.P. Hitchcock and D.E. Clegg, *EXAFS and Mossbauer Analysis of Pt-Ir Catalysts*, Proc. XAFS 5, Physica B 158 (1989) 203.

- C16a A.P. Hitchcock and E. Rühl, "Near Edge Spectroscopy of Free Molecules", Proc. XAFS 5, Physica B **158** (1989) 403-404.
- C16 T. Tyliczszak and A.P. Hitchcock, *Gas-flow Electron Detector with Sample Rotation for Near Surface EXAFS of Single Crystals*, Proc. XAFS 5, Physica B **158** (1989) 335.
- C15 A.P. Hitchcock, M. De Crescenzi and T. Tyliczszak, *The Cu/Ag(111) Interface Studied by Surface Electron Energy Loss Fine Structure Spectroscopy*, Proc. XAFS 5, Physica B **158** (1989) 666.
- C14 A.P. Hitchcock and T. Tyliczszak, *Structural and Thermal Motion Anisotropy Probed by Reflection Electron Energy Loss Spectroscopy*, Proc. XAFS 5, Physica B **158** (1989) 631.
- C13 M. de Crescenzi, A.P. Hitchcock and T. Tyliczszak, *Extended Fine Structures in Auger Spectra (EXFAS): Temperature and Core Hole Dependence of Cu and Ag(111)* (invited paper), Proc. XAFS 5, Physica **158** (1989) 557.
- C12 M. De Crescenzi, A.P. Hitchcock and T. Tyliczszak, "Temperature and Core Hole Dependence of EXFAS: The Auger Extended Fine Structure of Ag(111)", Auger Spectroscopy and Electronic Structure, Springer Series in Surface Science **18** (Springer, Berlin, 1989) 243-250.
- C11 I. Nenner, J.H.D. Eland, P. Lablanquie, J. Delwiche, M.J. Hubin-Franskin, P. Roy, P. Morin and A.P. Hitchcock, *Double Photoionization Near Threshold Via Core Hole States: Recent Experimental Results*, in "Electron-Molecule Scattering and Photoionization", Proc. of satellite meeting to XV Int. Conf. on Physics of Electronic and Atomic Collisions, Brighton, July 1987) (Plenum, 1988) 15-27.
- C10 A.P. Hitchcock, P. Fischer and R. McLaren, *Resonances in the K-Shell Spectra of Fluorinated Organic Molecules*, Proc. of the NATO Advanced Study Institute on 'Giant Resonances in Atoms, Molecules and Solids' (Les Houches, France 1986) (Plenum, England, 1987) 281.
- C9 A.P. Hitchcock, *Near Edge Core Excitation of Complex Molecules*, Proc. of Fourth Int. Conf. on EXAFS and Near Edge Structure, J. de Physique C **8** (1986) 575-578.
- C8 A.P. Hitchcock, J.D. Garrett and T. Tyliczszak, *Orientation and Temperature Dependence of the Cd K-shell EXAFS of Single Crystal Cd Metal: First EXAFS Observations of R_2* , proc. of Fourth Int. Conf. on EXAFS and Near Edge Structure, J. de Physique C **8** (1986) 1081.
- C7 A.P. Hitchcock and I. Ishii, *Carbon and Oxygen K-Shell EXAFS of Gases Studied by Electron Energy Loss Spectroscopy*, Proc. of Fourth Int. Conf. on EXAFS and Near Edge Structure, J. de Physique C **8** (1986) 199.
- C6 A.P. Hitchcock, B. Christian and R.J. Gillespie, *EXAFS Studies of $Cd_2(AlCl_2)_4$: Structure of the Cd_2^{2+} Ion*, Proc. 3rd Int. EXAFS Conference, Stanford, 1984, EXAFS and Near Edge Structure III (Springer-Verlag, 1984) 423.
- C5. A.P. Hitchcock, F. Sette and J. Stöhr, *Molecular Bond Length Determination from s Shape Resonances*, Proc. of Third Int. EXAFS Conference, Stanford, July 1984, EXAFS and near Edge Structure III (Springer-Verlag, 1984) 43-45.
- C4. A.P. Hitchcock, B. Lippert, C.J.L. Lock and W.M.C. Pratt, *Platinum Complexes with DNA Bases, Nucleotides and DNA*, in S.J. Lippard, ed., Platinum, Gold and Other Chemotherapeutic Agents, ACS Symposium Series **209** (1983) 209-227.
- C3. C. H. Teng and A.P. Hitchcock, *EXELFS in the Reflection Electron Energy Loss Spectra of Cu and Ni*, 29th Nat. Symp. of the American Vacuum Society, Baltimore, Nov. 1982, J. Vacuum Science and Technology A **1** (1983) 1209-1210.
- C2. C.E. Brion, S. Daviel, R.N.S. Sodhi and A.P. Hitchcock, *Recent Advances in Inner-Shell Excitation of Free Molecules by Electron Energy Loss Spectroscopy*, X-81: Int. Conf. on X-Ray and Atomic Inner-Shell Physics, Eugene, Oregon, August 1982, AIP Conference Proceedings Series **94** (1982) 429-446.
- C1. A.P. Hitchcock and C.E. Brion, *K-Shell Excitation of HCN by Electron Loss Spectroscopy*, Third Int. Conf. on Electron Spectroscopy, Melbourne, August 1978, J. Electron Spectroscopy **15** (1979) 201-206.

Theses Supervised (graduating in **Chemistry**, unless otherwise specified)

1986-03	David C. Newbury (M.Sc., Chemistry) <i>Inner-shell Electron Energy Loss Spectroscopy of Cyclic Organic Molecules</i>	(1983-1986)
1990-xx	Frank Esposto (M.Sc., Chemistry) <i>EXAFS of Pd₄₀Ni₄₀P₂₀ Metallic Glass and Boron Doped Silicon</i>	(1988-1990)
1992-xx	Alex T. Wen (Ph.D, Chemistry) <i>Core Excitation of Some Organometallic and Organosilicon Molecules</i>	(1988-1992)
1995-xx	James T. Francis (Ph.D., Chemistry) <i>Dipole and Non-dipole Core Electronic Excitation Spectroscopy</i>	(1990-1995)
1997-xx	Stephen G. Urquhart (Ph.D., Chemistry) <i>Core Excitation Spectroscopy of Molecules and Polymers</i>	(1992-1997)
1996-09	Cassia Cúran Turci (Ph.D. Inorganic Chemistry ; joint with UFRJ) <i>Molecular Inner-shell Excitation by Electron Energy Loss Spectroscopy</i>	(1994-1996)
1996-10	Jeff Aubry (M. Eng., Mat. Sci.) <i>X-ray Absorption Fine Structure Spectroscopy of Thin Film SiGe Alloys</i>	(1994-1996)
2000-xx	I.Gabriella Eustatiu (Ph.D. Chemical Physics) <i>Spectroscopy and Oscillator Strengths at High Momentum Transfer</i>	(1995-2000)
2004-12	Cynthia Morin (Ph.D., Chemistry) <i>Soft X-Ray Spectromicroscopy of Proteins on Patterned Polymer Films</i>	(1999-2004)
2005-09	Hua Jiang (M.Sc, Chemistry) <i>Inner Shell Excitation Spectroscopy of Amino Acids and Small Peptides</i>	(2002-2004)
2006-10	Li Li (PhD, Chemistry) <i>X-ray Spectromicroscopy Study of Protein Adsorption onto a chemically patterned surfaces</i>	(2004-2006)
2008-02	Jian Wang (PhD, Chemistry) <i>Radiation chemistry studied by Soft X-ray microscopy</i>	(2002-2008)
2010-04	Karen Lam (M.Sc., Chemistry) <i>X-Ray Magnetic Circular Dichroism of Individual Magnetosomes in Magnetotactic Bacteria by Scanning Transmission X-Ray Microscopy</i>	(2007-2010)
2010-05	Bonnie O. Leung (Ph.D., Chemical Biology) <i>Protein Adsorption to Polymer Blend Films</i>	(2006-2010)
2010-12	Jian (Jeffrey) Li (co-supervised with H. Stöver) (PhD) <i>Synthesis, Characterization and Modification of Microcapsules</i>	(2005-2010)
2011-05	Ebrahim Najafi (PhD, Chemistry & Chemical Biology) <i>X-Ray and Electron Spectromicroscopy of Carbon Nanotube Systems</i>	(2006-2011)
2012-08	Adam F.G. Leontowich (PhD, Chemistry & Chemical Biology) <i>Tunable soft X-rays for patterning and lithography</i>	(2008-2012)
2012-09	Samanbir Kalarai (MSc., Chemistry & Chemical Biology) <i>Scanning Transmission X-ray Microscopy of Magnetotactic Bacteria</i>	(2010-2012)
2016-06	Jonathan D. West (MSc, Chemistry & Chemical Biology) <i>Scanning Transmission X-Ray and Fluorescence Microscopy of Lipid Bilayers</i>	(2014-2016)
2016-10	Xiaohui Zhu (PhD, Chemistry & Chemical Biology) <i>Studies of Magnetotactic Bacteria by Soft X-Ray Microscopy</i>	(2012-2016)
2017-07	Vinod Prabu (MSc, Chemistry & Chemical Biology) <i>In-situ Electrochemical Scanning Transmission X-ray Microscopy (STXM)</i>	(2015-2017)
2018-08	Lis Guimarães de Azeredo Melo (PhD, Chemistry & Chemical Biology) <i>Soft X-Ray Spectromicroscopy of Radiation Damaged Perfluorosulfonic Acid</i>	(2014-2018)
2018-08	Zhejia (Blossom) Yan (PhD, Chem. & Chem. Biology) (G. Goward main sup) <i>A Spectroscopic Study of Polymer Electrolyte Membranes</i>	(2014-2018)
2018-09	Lucas Le Nagard (MSc. Physics; co-supervised by Cecile Fradin)	(2016-2018)

- Formation and Positioning of the Magnetosome Chain in Magnetospirillum Magneticum AMB-1*
2018-09 Juan Wu (PhD, Materials Science and Engineering) (2013-2018)
Nano-scale 4D mapping by Scanning Transmission X-ray Microscopy

Non-refereed Publications (including Synchrotron Centre annual reports)

- nr-89** S.G. Urquhart and Adam P. Hitchcock, *XRM2018 meeting report*, Synchrotron Radiation News **32** (2019) 28-29.
- nr-88** A.P. Hitchcock, *Advances in soft X-ray spectromicroscopy*, Imaging & Microscopy, Feb issue (2019) 2-3.
- nr-87** A.P. Hitchcock, A. Khondker and M. Rheinstädter, *A new approach for finding Alzheimer's treatments*, CLSnews (2018) 1-3 (story written by C. MacPherson)
- nr-86** W. Eberhardt, A.P. Hitchcock and N. Kosugi, *Celebrating 43 years and 200 Volumes*, J. Electron Spectrosc. **200** (2015) 1. doi: /10.1016/j.elspec.2015.08.008
- nr-85** S.M. Rosendahl, A.P. Hitchcock, M. Nagasaka, Yu-Fu Wang, T. Horigome, T. Ohgashi and N. Kosugi, *Electrochemical studies at BL4U STXM*, 2014 UVSOR Activity report (2015) 117.
- nr-84** X.H. Zhu, A.P. Hitchcock, T. Tyliczszak and D.A. Bazylinski, *Probing Magnetic Polarities of Magnetotactic Bacteria by X-ray Magnetic Circular Dichroism in a Scanning Transmission X-ray Microscope*, MSC /SMC Bulletin **42** (2014) 10-11.
- nr-83** X.H. Zhu, T. Ohgashi, Yu-Fu Wang, T. Horigome, A.P. Hitchcock, C. Bittencourt, P. Umek and P. Krüger, *X-ray linear dichroism of sodium titanate nanoribbons measured with in situ azimuthal sample rotation in STXM*, 2013 UVSOR Activity report (2014) 72.
- nr-82** A.P. Hitchcock, M. Obst, T. Tyliczszak, J. Wang, Y.S. Lu and C. Karunakaran, *Arsenic immobilization by an Fe(II)-oxidizing, nitrate-reducing bacterium*, 2012 Canadian Light Source Research Report (2013) 38-39.
- nr-81** A.P. Hitchcock, *Review of Beamlines and Science at UVSOR*, 2012 UVSOR Activity report (2013) 162-166.
- nr-80** T. Ohgashi, H. Arai, Y. Inagaki, N. Kondo, M. Sakai, K. Hayashi, E. Shigemasa, A. P. Hitchcock, N. Kosugi and M. Kato, *Commissioning of a Scanning Transmission X-ray Microscopy Beamline*, 2012 UVSOR Activity report (2013) 43.
- nr-79** M. Nagasaka, H. Yuzawa, T. Horigome, Z. Qin, A. P. Hitchcock and N. Kosugi, *Electrochemical Reaction Studied by Soft X-Ray Absorption Spectroscopy. II. Valence Changes of Fe Ions in Aqueous Iron Sulfate Solutions*, 2012 UVSOR Activity report (2013) 53
- nr-78** M. Nagasaka, H. Yuzawa, T. Horigome, Z. Qin, A. P. Hitchcock and N. Kosugi, *Electrochemical Reaction Studied by Soft X-Ray Absorption Spectroscopy. I. Development of Liquid Cell for Electrochemistry*, 2012 UVSOR Activity report (2013) 52.
- nr-77** K.T. Leung, A.P. Hitchcock and S.G. Urquhart, *Introduction to the Special Issue on Advances in Vacuum Ultraviolet and X-ray Physics*, J. Electron Spectroscopy Related Phenomena **184** (2011) 63-67.
- nr-76** A.P. Hitchcock, K.P. Lam, S. Kalirai, D. Bazylinski, U. Lins, J. Wang and C. Karunakaran, *Bacterial magnetism studied by Scanning Transmission X-ray Microscopy*, 2010 Canadian Light Source Research Report (2011) 40-41. (by invitation)
- nr-75** A.P. Hitchcock and S.G. Urquhart, *VUVX2010 - 37th International Conference on Vacuum Ultraviolet and X-ray Physics*, Synchrotron Radiation News **24** (2011) 29-30
- nr-74** A. P. Hitchcock, K.P. Lam, S. Kalirai, Y. Mozharivskyj, V. Svitlyk, K. Harding and J. Wang, *Nanoscale Magnetism Studied with Soft X-Ray Spectromicroscopy*, Physics in Canada **67** (2011) 7-10.
- nr-73** U. D. Lanke, A. P. Hitchcock and S. G. Urquhart, *Photoemission Electron Microscope at the Canadian Light Source: An Overview*, 2009 Canadian Light Source Annual Report (2010) 156-

- 157
- nr-72 C. Karunakaran, C. Gaillard, J. Bouleon, J. Wang and A.P. Hitchcock *Characterization of Wheat Grain Tissues by Soft X-ray Spectromicroscopy*, 2009 Canadian Light Source Annual Report (2010) 50-51
- nr-71 C. Karunakaran, A. Prange, J. Wang, Y. Lu, A. Hitchcock, J. Hormes, *Speciation of sulfur globules in a single bacterial cell by S 2p X-ray spectromicroscopy*, 2009 Canadian Light Source Annual Report (2010) 48-49
- nr-70 M. Obst, P. Grathwohl, G. Cornellisen, A. Kappler, B. Nisch, A.P. Hitchcock, S. Kalirai, M.M. Reid and T. Goch, *PAH sorption to black carbon particles – spectromicroscopic quantification and mapping*, 2009 Canadian Light Source Annual Report (2010) 24-25
- nr-69 E. Najafi, J. Wang, J. Guan, S. Denommee, O. Bourne, B. Simard and A.P. Hitchcock, *X-ray linear dichroism and defect mapping of single walled carbon nanotubes*, 2009 Canadian Light Source Annual Report (2010) 144-145
- nr-68 J. Wang, J.G. Zhou, H.T. Fang, T.K. Sham, C. Karunakaran, Y.S. Lu, G. Cooper and A.P. Hitchcock, *Effect of humidity on SnO₂ coated carbon nanotubes revealed by in situ STXM nano imaging*, 2009 Canadian Light Source Annual Report (2010) 140-141
- nr-67 J. Wang, A.P. Hitchcock, C. Karunakaran, A. Prange, T. Harkness, Y. Lu, M. Obst and J. Hormes, *3D chemical and elemental imaging of biological samples by STXM spectro-tomography* 2009 Canadian Light Source Annual Report (2010) 154-155
- nr-66 K. Lam, A.P. Hitchcock, J. Wang, C. Karunakaran, U. Lins, D. Bazylnski, M. Obst, G.D.W. Swerhone and J.R. Lawrence, *Measuring bio-magnetism with 30 nm spatial resolution: STXM-XMCD of bacterial magnetosomes*, 2009 Canadian Light Source Annual Report (2010) 46-47
- nr-65 D. Bessarabov and A.P. Hitchcock, *Advances in structural and chemical analysis of fuel cell catalyst-coated membranes (CCM) for hydrogen fuel cell applications*, Trends in Membrane Technology 6 (2009) 6 - 12
- nr-64 C. Karunakaran, J. Müssig, J. Cutler and A.P. Hitchcock, *Characterization of Interfacial Bonding in Bio-composites by Soft X-ray Spectromicroscopy*, 2008 Canadian Light Source Annual Report (2009) 116-117
- nr-63 C. Karunakaran, M. Obst, D. Bertwistle, U. Lanke, J. Wang, Y. Lu, S.G. Urquhart, and A.P. Hitchcock, *Soft X-ray Spectromicroscopy Beamline 10ID-1* 2008 Canadian Light Source Annual Report (2009) 174-175
- nr-62 R. Oraji, C. Karunakaran, S. Panigrahi and A. Hitchcock, *X-ray Spectromicroscopy of the Effect of Chemical Treatment on Flax Fibres*, 2008 Canadian Light Source Annual Report (2009) 118-119
- nr-61 K.L.I. Norlund, L.A. Warren, A.P. Hitchcock, M. Obst, T. Tyliczszak, Y.F. Hu and C. Karunakaran, *X-ray spectromicroscopy of a novel S-metabolizing bacterial consortium*, 2008 Canadian Light Source Annual Report (2009) 84-85
- nr-60 M. Obst, A.P. Hitchcock, T. Ayers, C. Schietinger and C. Karunakaran, *A novel wet cell for in-situ 2D and 3D STXM studies*, 2008 Canadian Light Source Annual Report (2009) 140-141
- nr-59 A.P. Hitchcock, *Book Review: Core Level Spectroscopy of Solids* by Frank de Groot and Akio Kotani Advances in Condensed Matter Science Vol. 6, (CRC Press, Boca Raton, FL, USA, 2008) LC QC176.8.O6G76 , 490 pages. J. Electron Spectrosc. Rel. Phen. **168** (2008) 45.
- nr-58 J.J. Dynes, T. Rema, J.R. Lawrence, G.D.W. Swerhone, A.P. Hitchcock, G. G. Leppard, M. Obst, K. Kaznatcheev, D. Bertwistle, Ch. Karunakaran, D. R. Korber, *STXM and SR-IR Analysis of Delftia acidovorans Biofilms Exposed to Chlorhexidine*, 2007 Canadian Light Source Annual Report (2008) 104-105.
- nr-57 M. Obst, A.P. Hitchcock, J.J. Dynes, J.R. Lawrence, G.G. Leppard, G.D.W. Swerhone, K. Benzerara, P. Gasser, L. Holzer, D. Bertwistle, K. Kaznatcheev and C. Karunakaran, *Precursor phases and the influence of extra-cellular polymers on CaCO₃ precipitation by cyanobacteria*, 2007 Canadian Light Source Annual Report (2008) 91-93.

- nr-56 K. Lam, M. Obst, A.P. Hitchcock, J.J. Dynes, J.R. Lawrence, G.D.W. Swerhone, G.G. Leppard, D. Bazyliniski, D. Bertwistle, K. Kaznatcheev and Ch. Karunakaran, *Probing magnetic order at the nanoscale*, 2007 Canadian Light Source Annual Report (2008) 108-109.
- nr-55 E. Najafi, M. Obst, A.P. Hitchcock, D. Hernández Cruz, A. Felten, B. Douhard, J.J. Pireaux, K. Kaznatcheev, D. Bertwistle and Ch. Karunakaran, *Studies of the linear dichroism of individual carbon nanotubes with STXM at the C 1s edge* 2007 Canadian Light Source Annual Report (2008) 28-29.
- nr-54 K.V. Kaznatcheev, Ch. Karunakaran, D. Bertwistle, U. Lanke, S.G. Urquhart, M. Obst and A.P. Hitchcock, *SM (ID10-1) Beamline* 2007 Canadian Light Source Annual Report (2008) 157-158.
- nr-53 M. Pézolet, T. Lefèvre, M. Obst, A.P. Hitchcock, M.M. West and C. Karunakaran, *Mapping Protein Orientation in Spider Silk by STXM – The Effect of Water*, 2007 Canadian Light Source Annual Report (2008) 118-119.
- nr-52 K.V. Kaznatcheev, P. Dudin, A.P. Hitchcock, T. Hegmann and O.D. Lavrentovitch, *Liquid Crystals under the X-ray microscope*, 2006 Canadian Light Source Annual Report (2007) 120-122.
- nr-51 K.V. Kaznatcheev, Ch. Karunakaran, U. Lanke, S.G. Urquhart, M. Obst, A.P. Hitchcock *ID-10.1: Soft X-ray Spectromicroscopy*, 2006 Canadian Light Source Annual Report (2007) 150-153.
- nr-50 S. Hanhan, M. Obst, J.J. Dynes, A.P. Hitchcock, K. Kaznatcheev and C. Karunakaran, *A liquid cell for solution and wet sample studies by STXM*, 2006 Canadian Light Source Annual Report (2007) 116-117
- nr-49 U.D. Lanke, B. Haines, E. Christensen, R. Coulombe, J. Stewart-Ornstein, P. Hitchcock, K. Kaznatcheev, C. Karunakaran, A.P. Hitchcock, S.G. Urquhart, *The Canadian Photoemission Research Spectromicroscope (CaPeRS)*, 2006 Canadian Light Source Annual Report (2007) 112-113.
- nr-48 M. Obst, J.J. Dynes, S. Hanhan, A.P. Hitchcock, G.D. Swerhone, J.R. Lawrence, G.G. Leppard, D.R. Korber, K. Kaznatcheev and C. Karunakaran, *CaCO₃ biomineralization in river biofilms*, 2006 Canadian Light Source Annual Report (2007) 94-95.
- nr-47 A.P. Hitchcock, M.M. West, J.J. Dynes, M. Obst, G.D. Swerhone, J.R. Lawrence, G.G. Leppard, D.R. Korber, K. Kaznatcheev and C. Karunakaran, *Correlative microscopy of Quantum-dot labelled biofilms*, 2006 Canadian Light Source Annual Report (2007) 114-116
- nr-46 A.P. Hitchcock, D. Hernández-Cruz, H. Stöver, M.-E. Rousseau and M. Pézolet, *Soft X-ray spectromicroscopy of polymer and biomaterials: from analysis to synthesis*, Argonne Press, 5th Synchrotron Radiation in Materials Science, Chicago, IL, Jul 30 – Aug 2, 2006
- nr-45 A.P. Hitchcock, D. Hernández-Cruz, J.J. Dynes, M.-E. Rousseau and M. Pézolet, *Chemical Imaging by Soft X-ray Scanning Transmission X-ray Microscopy*, Microscopy and Microanalysis 2006, Chicago July 30-Aug3, 2006. (invited) Microscopy and Microanalysis 12 (2006) 1396-1397.
- nr-44 G.A. Johansson, J.J. Dynes, A.P. Hitchcock, T. Tyliczszak, G.D. Swerhone and J.R. Lawrence, *Chemically Sensitive Tomography at 50 nm Spatial Resolution using a Soft X-ray Scanning Transmission X-Ray Microscope*, Microscopy and Microanalysis 2006, Chicago July 30-Aug 3, 2006. Microscopy and Microanalysis 12 (2006) 1412-1413.
- nr-43 A. P. Hitchcock, J. Wang, G.A. Botton and R.F. Egerton, *Quantitative dose-damage relationships for radiation damage to polymers and molecular compounds in X-ray and electron microscopes*, Microscopy and Microanalysis, Honolulu, HI, Aug 1-5, 2005. Microscopy and Microanalysis 11 (Suppl 2) (2005) 2046-2047.
- nr-42 A. P. Hitchcock, Grace Gao and H.D.H. Stöver, *Self-assembled, nano-structured 3-d polymer spheres: synthesis and chemical characterization by scanning transmission X-ray microscopy*, Microscopy and Microanalysis, Honolulu, HI, Aug 1-5, 2005. Microscopy and Microanalysis 11 (Suppl 2) (2005) 1400-1401.
- nr-41 M. M. Reid, G.G. Leppard, J.J. Dynes, G.D.W. Swerhone, T. Tyliczszak, T. Araki, D. R. Korber, A.P. Hitchcock, and J. R. Lawrence, *Characterizing Riverine Biofilms Using Scanning*

- Transmission X-ray and Transmission Electron Microscopies*, Microscopy and Microanalysis, Honolulu, HI, Aug 1-5, 2005. Microscopy and Microanalysis **11** (Suppl 2) (2005) 448-449.
- nr-40 A.P. Hitchcock, C. Morin, L. Li, J. Brash, A. Scholl and A. Doran, *Methods and Examples of Quantitative Chemical Mapping using Synchrotron Soft X-ray Spectromicroscopy*, Microscopy and Microanalysis, Savannah, GA, Aug 1-5, 2004. Microscopy and Microanalysis **10** (Suppl 2) (2004) 1050.
- nr-39 T. Warwick, H. Ade, S. Fakra, M. Gilles, A.P. Hitchcock, A.L.D. Kilcoyne, David Shuh and T. Tyliczszak, *Further development of Soft X-ray Scanning Microscopy with an Elliptical Undulator at the Advanced Light Source*, Synchrotron Radiation News **16** (2003) 53-59
- nr-38 H. Ade, A.P. Hitchcock, G.E. Mitchell, A.L.D. Kilcoyne, T. Tyliczszak, R. Fink, and T. Warwick, *Applications with the Dedicated Polymer Scanning Transmission X-ray Microscope at ALS beamline 5.3.2*, Synchrotron Radiation News **16** (2003) 53-59
- nr-37 I. Retzko, W. E. S. Unger, W. Gesatzke, A. Scholl, A.L.D. Kilcoyne, I. Koprinarov, H. Ade, A.P. Hitchcock, H. Schulz and H.J. Schiebe, *Spectromicroscopy with inhomogeneous ta:C samples*, 2002 ALS Compendium, LBNL publication (2003)
- nr-36 G.E. Mitchell, I. Koprinarov, H. Tang, E.G. Rightor, L. Nguyen, A. Chatterje and A.P. Hitchcock, *STXM Study of Antioxidants for Polypropylene foam*, 2002 ALS Compendium, LBNL publication (2003)
- nr-35 L.M. Croll, J.F. Britten, H.D.H. Stöver and A.P. Hitchcock, *Linear dichroism at the nanometer scale*, 2002 ALS Compendium, LBNL publication (2003)
- nr-34 L.M. Croll, G. Zheng, H.D.H. Stöver, T. Araki and A.P. Hitchcock, *Chemical mapping of complex polymer microstructures by STXM*, 2002 ALS Compendium, LBNL publication (2003)
- nr-33 R. Takekoh, M. Okubo, H. Stöver, T. Araki and A.P. Hitchcock, *Quantitative compositional analysis of nano-structured PMMA/PS 'onion-like' particles by STXM*, 2002 ALS Compendium, LBNL publication (2003)
- nr-32 A.P. Hitchcock, T. Araki, X. Zhang, M.M. West, J.R. Lawrence, G. D.W. Swerhone and G.G. Leppard, *STXM studies of metal bio-accumulation in biofilms*, 2002 ALS Compendium, LBNL publication (2003)
- nr-31 C. Morin, A.P. Hitchcock, J.L. Brash, A. Scholl, A. Doran, *Developing X-PEEM as a tool for biomaterials analysis: mapping fibrinogen adsorption on PS:PMMA surfaces*, 2002 ALS Compendium, LBNL publication (2003)
- nr-30 C. Morin, A.P. Hitchcock, H. Ikeura-Sekiguchi, A. Scholl, A. Doran, K. Kaznachev, *Optimization of PEEM-2 for studies of organic thin films*, 2001 ALS Compendium, LBNL publication (2002)
- nr-29 A.L.D. Kilcoyne, H Ade, T. Tyliczszak, A. Peter Hitchcock, A. P. Hitchcock, E.G. Rightor, G.E. Mitchell, M. Kritscher, T. Warwick, K. Franck and E. Anderson, *Status of the 5.3.2 bend magnet polymer STXM*, 2001 ALS Compendium, LBNL publication (2002)
- nr-28 A.P. Hitchcock, T. Araki, H. Ikeura-Sekiguchi, N. Iwata and K. Tani, *Three dimensional chemical mapping by STXM*, 2001 ALS Compendium, LBNL publication (2002)
- nr-27 I. Koprinarov, M. Demirors, T. Tyliczszak, A.L.D. Kilcoyne, A.P. Hitchcock, H. Ade, R. Celinski and G.E. Mitchell, *Orientation of Fibrils in Polymer Crazes Studied by STXM*, 2001 ALS Compendium, LBNL publication (2002)
- nr-26 E.G. Rightor, G.E. Mitchell, D. Imeokparia, I. Koprinarov and A.P. Hitchcock, *Molecular Orientation in Polymer Foams Determined using STXM*, 2001 ALS Compendium, LBNL publication (2002)
- nr-25 C. Morin, H. Ikeura-Sekiguchi, T. Tyliczszak, R. Cornelius, J.L. Brash, A.P. Hitchcock, A. Scholl, F. Nolting, G. Appel, A. D. Winesett, K. Kaznachev and H. Ade, *PS-PMMA blends studied by X-ray spectromicroscopy*, 2000 ALS Compendium, LBNL publication 47838 (2001) (<http://alspubs.lbl.gov/compendium/>)
- nr-24 A.P. Hitchcock, C. Morin, H. Ikeura-Sekiguchi, T. Tyliczszak, R. Cornelius, J.L. Brash and H. Ade, *Studies of selectivity in protein interactions with polymer surfaces*, 2000 ALS

- Compendium, LBNL publication 47838 (2001)
- nr-23 A.P. Hitchcock, I. Koprinarov, T. Tylliszczak, C. Morin, H. Ikeura-Sekiguchi, C. McCrory, R.F. Childs, L.M. Croll and H. Stöver, *Polymer microstructure optimization aided by STXM spectromicroscopy*, 2000 ALS Compendium, LBNL publication 47838 (2001)
- nr-22 A.P. Hitchcock, C. Morin, H. Ikeura-Sekiguchi, A. Scholl, F. Nolting and D.G. Castner, *X-PEEM studies of protein interactions with patterned polymer surfaces*, 2000 ALS Compendium, LBNL publication 47838 (2001)
- nr-21 A.P. Hitchcock, I. Koprinarov, T. Tylliszczak, C. Morin, Y.M. Heng, R. Cornelius, J.L. Brash, H. Ade, S. Anders, A. Scholl and F. Notling, *X-ray Spectromicroscopy of Protein - Polymer Interactions* 1999 ALS Compendium, LBNL publication (2000) (<http://alspubs.lbl.gov/compendium/>)
- nr-20 G. E. Mitchell, A. P. Hitchcock, T. M. Stokich Jr., A. Scholl, S. Anders, R. Graupner, G. F. Meyers, E. G. Rightor, D. D. Hawn, J-H. Im, E. O. Shaffer II, and T. Warwick, *Characterization of Adhesion Promoter Films Using PEEM and SPEM*, 1999 ALS Compendium, LBNL publication (2000) (<http://alspubs.lbl.gov/compendium/>)
- nr-19 A.P. Hitchcock, I. Koprinarov, W.H. Li and H. Stöver, *Polymer Microspheres Studied by X-ray Spectromicroscopy*, 1999 ALS Compendium, LBNL publication (2000)
- nr-18 A.P. Hitchcock, I. Koprinarov, T. Tylliszczak, S.G. Urquhart, A.P. Smith, H.W. Ade, E.G. Rightor, W. Lidy, M.T. Dineen, G.E. Mitchell, W.S. Steele, G. Meigs, T. Warwick, *Quantitative Analysis of Reinforcing Particles in Polyurethanes by STXM*, 1999 ALS Compendium, LBNL publication (2000) (<http://alspubs.lbl.gov/compendium/>)
- nr-17 A.P. Hitchcock, T. Tylliszczak, I. Koprinarov, H. Stöver, W.-H. Li, Y.-M. Heng, H.W. Ade, J. Dutcher, K. Dalnoki, *Polymer microstructure studies using soft X-ray spectromicroscopy*, 1998 ALS Compendium, LBNL publication (1999) (<http://alspubs.lbl.gov/compendium/>)
- nr-16 A.P. Hitchcock, T. Tylliszczak, S.G. Urquhart, H.W. Ade, K. Murti, P. Gerroir, E.G. Rightor, W. Lidy, M.T. Dineen, G.E. Mitchell, W.S. Steele, G. Meigs, T. Warwick, *Soft X-ray spectromicroscopy studies of industrial polymers*, 1998 ALS Compendium, LBNL publication (1999) (<http://alspubs.lbl.gov/compendium/>)
- nr-15 G. E. Mitchell, E. G. Rightor, M. T. Dineen, L. R. Wilson, A. P. Hitchcock, S. G. Urquhart, and H. W. Ade, *STXM Characterization of Crosslink Density in Super Absorbent Polymers*, 1998 ALS Compendium, LBNL publication (1999) (<http://alspubs.lbl.gov/compendium/>)
- nr-14 S. G. Urquhart, H. Ade, A. P. Smith, E.G. Rightor, and A. P. Hitchcock, *NEXAFS Spectromicroscopy of Dispersed Phases in Polyurethane Polymers*, NSLS Activity Report 1997 (1998).
- nr-14 T. Tylliszczak, A.P. Hitchcock, S. Wu, A. Chen, G. Szymanski and J. Lipkowski, “X-ray Absorption Studies of Mixed Overlayers Formed by Copper Adatom Co-adsorbed with Anions at the Au(111) Electrode Surface”, *Synchrotron Radiation News*, Jun 1998. 31-37.
- nr-13 A. P. Hitchcock, S. G. Urquhart, H. Ade, E. G. Rightor and W. Lidy, *Quantitative Chemical Speciation Of Multi-Phase Polymers Using Zone Plate X-Ray Microscopy* Microscopy and Microanalysis, 5 S-2 (1998) 808 (Proc. of Microscopy and Microanalysis 98 conference, Cleveland, July, 1998)
- nr-12a T. Warwick, H. Ade, S. Cerasari, J. Denlinger, A. Garcia, S. Hayakawa, A.P. Hitchcock, J. Kikuma, S. Klinger, J. Kortright, G. Morrison, M. Moronne, E. Rightor, E. Rotenberg, S. Seal, H.-J. Shin, W.F. Steele and B.P. Tonner, *Development of Scanning X-ray Microscopes at the ALS*, 1997 ALS Compendium, LBNL pub. 41658 (1998) 116-120.
- nr-12 G. E. Mitchell, S.G. Urquhart, L.R. Wilson, M. Dineen, E.G. Rightor, A. P. Hitchcock, U. Neuhaeusler, H.W. Ade, W. Meyer-Ilse, J.T. Brown, and T. Warwick, *Analysis of the Spatial Variation of Crosslink Density in Super Absorbent Polymers*, 1997 ALS Compendium, LBNL pub. 41658 (1998) 32-35.

- nr-11 A.P. Hitchcock, T. Tyliczszak, J. Brash, R. Cornelious, Y.-M. Heng, S. G. Urquhart, A. Garcia, H. Ade, E.G. Rightor, W. Lidy, G.E. Mitchell, W.S. Steele, G. Meigs and T. Warwick, *Studies of Sub-Micron Phase Segregation in Polyurethane Polymers by Soft X-Ray Spectromicroscopy*, 1997 ALS Compendium, LBNL pub. 41658 (**1998**) 163-166.
- nr-10 A.P. Hitchcock, S.G. Urquhart, E.G. Rightor, W. Lidy, H. Ade, A.P. Smith and T. Warwick, *Quantitative Chemical Analysis of sub-micron phase segregation in polyurethane polymers by soft X-ray spectromicroscopy*, Microscopy and Microanalysis **3** S-2 (**1997**) 909-910 (Proc. of Microscopy and Microanalysis 97 conference, Cleveland, Aug 11-14, 1997)
- nr-9 H. Ade, A. P. Smith, E. G. Rightor, A. P. Hitchcock, S. Urquhart, R. Leapman, *Spectromicroscopy of Polymers: Comparison of Radiation Damage with Electron and Photon Core Excitation Spectroscopy Techniques*, Bull. Am. Phys. Soc., 1997 March Mtg. of the APS, Kansas City, MO, **42**, 1, 153 (**1997**).
- nr-8 E. G. Rightor, A. P. Hitchcock, S. G. Urquhart, H. Ade, A. P. Smith, A. Garcia, R. Steele, S. Seal, S. Cerasari, T. Warwick, *Chemical Speciation of Polyurethane Polymers by Soft X-Ray Spectromicroscopy*, ALS 1996 Annual Report (**1997**).
- nr-7 A. P. Smith, H. Ade, S. G. Urquhart, A. P. Hitchcock, and E. G. Rightor, *NEXAFS Spectroscopy of Polymeric Isomers of poly(ethylene terephthalate) (PET)*, NSLS Activity Report 1996 (**1997**).
- nr-6 H. Ade, A. P. Smith, E. G. Rightor, and A. P. Hitchcock, *Determination of Urea/Urethane Ratios in Complex Polyurethanes using X-ray Microscopy*, NSLS Activity Report 1996 (**1997**).
- nr-5 H. Ade, A. P. Smith, S. G. Urquhart, A. P. Hitchcock, and E. G. Rightor, *Critical Radiation Dose of poly(ethylene terephthalate) (PET)*, NSLS Activity Report 1996 (**1997**).
- nr-4 S. Wu, G. Szymanski, J. Lipkowski, T. Tyliczszak and A.P. Hitchcock, *Surface Imaging and X-ray Absorption Studies of Electrocrystallization of Metals*, Canadian Chemical News **48** (**1996**) 13-15.
- nr-3 S. Wu, J. Lipkowski, T. Tyliczszak and A.P. Hitchcock, *Early Stages of copper electrocrystallization*, CHESS Newsletter, **1995**, 33-35.
- nr-2 A.P. Hitchcock, *Synchrotron Radiation has Research Potential in all Chemical Areas*, Canadian Chemical News, **44** (**1992**) 9-12.
- nr-1 A.P. Hitchcock and G.M. Bancroft, *Synchrotron Radiation: A Unique, Rapidly Developing Tool for Chemical Research*, Canadian Chemical News, **43** (**1991**) 16-20.

D. Presentations at Meetings

D.1 Invited

- 145 A.P. Hitchcock, *In-situ and operando studies with soft x-ray transmission spectro-microscopy*, PacifiChem 2020, Honolulu, Dec **2021**.
- 144 A.P. Hitchcock, H.Yuan, L.G.A. Melo and N. Bassim, *Soft X-ray scanning transmission microscopy studies of radiation damage by electron, ion and X-ray beams*, Microscopy & Microanalysis (Milwaukee, Aug, **2020**) (presented virtually)
- 143 A.P.Hitchcock, *Soft X-ray Spectromicroscopy in Scanning Transmission X-ray Microscopes*, EXAFS on line seminar series, ZOOM, March 26, **2020**
- 142 A.P. Hitchcock, *Advanced Materials Analysis by Synchrotron-based Soft X-ray Microscopy*, ICFUTURE2020 Conference, Oulu, Finland 8-10 January **2020**
- 141 A.P. Hitchcock, P. Krüger, C. Bittencourt, G.D.W. Swerhone and J.R. Lawrence, *Spatially resolved soft X-ray spectroscopy in scanning X-ray microscopes*, Microscopy & Microanalysis, Portland, OR, Aug 4-8, **2019**
- 140 A.P. Hitchcock, *Nanoscale materials analysis by soft X-ray Scanning Transmission Microscopy*, LNLS Users Meeting, Campinas, Brazil, Nov 6-9, **2018**

- 139 A.P. Hitchcock, *Spatially resolved X-ray absorption spectroscopy of functional materials measured using soft X-ray scanning X-ray microscopy*, Trends in Advanced Spectroscopy in Materials Science, Hiroshima, Japan 4-6 Oct **2018**
- 138 A.P. Hitchcock, *Soft X-ray scanning transmission X-ray microscopy – fuel cell and magnetotactic bacteria applications*, International Microscopy Congress, Sydney, AU, 9-14 Sep **2018** ([keynote talk](#))
- 137 A.P. Hitchcock, X. Wang and K. Grandfield, *Correlative Spectromicroscopy and Tomography Involving Soft X-ray Methods*, Microscopy and Microanalysis 2018, Baltimore, MD, Aug 5-9, **2018**
- 136 A.P. Hitchcock, J. Wu, X. Zhu, L.G.A. Melo, V. Berejnov, D. Susac and J. Stumper, *Soft X-ray Spectromicroscopy: new techniques and applications to fuel cell materials*, 5th International Congress on Microscopy and Spectroscopy, Oludeniz, Turkey, Apr 24-30, **2018**
- 135 A.P. Hitchcock, *Inner Shell Excitation Spectroscopy & Spectromicroscopy – Scientific and other Adventures with Eckart Rühl*, FU Berlin, April 18, **2018**
- 134 A.P. Hitchcock, *Nanoscale materials analysis by soft X-ray Scanning Transmission Microscopy*, Annual meeting of Taiwan Physical Society, symposium on -based Microscopy and Micro-Analysis, Taipei, Taiwan, 25 Jan **2018**.
- 133 A. P. Hitchcock, [J. Wu](#), [L.Melo](#), V. Berejnov, D. Susac and J. Stumper, *2D and 3D imaging and quantitative chemical mapping of ionomer in PEM-FC catalyst layers by Scanning Transmission X-Ray Microscopy*, DoE Workshop on Fuel Cells, Argonne National Lab, 3 May **2017**.
- 132 A. P. Hitchcock, [J. Wu](#), V. Lee, N. Appathurai, T. Tyliczszak, H.-W. Shiu, D. Shapiro, V. Berejnov, D. Susac and J. Stumper, *Progress in soft X-ray Microscopy Characterization of PEM Fuel Cell Catalyst Layers*, Microscopy and Microanalysis, Columbus, OH, July 24-28, **2016**
- 131 A.P. Hitchcock, X.H. Zhu, D.A. Shapiro and T. Tyliczszak, *Nanoscale chemical imaging by soft X-ray spectro-microscopy and spectro-ptychography*, symposium on Novel trends in synchrotron & FEL-based Analysis, AVS 2015 (San Jose, October 18-23, **2015**)
- 130 A.P. Hitchcock, J.Wu, L.G.A. Melo, N. Appathurai, Z. Yan, G. Goward, V. Berejnov, D. Susac and J. Stumper, *Spectroscopy and spectromicroscopy studies of polymer-electrolyte membrane fuel cell materials and devices*, 2015 International Conference on Electronic Spectroscopy and Structure (ICES15), Stony Brook, Sep 27-Oct 02, **2015**.
- 129 A.P. Hitchcock, S.M. Rosendahl, Z. Qin, V. Lee and V. Berejnov, *In situ studies with soft x-ray scanning transmission x-ray microscopy*, Microscopical Society of Canada Annual Meeting, Hamilton, Canada, May 26-29, **2015**.
- 128 A.P. Hitchcock, *Present capabilities and future opportunities for materials science by soft x-ray spectro-microscopy and spectro-ptychography*, Workshop on Materials Science with Synchrotron Radiation, CLS Annual Users Meeting, Saskatoon, May **2015**
- 127 A.P. Hitchcock, *Imaging and quantitative chemical mapping of PEM-FC catalyst layers by Scanning Transmission X-Ray Microscopy*, 227th Electrochemical Society meeting, Chicago, Apr **2015**.
- 126 A.P. Hitchcock, *Nanoscale characterization of polymers by soft X-ray spectromicroscopy*, 29th APS Spring meeting, Denver, Co, Mar **2015**.
- 125 A.P. Hitchcock, V. Lee, V.Berejnov, D. Susac and J. Stumper, *Characterizing Automotive Fuel Cell Materials By Soft X-Ray Scanning Transmission X-Ray Microscopy*, International Conference on X-ray Microscopy (XRM2014), Melbourne, Australia, Oct, **2014**
- 124 A.P. Hitchcock, *Chemically selective spectromicroscopy by soft x-ray scanning transmission x-ray microscopy*, International Microscopy Congress 2014, Prague, Czech Republic, Sep 7-12 **2014**
- 123 A. P. Hitchcock, V. Berejnov, V. Lee, D. Susac and J. Stumper, *In situ methods for analysis of polymer electrolyte membrane fuel cell materials by soft X-ray scanning transmission x-ray microscopy*, Microscopy& Microanalysis 2014, Hartford, CT, Aug **2014**.

122. A.P. Hitchcock, V. Lee, V. Berejnov, D. Susac and J. Stumper, *Characterizing fuel cell materials by soft x-ray Scanning Transmission X-ray Microscopy*, Chemical Society of Canada, Vancouver, 1-5 Jun **2014**
121. A.P. Hitchcock, *Soft x-ray spectromicroscopy at the CLS*, Louis Delbaere Plenary Lecture, CLS Annual Users' Meeting, Saskatoon, SK, 2 May **2014**.
120. A.P. Hitchcock, *Soft x-ray S(T)XM – present capabilities and future trends*, Max-4, Lund, Sweden, 13 Dec **2013**
119. A.P. Hitchcock, *A comprehensive overview of STXM*, Workshop on STXM, Umea, Sweden, 10,11 Dec **2013**.
118. A.P. Hitchcock, *Materials analysis by soft x-ray scanning transmission x-ray microscopy*, “Optical and X-ray Imaging Techniques for Material Characterization” symposium, Materials Science & Technology Conference (MST2013), Montreal, 27-31 Oct **2013**.
117. A.P. Hitchcock, M.Obst, T. Tylliszczak, S. Kalirai and D. Bazylnski, *Chemically selective imaging and spectroscopy with Scanning Transmission X-ray Microscopy*, Microscopy and Microanalysis, Indianapolis, Aug 3-7, **2013**
116. A.P. Hitchcock, V. Lee, V. Berejnov, D.Susac and J.Stumper, *Nanoscale characterization of water distributions in fuel cell membrane electrode assemblies measured by soft x-ray Scanning Transmission X-ray Microscopy*, In-situ electrochemistry & Soft X-ray spectroscopy for renewable energy technologies, EMPA, Dübendorf, Switzerland, 3-5 June, **2013**
115. A.P. Hitchcock, V. Berejnov, V. Lee and S. Wessel, *Analysis of polymer electrolyte membrane fuel cells by soft X-ray Scanning Transmission X-ray Microscopy*, Materials and Devices for Energy Storage and Production: Many Means to the Same End, CLS Users' Meeting workshop, Saskatoon 2 May **2013**
114. A.P. Hitchcock, *Soft x-ray scanning x-ray microscopy: current capabilities and future trends*, Australian Synchrotron Radiation User Organization, Melbourne, Australia 29, 30 Nov **2012**
113. A.P. Hitchcock, *Chemically sensitive imaging and nanoscale spectroscopy using STXM*, Soft X-Ray Spectroscopy Satellite Workshop, Australian Synchrotron, Melbourne, Australia 26, 27 Nov **2012**
112. A.P. Hitchcock, *Soft x-ray scanning x-ray microscopy: current capabilities and future trends*, 8th Joint-Symposium of Synchrotron Radiation Surface Science Research Division and Microscopic&Nano material science group, Keio University, 16 Nov **2012**
111. A.P. Hitchcock, *Soft x-ray scanning x-ray microscopy: current capabilities and future trends*, Finnish Synchrotron Radiation User Organization, Turku Finland, 22-23 Oct **2012**
110. A.P. Hitchcock, *Soft X-ray spectromicroscopy of biologically relevant interfaces*, Surface Science of Biologically Important Interfaces (SSBII), Manchester, Oct 19, **2012**
109. A.P. Hitchcock, S. Kalirai, S. Berejnov, M. Obst and T. Tylliszczak, *Recent advances in Scanning Transmission X-ray Microscopy*, Microscopy and Microanalysis, Phoenix, 29-Jul – 4 Aug **2012**
108. A.P. Hitchcock, *Chemically sensitive imaging of environmental samples with synchrotron radiation*, Synchrotron Radiation International, Lyon, France (keynote) 9-13 July, **2012**
107. A.P. Hitchcock, *Chemically sensitive imaging with soft X-rays*, Gordon Conference on Multiphoton Processes, South Hadley, MA, 3-8 June, **2012**
106. A.P. Hitchcock, *Materials analysis by Scanning Transmission X-ray Microscopy (STXM) and PhotoEmission Electron Microscopy (PEEM)*, Workshop on Materials Applications of Synchrotron Radiation, University of Ottawa, April 20, **2012**
105. A.P. Hitchcock, *Applications of scanning soft X-ray microscopy to environmental sciences*, Workshop on Synchrotron Environmental Studies, Pacific Northwestern National Lab, Richland, WA, 20 Sep, **2011**
104. A.P. Hitchcock, *Need for chemically sensitive imaging with ultra-high resolution: current STXM capabilities and opportunities for resonant ptychography*, COSMIC workshop, ALS, LBNL, 2-3 Aug **2011**

103. A.P. Hitchcock, Scanning Transmission X-ray Microscopy at CLS 10ID1, CLS Annual Users Meeting, 25 June **2011**
102. A.P. Hitchcock, *Scanning transmission X-ray microscopy of soft materials*, Plenary invited lecture at the Annual Users' Meeting of LNLS, Campinas, Brazil, 22 Feb **2011**.
101. A.P. Hitchcock, K.P. Lam, S. Kalirai, K. Harding, V. Svytlik, Y. Mozharivskiy and J. Wang, *Nanoscale magnetism studied by x-ray magnetic circular dichroism in a scanning transmission X-ray microscope*, PacifiChem 2010, Honolulu, HI, Dec 15-20, **2010**
100. A.P. Hitchcock, T. Tyliszczak, M. Obst, Y.S. Lu and J. Wang, *Low energy X-ray fluorescence as a detection channel in soft X-ray STXM*, Workshop on 'Fluorescence detection in Scanning X-ray Microscopy', workshop at ALS Users Meeting, Oct 16 **2010**
99. B.O. Leung, A.P. Hitchcock, J.L. Brash, A. Scholl and A. Doran, *Applications of PEEM to biomaterials research*, workshop on "X-Ray Spectromicroscopy and Photoemission Electron Microscopy (PEEM)" at ALS Users Meeting, Oct 14 **2010**
98. A.P. Hitchcock, J. Wang and M. Obst, *3-d chemical imaging with STXM spectro-tomography*, Microscopy & Microanalysis 2010, Portland, OR, July 31 – Aug 6, **2010**
97. A.P. Hitchcock, *Chemical imaging at 30 nm spatial resolution in 2-d and 3-d with Scanning Transmission X-ray Microscopy*, Canadian Association of Physicists, Toronto, Jun 7-11, **2010**
96. A.P. Hitchcock and D. Bessarabov, *Chemical mapping of fuel cell membrane electrode assemblies by soft X-ray spectromicroscopy*, Symposium: Diagnostics and Characterization of Energy Materials with Synchrotron and Neutron Radiation, MRS Spring meeting. San Francisco, April 5-9, **2010**
95. A.P. Hitchcock, *Synchrotron Soft X-ray spectromicroscopy – performance and application*, McMaster Imaging Workshop, 26 March **2010**
94. A.P. Hitchcock and E. Najafi, *Chemical characterization of nanomaterials with scanning transmission X-ray microscopy*, 4th Trinational Workshop on Standards for Nanotechnology, Ottawa, ON, Canada 3,4 Feb **2010**
93. A.P. Hitchcock and D. Bessarabov, *Chemical mapping of fuel cell membrane electrode assemblies with 30 nm spatial resolution by soft X-ray spectromicroscopy*, Canada - US MEA Fuel Cell Modeling and Characterization Workshop, NRC-IFCI, Vancouver, BC Nov. 12 & 13 **2009**
92. A.P. Hitchcock and D. Bessarabov, *Studies of fuel cell membrane electrode assemblies by soft X-ray scanning transmission microscopy (STXM)*, Workshop on Soft X-Ray Spectroscopy in Renewable Energy Generation and Storage Materials, ALS Users' Meeting, 16-18 Oct **2009**
91. A.P. Hitchcock, *Chemical analysis of polymers using soft X-ray spectromicroscopy*, Chemical Society of Canada Annual Meeting, May 30 - 3 Jun **2009**, Hamilton, Canada
90. A.P. Hitchcock, M. Obst, J. Wang, J. Li, K. Lam and E. Najafi, *NEXAFS microscopy of soft materials – comparison to TEM-EELS EDGE* 2009, Banff, Canada, 18-22 May **2009**
89. A.P. Hitchcock, *Chemical analysis of polymers using Soft X-ray spectromicroscopy – comparisons to analytical TEM*, CCEM Workshop, McMaster, 27 March **2009**.
88. A.P. Hitchcock, *Soft X-ray spectromicroscopy of biomolecules at polymer surfaces*, 36th Conference on the Physics and Chemistry of Surfaces and Interfaces, Santa Barbara, CA 11-15 Jan **2009**.
87. A.P. Hitchcock, *Scanning Transmission X-ray Microscopy of multi-walled carbon nanotubes*, Workshop on Analysis of Nanomaterials, in conjunction with Annual Molecular Foundry and ALS Users Meetings, Berkeley, CA, 13,14 Oct **2008**
86. A.P. Hitchcock, B.O. Leung, J.L. Brash, R. Cornelius, A. Scholl and A. Doran, *Soft X-ray spectromicroscopy of protein and peptide interactions with polymer surfaces*, AVS-55 Boston October 19-24, **2008**
85. A.P. Hitchcock, G.A. Johansson, D. Hernández Cruz, E. Najafi, J. Li and H. Stöver, *Quantitative chemistry and orientation of polymers in 2-d and 3-d by scanning transmission X-ray microscopy*, European Microscopy Congress, Aachen, Sep 1-5, **2008**

84. A.P. Hitchcock, *Chemical imaging with scanning transmission X-ray microscopy (STXM)*, Chemical Imaging Symposium at the American Chemical Sciences national meeting, Philadelphia Aug 17-21, **2008**
83. A.P. Hitchcock, J.J. Dynes, M. Obst, J.R. Lawrence and G.G. Leppard, *Geomicrobiology with soft X-ray scanning transmission microscopy*, Goldschmidt 2008, Vancouver, July 13-18, **2008**.
82. A.P. Hitchcock, T. Tyliszczak, D. Hernández Cruz, G.A. Johansson, J. Stewart-Ornstein, M. Obst, D. Bertwistle, Ch. Karunakaran and K.V. Kaznatcheev, *Soft X-ray scanning transmission X-ray microscopy: reaching beyond the state-of-the-art*, Synchrotron Radiation Instrumentation, Mechanical Design for Synchrotron Radiation Instrumentation, and CLS Annual Users' Meeting, Saskatoon, Jun 10-14, **2008**
81. James J. Dynes and Adam P. Hitchcock, *Soft X-ray Spectromicroscopy – Correlations with Laser Scanning and Transmission Electron Microscopies*, Workshop on correlative techniques, Synchrotron Radiation Instrumentation, Mechanical Design for Synchrotron Radiation Instrumentation, and CLS Annual Users' Meeting, Saskatoon, Jun 10-14, **2008**
80. A.P. Hitchcock, *Radiation Chemistry and Chemically Selective Patterning by Scanning Transmission X-ray Microscopy*, 12th Hiroshima International Symposium on Synchrotron Radiation, Hiroshima, Mar 13,14, **2008**
79. A.P. Hitchcock and G.A. Johansson, *3-d chemical imaging using angle-scan tomography in soft X-ray scanning transmission X-ray microscopes: Current capabilities, challenges and opportunities*, Hyperspectral Imaging II Workshop, National Institute of Standards and Technology in Gaithersburg, MD, October 23-26, **2007**
78. A.P. Hitchcock and G.A. Johansson, *3-d chemical imaging using angle-scan tomography in soft X-ray scanning transmission X-ray microscopes* Workshop on Hard and Soft X-ray Tomography, ALS Users Meeting, Oct 5, **2007**
77. A.P. Hitchcock, *X-ray microscopy of natural and synthetic polymers*, lecture at the 1st Croatian Synchrotron Radiation Summer School, 3-7 September **2007**, Rijeka, Croatia
76. A.P. Hitchcock, *NEXAFS Spectroscopy*, lecture at the 1st Croatian Synchrotron Radiation Summer School, 3-7 September **2007**, Rijeka, Croatia
75. A.P. Hitchcock, G.A. Johansson, G.E. Mitchell, M. Keefe and T. Tyliszczak, *3-d chemical imaging using angle-scan tomography in a soft X-ray scanning transmission X-ray microscope*, 15th Int. Conf. Vac. Ultraviolet Physics, Berlin, 29 Jul – 3 Aug, **2007**.
74. A.P. Hitchcock, *Materials Analysis using synchrotron spectroscopy techniques*, 5th Annual BIMR Advanced Materials Workshop McMaster University, 19 June **2007**
73. A.P. Hitchcock, J.J. Dynes, G.A. Johansson, J. Wang and G.A. Botton, *Comparison of TEM-EELS and NEXAFS microscopy for studies of soft matter*, Microscopical Society of Canada annual meeting, Edmonton, June 12-15, **2007** (plenary)
72. A.P. Hitchcock, D. Hernández-Cruz, J.J. Dynes, M.-E. Rousseau and M. Pézolet, *Chemical Imaging by Soft X-ray Scanning Transmission X-ray Microscopy*, Microscopy and Microanalysis 2006, Chicago July 30-Aug 3, **2006**.
71. A.P. Hitchcock, *Environmental science with scanning transmission X-ray microscopy*, Symposium on Microbial Habitat: Evolution, Structure and Distribution in Soils, in 18th World Congress of Soil Science, Philadelphia, July 9-15, **2006**.
70. A.P. Hitchcock, *Soft X-ray spectromicroscopy*, Frontiers in Microscopy Workshop, Jackson Laboratory, Bar Harbor, Maine July 5-8, **2006**.
69. A.P. Hitchcock, J.J. Dynes, D.R. Korber, G.G. Leppard and J. R. Lawrence. *Synchrotron-based soft X-ray spectromicroscopy of biofilms*. 3rd Northern Lights Summer Conference, U. Saskatchewan Saskatoon, SK 14 – 18 June, **2006**
68. A.P. Hitchcock, *Soft X-ray spectromicroscopy of soft materials*, PacifiChem 2005, Honolulu 14-18 Dec **2005**.
67. A.P. Hitchcock, X. Zhang and D. Guay, *STXM studies of wet electrochemical systems under potential control*, Novel Approaches to Soft X-ray Spectroscopy: Scanning Transmission X-ray

- Microscopy and Ambient Pressure X-ray Photoelectron Spectroscopy, ALS Users Meeting, Oct. 20, **2005**
66. A.P. Hitchcock, *Materials analysis by soft X-ray spectromicroscopy*, 51st ICASS, Quebec, 9-13 Oct **2005**
65. A.P. Hitchcock, X. Zhang and D. Guay, *in situ STXM: studies of wet electrochemical systems under potential control*, X-ray Microscopy 2005, Himeji, Japan, July 26-30, **2005**
64. A.P. Hitchcock, *Quantitative mapping of composition and orientation using scanning transmission X-ray microscopy*, ISSP International Symposium: "Advanced Bio-Science Opened by Third Generation Soft X-ray Synchrotron Radiation", U. Tokyo, 25 July **2005**
63. Adam P. Hitchcock, Harald Stöver, Ron Childs, Li Li, James J. Dynes and John R. Lawrence, *Quantitative chemical mapping of polymer and biological samples using synchrotron soft x-ray spectromicroscopy*, Microspical Society of Canada, 32nd Annual Meeting, Hamilton, ON 18-20 May **2005**.
62. A.P. Hitchcock, *Materials analysis by core excitation spectroscopy in a scanning transmission X-ray microscope*, Workshop on Electron Energy Loss Spectroscopy, Grundlesee May 1-5, **2005**
61. A.P. Hitchcock, *Soft X-ray spectromicroscopy: a powerful synchrotron tool for nanoscale chemical analysis*, Australian Synchrotron workshop, Adelaide, Australia, 2 Dec **2004**.
60. A.P. Hitchcock, *Polymer Microstructure Optimization aided by Scanning Transmission X-ray Microscopy*, 27th Australasian Polymer symposium, Adelaide, Australia, 1-3 Dec **2004**.
59. A.P. Hitchcock, C. Morin, L. Li, J. Brash, A. Scholl and A. Doran, *Methods and Examples of Quantitative Chemical Mapping using Synchrotron Soft X-ray Spectromicroscopy*, Microscopy and Microanalysis 2004, Savannah, GA, Aug 1-4, **2004**
58. A.P. Hitchcock, *Soft X-ray Spectromicroscopy of Biological and Synthetic Polymer Systems*, plenary lecture in 14th International Conference on Vacuum Ultraviolet Radiation Physics, Cairns, Australia, July 26-31, **2004**
57. A.P. Hitchcock, *Soft X-ray spectromicroscopy: current capabilities and future prospects*, Keynote talk at Australian Synchrotron Radiation Project meeting, Canberra, Feb 7, **2004**
56. A.P. Hitchcock, *X-ray microscopy of Biomaterials*, in Workshop on Applications of Synchrotron Radiation to Biomaterials, Canadian Light Source Users' Meeting, November 14, **2003**
55. A.P. Hitchcock, *Studies of Protein - Polymer Interactions using Soft X-ray Microscopy* in "Synchrotron based methods for the study of bio-interfaces" Symposium at the 50th American Vacuum Society meeting, Baltimore, Nov 5, **2003**
54. A.P. Hitchcock, *Methods and examples of quantitative chemical mapping by soft X-ray spectromicroscopy*, Workshop on X-ray microscopy, ALS Users' meeting Oct 9, **2003**
53. A.P. Hitchcock, C. Morin, J. L. Brash, and S.G. Urquhart, *Selective adsorption of protein on polymer surfaces studied by soft X-ray photoemission electron microscopy*, 9th Int. Conf on Electronic Structure and Spectroscopy, Uppsala, Sweden, Jun 28-Jul 2, **2003**.
52. A.P. Hitchcock, *Studies of Protein - Biomaterial Interactions using Soft X-ray Microscopy*, Biological Surfaces and Interfaces : Euroconference on Understanding and Improving Specific Interactions, Castelveccchio Pascoli, Italy, 21 - 26 June **2003**.
51. A.P. Hitchcock, *Soft X-ray microscopy of polymers and biofilms*, X-ray Imaging and Spectromicroscopy: the Present and the Future, a workshop held in conjunction with the Stanford Synchrotron Radiation Laboratory Annual Meeting, 9 Oct **2002**.
50. A.P. Hitchcock, T. Tyliszczak, I. Koprinarov, T. Araki and C. Morin, *Soft X-ray Spectromicroscopy of Natural and Synthetic Polymers*, 7th Int. Conf. X-ray Microscopy, Grenoble, France, 28 Jul-Aug 3, **2002**.
49. A.P. Hitchcock, *Inner-shell excitation by electrons and photons: from molecules to biofilms*, Symposium on Cross-sections and Electron Momentum Distributions in honor of the career of Dr. C..E. Brion, CSC annual meeting, UBC, 4 June **2002**.
48. A.P. Hitchcock, *Analysis of Biomaterials by Soft X-ray Spectro-Microscopy*, Retirement Festschrift for John, Brash, McMaster, 31 May **2002**

47. A.P. Hitchcock, *Polymers and Biofilms*, Department of Energy Basic Energy Sciences Review of the Advanced Light Source, Feb. **2002**.
46. A.P. Hitchcock, J.R. Lawrence and G.G. Leppard, *X-ray Spectromicroscopy: Chemical Mapping Techniques Applicable to Molecular Environmental Sciences*, A. Molecular Environmental Science Workshop at ALS Users' Meeting, Berkeley, Oct **2001**
45. A.P. Hitchcock, *Soft X-ray Spectromicroscopy of polymers, biomaterials and biological systems*, Int. Conf. On Vacuum Ultraviolet Radiation Physics, Trieste, Italy, 23-29th July **2001**
44. A.P. Hitchcock, C. Morin, T. Tyliszczak, H. Ikeura Sekiguchi and I. Koprinarov, *Analysis of Soft Materials by NEXAFS Microscopy*, Chemical Society of Canada 84th annual meeting, Montreal, Canada. May 26-30, **2001**
43. A.P. Hitchcock, C. Morin, T. Tyliszczak, I. Koprinarov and H. Ikeura Sekiguchi, *Soft X-Ray Spectromicroscopy: Quantitative Chemical Analysis At High Spatial Resolution*, MRS Spring meeting 2001, San Francisco, April 18-22, **2001**
42. A.P. Hitchcock, *Soft X-ray Spectromicroscopy: Quantitative Chemical Analysis of Functional Materials at High Spatial Resolution*, Pacificchem 2000, Honolulu, 16-19 Dec **2000**
41. A.P. Hitchcock, *The Canadian Light Source: Scientific plans and industrial access*, 16th Applications of Accelerators to Research and Industry, Denton, TX Nov. 1-4, **2000**
40. A.P. Hitchcock, *Soft X-ray Spectromicroscopy of Polymers and Bio-polymer Interfaces*, XAFS XI, Ako, Japan, July 26-3, **2000**
39. A.P. Hitchcock, *Soft X-ray Research at the Canadian Light Source*, CAP 2000, York, Jun 4, **2000**.
38. A.P. Hitchcock, *X-ray spectromicroscopy of polymer surfaces and the bio-polymer interface*, Surface Canada, UWO, London, ON May 22-24, **2000**
37. A.P. Hitchcock, *Synchrotron Spectromicroscopy*, in Workshop on Biomaterials Surface Analysis for the New Millenium, 6th World Biomaterials Congress, Hawaii, 15-20 May, **2000**
36. A.P. Hitchcock, *"Etudes des Surfaces et Interfaces par Absorption Rayons-X avec Rayonnement Synchrotron"*, SIMA-2, Lyon, France 8-Dec, **1999**
35. A.P. Hitchcock, T. Tyliszczak, P. Brodersen and Z.H. Lu , *"Structure of chemically prepared passivation layers on single crystal semiconductors studied by X-ray absorption"* International Conference on the Structure of Surfaces (ICSOS), Vancouver, July 26-30, **1999**.
34. A.P. Hitchcock, T. Tyliszczak and Z.H. Lu , *"Structure of Chemically Passivated Semiconductor Surfaces Determined Using X-Ray Absorption Spectroscopy"* MRS Spring Meeting, Symposium on Compound Semiconductor Surface Passivation and Novel Device Processing, San Francisco, April 5-9, **1999**.
33. A.P. Hitchcock, *"Biological, Materials and Environmental Applications of soft X-ray Spectromicroscopy"*, NRC Workshop on Synchrotron Radiation, Steacie Institute for Molecular Science, NRC, Ottawa, Mar 18, **1999**
32. A.P. Hitchcock, T. Tyliszczak, S.G. Urquhart, H. Ade, G.E. Mitchell, E.G. Rightor, and T. Warwick, *"Polymer microanalysis using NEXAFS spectromicroscopy in a Scanning Transmission X-Ray Microscope"*, International Workshop on Spectromicroscopy, Madison, WI, Oct 23-25, **1998**
31. A.P. Hitchcock, *"Quantitative Chemical Speciation of Multi-phase Polymers Using Zone-Plate X-ray Microscopy"*, Microscopy and Microbeam Analysis, Atlanta (Jul 13, **1998**)
30. A.P. Hitchcock, *"Studies of Phase Segregation in Polymers using Soft X-ray Spectromicroscopy"*, CAP Congress, Waterloo (Jun 16, **1998**)
29. A.P. Hitchcock, *"Scientific Programme of the Canadian Light Source"* Workshop on Opportunities for Synchrotron Light: Planning the CLS, Montreal, (Apr 25, **1998**)
28. A.P. Hitchcock, *"Overview of Synchrotron Light Applications in Materials and Manufacturing"* Workshop on Opportunities for Synchrotron Light in Materials and Manufacturing: Focus on X-ray Spectromicroscopy of Polymers, Sheridan Park, (Feb 10, **1998**)

27. A.P. Hitchcock, *Electron Spectroscopy towards the new millenium: Summary of the 7th International Conference on Electron Spectroscopy*, Chiba, Japan, Sep 14, **1997**.
26. A.P. Hitchcock, *Research at the Canadian Light Source - Proposed Beam Lines and End Stations*, *Symposium of Chemical Applications of Synchrotron Radiation IV*, CSC-97, Chemical Society of Canada, (Windsor, Jun 1-3, **1997**)
25. A.P. Hitchcock, J. Aubry, T. Tylliszczak, Z.H. Lu, J.M. Baribeau and T.E. Jackman, *Combined Si-K and Ge-K XAFS Study of the Si-Ge bond length in $\text{Si}_x\text{Ge}_{1-x}$ single crystal alloys*. IX XAFS Int. Conf., Grenoble, Aug, **1996**.
24. *in situ X-ray absorption spectroscopy of electrode surfaces*, A.P. Hitchcock, T. Tylliszczak, S. Wu and J. Lipkowski, 79th CSC meeting, St. John's, Nfld, Jun 24, **1996**.
23. *Ionic photofragmentation studied using inner-shell excitation and ionization*, symposium on "Dynamical Studies in the Production and Reactivities of Molecular Photoions", Spring ACS meeting, New Orleans, (Mar 25-29, **1996**)
22. *Materials Analysis by X-ray Absorption Spectroscopy using Synchrotron Radiation*, Pacific Basin Chemistry conference (Dec 14-17, **1995**)
21. *Inner-shell Excitation, Relaxation and Fragmentation of Cluster Beams and Molecules*, XIX ICPEAC, Whistler, BC (Jul-26-Aug-1, **1995**)
20. *Inner-shell Excitation and Fragmentation of Molecules*, 78th CSC, Guelph, Ont (May 28-Jun-1, **1995**)
19. *Inner-shell Excitation, Relaxation and Fragmentation of Rare Gas Clusters and Organometallic Compounds*, Int. Workshop on Photoionization, San Francisco, (Oct-23-26, **1994**)
18. *X-ray Absorption Studies of Single Crystal Materials*, symposium on "Applications of Synchrotron Radiation", at Metallurgical Society meeting, Jun 18-20, **1994**.
17. *Inner-shell Excitation Studies of Surfaces by Reflection Electron Energy Loss Spectroscopy*, 10th International Surface Science Workshop, Milwaukee, Jun 2-4, **1994**
16. *Application of X-ray Absorption Spectroscopies to Semiconductor Materials Characterisation*, Symposium on Materials Research Using Synchrotron Radiation, Canadian Association of Physics, Annual Meeting (SFU, Burnaby, BC) Jun 12-14, **1993**
15. *Near Edge Spectroscopy by Electron Energy Loss: A Comparison to X-ray Absorption*, Proc. of XAFS-VII, Kobe, Japan, Aug 23-29, **1992**
14. *Inner-shell Excitation Studies of Molecules: Models for Polymers and Semiconductors*, MAX II Workshop, Lund, Sweden, May 24-26, **1992**
13. *Inner-shell Excitation of Molecules as Models for NEXAFS of Polymers and Surface Adsorbates*, NEXAFS Workshop, Swedish Crystallographic Society, Uto, Sweden, May 10-13, **1992**
12. A series of four presentations on *"Inelastic Electron Scattering and its Application to Molecular Spectroscopy"* at the Escola Latino-Americana de Fisica, Caxambu, Brazil, Aug **1991**
11. *"Molecular Inner-shell Spectroscopy by Electron Impact and Synchrotron Radiation Excitation"*, American Chemical Society 201st National meeting, Atlanta April **1991**
10. *"Core Electron Excitation of Chemisorbates by Reflection Electron Energy Loss Spectroscopy"*, EELS Workshop (satellite conf. of EMSA), Lake Tahoe, Aug. **1990**.
9. *"Inner-shell Electron Excitation of Surface Adsorbates by Electron Impact"* Surf. Science Symposium. Can. Chem. Conf. (Dalhousie, NS) July **1990**.
8. *"Inner-shell Excitation Spectroscopy of Molecules"*, Regional symposium on Chemical Physics, U. Waterloo, Nov. **1989**.
7. *"Core Excitation and Ionization of Molecules"*, July, **1989**, 9th Int. Conf. on Vacuum Ultraviolet Radiation Physics (Honolulu, Hawaii).
6. *"Inner-Shell Excitation: An Element-specific Probe of Geometric and Electronic Structure"* (Noranda Award lecture), June, **1989**, Can. Chem. Conf. (Victoria, BC)
5. *"Inner-Shell Electron Energy Loss Spectroscopy: The Atomic and Molecular Viewpoint"* March, **1988**. Aussois, France. Electron Beam Induced Spectroscopies at Very High Spatial Resolution: A Joint US-French Workshop.

4. *"Inner-Shell Excitation Spectra of Complex Free Molecules"*, in "Surface Science of Catalysis: Characterization of Catalysts by Synchrotron Radiation", April **1986**, New York. Symposium at the American Chemical Society national meeting.
3. *"Near Edge and EXAFS X-ray Absorption Spectroscopy of Inorganic and Bioinorganic Molecules"*, October **1983**, Vancouver. Symposium on Electronic Spectroscopy at UV and X-ray Energies, Canadian Spectroscopy Society Annual Meeting.
2. *"Inner-Shell Excitation by Electron Impact"*, June 18, **1981**, Bozeman, Montana. 36th NW regional meeting, American Chemical Society.
1. *"Inner-Shell Excitation of Molecules by Electron Impact"*, March 28, **1980**, New York. American Physical Society March meeting.

D.2 Contributed (or other, invited) (T# = oral presentation, P# = poster) (underlined indicates presenter)

- T397 Dana Stanescu, Mekan Piriye, Victoria Villard, Cristian Mocuta, Adam Hitchcock and Stefan Stanescu, *Solar water splitting efficiency dependence on the nature of surface states in hematite nanorod photoanodes*, GDR Solar Fuels workshop, (virtual) 10-12 May, **2021**.
- T396 Chunyang Zhang, Pablo Ingino, Martin Obst, Haytham Eraky, Jian Wang, Drew Higgins and Adam P. Hitchcock, *in-Situ Soft X-ray Spectromicroscopy Characterization of Electrochemical Processes*, PRiME, Electrochemical Society meeting, (Honolulu, HI, Oct **2020**.
- P395 S.G. Urquhart, J. Geilhufe A.F.G. Leontowich, J. Wang, J. Dynes, R. Berg, S. Chen, C.J. Jacobsen, Q. Jin, H. Yuan and A.P. Hitchcock, *Variable temperature soft X-ray spectroscopy, microscopy and tomography of polymer and biological samples*, 40th International Conference on Vacuum Ultraviolet and X-ray Physics, San Francisco, CA. USA July 1-4, **2019**
- T394 Stefan Stanescu, Adam Hitchcock and Dana Stanescu, *Origin of the low value onset potential in nanostructured hematite photoanodes*, EMRS Spring meeting, Nice, May 27-31, **2019**
- T393 Stefan Stanescu, Adam Hitchcock and Dana Stanescu, *Origin of the low value onset potential in nanostructured hematite photoanodes*, Soleil Users Meeting, 20-22 Jan, **2019**.
- T392 A.P. Hitchcock, J. Wu, X.H. Zhu, D.A. Shapiro, J.R.I. Lee, M.M. Biene³, S.A. Gammon, T.T. Li, T.F. Baumann and T. Van Buuren, *4D nanocharacterization by spectro-ptychography tomography of alumina aerogels coated with zinc oxide by atomic layer deposition*, PacSurf2018, Hawaii (Big Island) 2 – 6 Dec **2018**
- T391 D. Susac, V. Berejnov, J. Wu, A. P. Hitchcock and J. Stumper, *Structural study of proton exchange membrane fuel cell (PEM-FC) catalyst layer by scanning transmission X-ray microscopy*, Catalyst Society of South Africa (CATSA), Pretoria, SA, 11-14 Nov **2018**
- T390 L.G.A. Melo and A.P. Hitchcock, *Comparison of electron and X-ray microscopies for characterizing perfluorosulfonic acid ionomer for fuel cell applications*, International Microscopy Congress, Sydney, AU, 9-14 Sep **2018**
- P389 J. Geilhufe, A. F. G. Leontowich, J. Wang, R. Berg, C.N. Regier, D.M. Taylor, D. Beauregard, J. Swirsky, C. Karunakaran, A. P. Hitchcock and S. G. Urquhart, *Soft X-Ray Spectro-Tomographic Microscopy at Cryogenic Temperatures*, XRM18, Saskatoon, SK, 19-24 July **2018**.
- P388 J. Wang, J. Geilhufe, Y. Lu, J. Dynes, J. Zhou, R. Berg, A. F.G. Leontowich, I. Coulthard, J. Swirsky, C. Karunakaran, A.P. Hitchcock and S.G. Urquhart, *Soft X-ray Spectromicroscopy at the Canadian Light Source*, XRM18, Saskatoon, SK, 19-24 July **2018**.
- P387 M. Obst, P. Ingino, A.P. Hitchcock, V. Prabu and A. Picard, *Redox-Chemistry of Environmental Biofilms Probed on the Submicron Scale by in-situ Electrochemistry Scanning Transmission (soft) X-ray Microscopy*, XRM18, Saskatoon, SK, 19-24 July **2018**.
- T386 L.G.A. Melo and A.P. Hitchcock, *Optimizing Soft X-ray Spectromicroscopy for Fuel Cell Studies: X-ray Damage of Ionomer* XRM18, Saskatoon, SK, 19-24 July **2018**.
- P385 L. Le Nagard, X.H. Zhu, A.P. Hitchcock, D.A. Bazylinski, S. Swaraj, S. Stanescu and R. Belkhou, *How do Magnetotactic Bacteria Synthesize Magnetite ? – a Soft X-ray Spectroscopy*,

- Spectromicroscopy and Magnetism Time Course Study*, XRM18, Saskatoon, SK, 19-24 July **2018**.
- P384 Yuya Maekawa, Carla Bittencourt, Adam Hitchcock and Peter Krüger, *X-ray absorption and linear dichroism of individual Boron Nitride nanotubes experiment and theory*, XAFS18, Krakow, Poland, July 22-27, **2018**
- T383 L. Le Nagard, X.H. Zhu, C. Fradin, S. Swaraj, S. Stanescu, R. Belkhou and A. P. Hitchcock, *Magnetotactic Bacteria Studied With Scanning Transmission X-ray Microscopy*, Soleil Users Meeting, Paris, France, Jan 18-20, **2018**
- P382 W. Zhang, L.G.A. Melo, A.P. Hitchcock and N. Bassim, *Effects of electron dose and dose rate on polyvinylidene fluoride*, 11th Ann. I FIB SEM Workshop, Hamilton, Canada, Apr30-May2, **2018**.
- T381 V. Berejnov, M.S. Saha, D. Susac, J. Stumper, M.M. West and A. P. Hitchcock, *Advances in Structural Characterization Using Soft X-ray Scanning Transmission Microscopy (STXM): Mapping and Measuring Porosity in PEM-FC Catalyst Layers*, Electrochemical Society Meeting, Washington, DC, 1-5 Oct **2017**
- T380 L.G.A. Melo, A.P. Hitchcock, J. Jankovic, D. Susac, J. Stumper and V. Berejnov, *Quantitative mapping of PFSA Ionomer in Catalyst Layers by Electron and X-ray Spectromicroscopy*, Electrochemical Society Meeting, Washington, DC, 1-5 Oct **2017**.
- T379 J. Wu, A.P. Hitchcock, M. Lerotic, D. Shapiro, V. Berejnov, D. Susac and J. Stumper, *4d Imaging of Polymer Electrolyte Membrane Fuel Cell Cathodes by Scanning X-Ray Microscopy*, Microscopy & Microanalysis, St. Louis, MO, July **2017**.
- P378 J. Geilhufe, A.F.G. Leontowich, R. Berg, C. Regier, D.M. Taylor, J. Wang, J. Swirsky, C. Karunakaran, R. Peters, M. Aktary, A.P. Hitchcock and S.G. Urquhart, *A New Cryo Scanning Transmission X Ray Microscope at the Canadian Light Source*, SPIE, San Diego, Aug **2017**.
- P377 L. Le Nagard, A. P. Hitchcock, C. Fradin and X.H. Zhu, *Magnetic studies of Magnetotactic Bacteria with X-ray magnetic circular dichroism and optical microscopy*, Canadian Society of Chemists, Annual Meeting, Toronto, 28 May - 01 Jun, **2017**
- P376 X.H. Zhu, A. P. Hitchcock, D. A. Bazylinski, U. Lins, T. Tyliszczak and D. Shapiro, *Biomineralization of magnetotactic bacteria studied by soft X-ray STXM and ptychography*, Canadian Society of Chemists, Annual Meeting, Toronto, 28 May - 01 Jun, **2017**
- P375 L.G.A. Melo and A.P. Hitchcock, *Characterization of PFSA ionomer thin films for fuel cell applications*, Canadian Society of Chemists, Annual Meeting, Toronto, 28 May - 01 Jun, **2017**
- P374 V. Prabu, A.P. Hitchcock, M. Obst, M. Reynolds and H. Hosseinkhannazer, *Development of in-situ Flow Electrochemical Scanning Transmission X-Ray Microscopy (STXM)*, Canadian Society of Chemists, Annual Meeting, Toronto, 28 May - 01 Jun, **2017**
- P373 A.F.G. Leontowich, R. Berg, C. Regier, D.M. Taylor, I. Coulthard, J. Wang, J. Swirsky, J. Geilhufe, C. Karunakaran, A.P. Hitchcock and S.G. Urquhart, *Yet More Hyphens: Spectro-Tomo-Cryo-X-ray Microscopy and Other Upgrades to the Spectromicroscopy Beamline at the Canadian Light Source*, Canadian Society of Chemists, Annual Meeting, Toronto, 28 May - 01 Jun, **2017**
- T372 A.P. Hitchcock, V. Prabu, S. M. Rosendahl, M. Reynolds and H. Hosseinkhannazer, *Electrochemically-generated nanomaterials studied by in situ flow spectro-electrochemical Scanning Transmission X-Ray Microscopy*, PacSurf 2016, Hawaii, Dec 11-15, **2016**
- T371 A. Putz, D. Susac, V. Berejnov, J. Wu, A.P. Hitchcock and J. Stumper, *Doing More with Less: Challenges for Catalyst Layer Design*, PRiME 2016/230th ECS Meeting, Honolulu, USA, Oct 2-7, **2016**. (*invited plenary*)
- T370 P. Krüger, X. Zhu, A. P. Hitchcock, P. Umek and C. Bittencourt, *Phase Transformations and Dichroism of Titania Nanostructures*, Japanese XAFS conference, Nagoya, Japan 4-8 Sep **2016**
- P369 S. Swaraj, R. Belkhou, S. Stanescu, A. Besson, M. Rioult, C. Pampfer, A.P. Hitchcock and K. Benzerara, *Scanning Transmission X-ray Microscope at HERMES beamline: First results*, Int. Conf. on X-ray Microscopy, Oxford, UK, 15-19 Aug **2016**

- P368 [R. Peters](#), J. Wang, L. Gutierrez-Rivera, M. Aktary, S.G. Urquhart and A.P. Hitchcock, *Zone Plate Development: Partnership Between Applied Nanotools and the Canadian Light Source*, Int. Conf. on X-ray Microscopy, Oxford, UK, 15-19 Aug **2016**
- T367 [A.F.G. Leontowich](#), R. Berg, C. Regier, D.M. Taylor, J. Wang, J. Swirsky, C. Karunakaran, A.P. Hitchcock and S.G. Urquhart, *Scanning Soft X-Ray Microscope Optimized for Cryo-Spectro-Tomography*, Int. Conf. on X-ray Microscopy, Oxford, UK, 15-19 Aug **2016**
- T366 [X.H. Zhu](#), P. Leão, D.A. Bazylinski, U. Lins and A. P. Hitchcock, *Biom mineralization of Magnetotactic Bacteria Studied by Soft X-Ray Scanning X-Ray Microscopy*, Int. Conf. on X-ray Microscopy, Oxford, UK, 15-19 Aug **2016**
- P365 [A.P. Hitchcock](#), [J. Wu](#), [X.H. Zhu](#), L. G. de A. Melo, D.A. Shaprio, T. Tyliczszak, V. Berejnov, D. Susac and J. Stumper, *2D and 3D Soft X-Ray Spectro-Microscopy and Spectro-Ptychography of Fuel Cell Cathodes*, Int. Conf. on X-ray Microscopy, Oxford, UK, 15-19 Aug **2016**
- T364 [M. Lerotic](#), [J. Wu](#) and A.P. Hitchcock, *Compressed Sensing for Tomographic Reconstruction of Sparse Projection X-Ray Spectromicroscopy Data*, Int. Conf. on X-ray Microscopy, Oxford, UK, 15-19 Aug **2016**
- T363 [A.P. Hitchcock](#), [X.H. Zhu](#), D.A. Bazylinski, P. Leão, U. Lins, H.-W. Shiu, T. Tyliczszak, D. Shapiro, *Spectroscopy and magnetism of magnetotactic bacteria studied by scanning soft X-ray microscopy and ptychography*, 39th Int. Conf. on Vacuum Ultraviolet and X-ray Physics, Zurich, Switzerland, 3-8 July, **2016**.
- T362 [Juan Wu](#), A.P. Hitchcock, M. Lerotic, D. Shapiro, V. Berejnov, D. Susac and J. Stumper, *4d Imaging of Polymer Electrolyte Membrane Fuel Cell Cathodes by Scanning Transmission X-Ray Microscopy*, 2016 Collaborative Conference on 3D and Materials Research (CC3DMR), Incheon, Korea, 20-24 Jun 2016 (**invited**)
- T361 [A.F.G. Leontowich](#), R. Berg, C. Regier, D.M. Taylor, J. Wang, J. Swirsky, C. Karunakaran, A.P. Hitchcock and S.G. Urquhart, *Design and Capabilities of a cryo Scanning Soft X-ray Microscope at the Canadian Light Source*, Microscopical Society of Canada Annual Meeting, Edmonton, Canada, 7-10 Jun **2016**.
- P360 [V. Prabu](#), [Z. Qin](#), A.P. Hitchcock, S. Rosendahl, J. Wang, M. Reynolds, and H. Hosseinkhannazer, *Instrumentation and Methods for In-Situ Studies of Electro-Chemical Processes by Scanning Transmission X-Ray Microscopy (STXM)*, Microscopical Society of Canada Annual Meeting, Edmonton, Canada, 7-10 Jun **2016**.
- P359 [J. Wu](#), M. Lerotic, D. Shapiro, V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *4d Imaging of Fuel Cell Cathodes by Scanning Transmission X-ray Microscopy Tomography* CaRPE-FC Annual Technical meeting, Vancouver, 3-4 May **2016**
- P358 [L.Melo](#), V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *Quantification of (i) ionomer thickness and (ii) dose-damage relationship using soft x-ray microscopy*, CaRPE-FC Annual Technical meeting, Vancouver, 3-4 May **2016**
- P357 [N. Appathurai](#), V. Lee, A.P. Hitchcock, V. Berejnov, D. Susac and J. Stumper, *In situ environmental cell for scanning transmission x-ray microscopy: aerosol salts and polymer electrolyte membrane fuel cell applications*, CLS Annual User Meeting, Saskatoon, Canada, 2-3 May **2016**
- T356 [A.P. Hitchcock](#), [N. Appathurai](#), V. Berejnov, D. Susac and J. Stumper, *Characterizing polymer electrolyte fuel cell materials by soft x-ray scanning transmission x-ray microscopy*, PacificChem 2015, 15-20 Honolulu, HI, USA Dec **2015**.
- T355 [X.H. Zhu](#), T. Tyliczszak, H.-W. Shiu, D. Shapiro, D.A. Bazylinski, U. Lins and A.P. Hitchcock, *Biomagnetism Study of Magnetotactic Bacteria by Soft X-Ray Scanning Transmission X-Ray Microscope and Ptychography*, Application of XAFS to the Study of Magnetic Materials, satellite to XAFS-2016, Stuttgart, Aug 30 – Sep 02, **2015** (**invited**)
- T354 [X. Zhu](#), A.P. Hitchcock, C. Bitencourt, P. Umek and P. Krüger, *Individual 1D Nanostructures Investigated by 3D-resolved Polarization Dependent X-ray Absorption Spectra*, XAFS-2016, Karlsruhe, Germany, 23-28 Aug **2015**

- T353 D. Erbahar, T. Susi, X. Rocquefelte, C. Bittencourt, M. Scardamaglia, P. Guttmann, G. Rotas, N. Tagmatarchis, X. Zhu, A.P. Hitchcock and [Chris P. Ewels](#), *Fullerenes in Space : Fullerene-Water interaction and the origins of life*, Fullerenes - Past, Present and Future: Celebrating the 30th Anniversary of Buckminster Fullerene, Royal Soc. Chemistry, London, UK, 15,16 Jul **2015**
- T352 [J.J. Dynes](#), A.F.G. Leontowich, C. Karunakaran, J. Wang, Y. Lu, T.Z. Regier, D. Bertwistle, B. Yates, A.P. Hitchcock, S. Urquhart. *Cleaning Carbon Deposited Optics on Soft X-ray Beamlines using a H₂-Ar Plasma*. 12th International Conference on Synchrotron Radiation Instrumentation, New York, NY, USA, 6-10 July **2015**.
- T351 [T. Ohigashi](#), M. Nagasaka, T. Horigome, N. Kosugi, S.M. Rosendahl and A.P. Hitchcock, *Development of In-situ Sample Cells for Scanning Transmission X-ray Microscopy*, Synchrotron Radiation International 2015 (New York, July **2015**)
- T350 [Lis G. de A. Melo](#), G.A. Botton and Adam P. Hitchcock, Quantification of the critical dose for radiation damage to perfluorosulfonic acid membranes using soft X-ray microscopy, Microscopy & Microanalysis Portland, July **2015**.
- T349 A. F.G. Leontowich, D.M. Taylor, C.Regier, R. Berg, G. Wright, J. Swirsky, J Wang, C. Karunakaran, A.P. Hitchcock and [S. G. Urquhart](#), *Prospects for Surface and Interfacial Science at the Upgraded Spectromicroscopy Beamline*, Surface Canada, Saskatoon, June **2015**.
- T348 [Lis G. de A. Melo](#), G.A. Botton and Adam P. Hitchcock, *Quantification of the critical dose for radiation damage to perfluorosulfonic acid membranes using soft X-ray microscopy*, Microscopical Society of Canada Annual Meeting, Hamilton, Canada, May 26-29, **2015**.
- T347 [X.H. Zhu](#), T. Tyliczszak, H.-W. Shiu, D.Shapiro, D.A. Bazylinski, U. Lins and A.P. Hitchcock, *Biomagnetism of Magnetotactic Bacteria Studied by Soft X-Ray STXM And Ptychography* Microscopical Society of Canada Annual Meeting, Hamilton, Canada, May 26-29, **2015**.
- T346 [J. Wu](#), V. Lee, V. Berejnov, D. Susac and A.P. Hitchcock *3d Chemical Imaging of Fuel Cell Cathodes by Scanning Transmission X-Ray Microscopy Tomography*, Microscopical Society of Canada Annual Meeting, Hamilton, Canada, May 26-29, **2015**.
- [T345](#) [A.P. Hitchcock](#), S.M. Rosendahl and N. Appathurai, *Spatially resolved spectro-electrochemistry using soft X-ray Scanning Transmission X-Ray Microscopy*, 227th Electrochemical Society meeting, Chicago, Apr **2015**.
- T344 [T. Susi](#), D. Mowbray, M.P. Ljungberg, D. Erbahar, X. Rocquefelte, C. Bittencourt, M. Scardamaglia, P.Guttmann, N. Tagmatarchis, X. Zhu, A.P. Hitchcock, C.P. Ewels and P. Ayala, *Calculating core level binding energies for graphene and azafullerenes*, International Winterschool on Electronic Properties of Novel Materials (IWEPNM2015) workshop, 7-14 March **2015**, Tirol, Austria.
- T343 [E. M. Muehe](#), E. Adaktylou, M. Obst, C. Schroeder, S. Behrens, A.P. Hitchcock, T. Tyliczszak, M.Michel, U. Kraemer and A. Kappler, *Cd mobility in anoxic Fe-mineral-rich environments – potential use of Fe(III)-reducing bacteria in soil remediation*, 2014 Annual meeting of the American Geophysical Union, San Francisco, 15-19 Dec **2014**.
- P342 [A. P. Hitchcock](#), [X. Zhu](#), C. Bittencourt, P. Umek and P. Krüger, *Electronic structure of titanate nanoribbons studied by O 1s and Ti 2p X-ray absorption and 3-dimensional dichroism measured in a scanning transmission X-ray microscope (STXM)*, PacSurf2014, 7-11 Kona, Hawaii, Dec **2014**.
- [T341](#) [A.P. Hitchcock](#), V. Lee, V.Berejnov, D. Susac and J. Stumper, *Characterizing automotive fuel cell materials by soft x-ray scanning transmission x-ray microscopy (STXM)*, PacSurf2014, 7-11 Kona, Hawaii, Dec **2014**.
- P340 [A. F. G. Leontowich](#), C. Regier, D. M. Taylor, R. Berg, K. Epp, J. Swirsky, C. Karunakaran, A. P. Hitchcock and S. G. Urquhart, *Design and installation of a cryo scanning transmission x-ray microscope at the Canadian Light Source*, International Conference on X-ray Microscopy (XRM2014), Melbourne, Australia, Oct, **2014**
- [P339](#) [X.H. Zhu](#), [A. P. Hitchcock](#), T. Tyliczszak, D.A. Bazylinski and U. Lins, *Application of X-Ray Magnetic Circular Dichroism in Stxm to Study The Magnetic Polarities of Individual*

- Magnetotactic Bacteria*, International Conference on X-ray Microscopy (XRM2014), Melbourne, Australia, Oct, **2014**
- P338 [X. Zhu](#), [A.P. Hitchcock](#), C. Bittencourt, P. Umek and P. Krüger, Individual Titanium Oxide Nanostructures Studied by 3D-Resolved O 1s and Ti 2p Polarization Dependent X-Ray Absorption Spectra Measured with STXM, International Conference on X-ray Microscopy (XRM2014), Melbourne, Australia, Oct, **2014**
- P337 [A.P. Hitchcock](#), [Z. Qin](#), S.M. Rosendahl and V. Lee, *In Situ Electrochemical Deposition Of Cu Studied With Scanning Transmission X-Ray Microscopy*, International Conference on X-ray Microscopy (XRM2014), Melbourne, Australia, Oct, **2014**
- I336 [D. Susac](#), V. Berejnov, M. Saha, V. Lee, M. West, A.P. Hitchcock and Jürgen Stumper, *Advances in Structural Characterization of PEM Fuel Cell Catalyst Layers by Soft X-ray Scanning Transmission Microscopy*, 226 ECS Conference, Cancun, Mexico, Oct, **2014** [invited](#)
- P335 [X. Zhu](#), A.P. Hitchcock, D.A. Shapiro, T. Tyliczszak and D.A. Bazylinski, *Spectro-ptychography study of biomagnetism using soft X-ray microscopy*, ALS Users Meeting, Berkeley, CA, 8 Oct, **2014**
- P334 [J. Wu](#), V. Lee, V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *3D chemical distributions in PEMFC cathodes measured by Scanning Transmission X-ray microscopy*, ALS Users Meeting, Berkeley, CA, 8 Oct, **2014**
- T333 [X. Zhu](#), A.P. Hitchcock, T. Tyliczszak, P.E. Leão, D.A. Bazylinski and U. Lins, *Characterization of the chemistry and magnetism of individual magnetotactic bacterial cells using X-ray spectromicroscopy*, 4th Int. Meeting on Magnetotactic Bacteria (MTB2014) Rio de Janeiro Sep 15-18, **2014**
- T332 [P. Krüger](#), [X. Zhu](#), C. Bittencourt and A. P. Hitchcock, *X-ray absorption of individual titania nanostructures - theory and STXM Experiments*, Japanese Physical Society, Sep.7-10, **2014**.
- T331 [D. Rossouw](#), M. Bugnet, [E. Najafi](#), V. Lee, A. P. Hitchcock and G. A. Botton, *Illuminating the electronic properties of individual carbon nanotubes with photons and electrons*, International Microscopy conference (refereed abstract), Prague, Czech Republic, Sep 6-10, **2014**
- T330 [L.G.A. Melo](#), V. Lee, D. Susac, V. Berejnov, J. Stumper, G.A. Botton and A.P. Hitchcock, *Effects of Sample Preparation Technique on Quantitative Analysis of Automotive Fuel Cell Catalyst Layers*, Microscopy& Microanalysis 2014, Hartford, CT, Aug **2014**.
- T329 [X.H. Zhu](#), A.P. Hitchcock, T. Tyliczszak and D.A. Bazylinski, *Probing Magnetic Polarities of Magnetotactic Bacteria by X-ray Magnetic Circular Dichroism in a Scanning Transmission X-ray Microscope*, Microscopy& Microanalysis 2014, Hartford, CT, Aug **2014**.
- P328 [J. Wu](#), V. Lee, A.P. Hitchcock and V. Berejnov, *STXM tomography of PEM-FC*, CaRPE-FC Annual Technical meeting, Vancouver, 6 June **2014**
- P327 [L.G.A. Melo](#), V. Lee, D. Susac, V. Berejnov, J. Stumper, G.A. Botton and A.P. Hitchcock, *Effects of Sample Preparation Technique on Quantitative Analysis of Automotive Fuel Cell Catalyst Layers*, CaRPE-FC Annual Technical meeting, Vancouver, 6 June **2014**
- T326 [A.P. Hitchcock](#), *Imaging and Diagnostics*, Annual Technical meeting of the Catalyst Research for Polymer electrolyte Fuel Cells (CaRPE-FC) network, Vancouver, 6 June **2014**
- T325 [L.G.A. Melo](#), V. Lee, D. Susac, G.A. Botton A.P. Hitchcock, V. Berejnov and J. Stumper, *Effects of Sample Preparation Damage to Catalyst Layers in Fuel Cell Materials*, Chemical Society of Canada, Vancouver, 1-5 Jun **2014**
- P324 [Z.B. Yan](#), A.P. Hitchcock and G. Goward, *The investigation of ionomer and platinum degradation in Catalyst coated membranes for fuel cells*, Chemical Society of Canada, Vancouver, 1-5 Jun **2014**
- P323 [Z. Qin](#), [S. Rosendahl](#), V. Lee, J. Wang, C. Karunakaran and A.P. Hitchcock, *In situ electrochemical deposition of Cu with Scanning Transmission X-ray Microscopy*, CLS Annual Users' Meeting, Saskatoon, SK, 2 May **2014**.
- P322 [A.F. G. Leontowich](#), D.M. Taylor, C. Regier, C. Karunakaran, A.P. Hitchcock. and S. G. Urquhart, *Enhanced scintillator-photomultiplier tube detector for a UHV soft x-ray microscope*,

- CLS Annual Users' Meeting, Saskatoon, SK, 2 May **2014**.
- T321 J.R. Lawrence, G.D.W. Swerhone, J.J. Dynes, A.P. Hitchcock, and D.R. Korber. *Formation of a complex organic corona on carbon nanotubes reduces toxicity by suppressing reactive oxygen species production*. SETAC North America, November 17-21, **2013**, Nashville, TN. SETAC 34th Annual Meeting.
- T320 T. Ohigashi, Inagaki, Horigome, N. Masanari, N. Kosugi and A.P. Hitchcock, *Development of sample cells for STXM*, Japanese Synchrotron Research Association meeting, Nov 5, **2013**, Nagoya, Japan (in Japanese)
- T319 Z. Qin, V. Lee and A.P. Hitchcock, *Quantitative chemical speciation of copper electro-deposition studied by STXM*, 224 Electrochemical Society Conference, San Francisco, Oct 27 -31 **2013**.
- T318 V. Lee, D. Susac, S. Kundu, V. Berejnov, R. T. Atanasoski, A.P. Hitchcock and J. Stumper, *STXM Characterization of Nanostructured Thin Film Anode Before and After Start-up Shut-down and Reversal Tests*, 224 Electrochemical Society Conference, San Francisco, Oct 27 -31 **2013**.
- T317 V. Lee, V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *In situ scanning transmission X-ray microscopy studies on the effects of relative humidity and temperature on MEA materials*, 224 Electrochemical Society Conference, San Francisco, Oct 27 -31 **2013**.
- T316 X. Zhu, Adam Hitchcock and Dennis Bazylinski, *Application of X-ray Magnetic Circular Dichroism in a Scanning Transmission X-ray Microscope to Differentiate Biogenic and Abiogenic Magnetite*, 2013 ALS Users Meeting, Berkeley, CA Oct 7,8 **2013**.
- T315 D. Rossouw, E. Bellido, E. Najafi, V. Lee, A. P. Hitchcock and G.A. Botton, *High-resolution EELS studies of metallic nanostructures and carbon nanotubes* 14th Frontiers of Electron Microscopy in Materials Science, Lorne, AU 18-13 Sep **2013**.
- P314 M. Nagasaka, H. Yuzawa, T. Horigome, Z. Qin, A.P. Hitchcock and N. Kosugi, *Electrochemical Reaction of Aqueous Iron Sulfate Solutions Studied by Fe L-Edge Soft X-Ray Absorption Spectroscopy*, 38th Int. Conf. Vac. Ultraviolet X-ray Physics, Hefei, China, 12-17 July **2013**
- P313 C. Karunakaran, J. Wang, Y. Lu, A.P. Hitchcock and S.G. Urquhart *Scientific capabilities of the spectromicroscopy facility at the Canadian Light Source*, 38th Int. Conf. Vac. Ultraviolet X-ray Physics, Hefei, China, 12-17 July **2013**
- T312** A. P. Hitchcock, X. Zhu, C. Bittencourt, P. Umek and P. Kruger, *Titanium oxide nanostructures studied by O 1s and Ti 2p X-ray absorption and dichroism measured in STXM*, 38th Int. Conf. Vac. Ultraviolet X-ray Physics, Hefei, China, 12-17 July **2013**
- T311 L.G.A. Melo, J. Huang, Z. Qin, V. Lee, D. Susac, V. Berejnov, J. Stumper, A. P. Hitchcock and G.A Botton, *Nanostructural characterization of catalyst layers in PEMFC: Sample preparation considerations*, 223 Electrochemical Society Conference, Toronto, On, Canada May **2013**.
- T310 Z. Qin, V. Lee and A.P. Hitchcock, *Spatially resolved studies of copper electroplating by scanning transmission X-ray microscopy*, 223 Electrochemical Society Conference, Toronto, On, Canada May **2013**.
- T309 V. Lee, V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *Characterization of PEM-FC materials with scanning transmission X-ray microscopy*, 223 Electrochemical Society Conference, Toronto, On, Canada May **2013**.
- T308 J. Stumper, D. Susac, J. Jankovic, V. Berejnov, V. Lee and A.P. Hitchcock, *Advanced Characterization of PEMFC Catalyst layers*, 223 Electrochemical Society Conference, Toronto, On, Canada May **2013**.
- T307 V. Berejnov, D. Susac, J. Stumper, V. Lee and A.P. Hitchcock, *Visualizing the Ionomer and Carbon Support in PEM FCs Using Scanning Transmission X-ray Microscopy: the Good, the Bad and the Ugly*, MRS Spring meeting, San Francisco, April 1-5, **2013**
- T306 C. Bittencourt, C. Karunakaran, . Wang, Y. Lu and A.P. Hitchcock, *Bond directionality in boron nitride nanotubes probed by STXM-NEXAFS*, Finnish workshop on Nanomaterials. Feb **2013**
- T305 D. Susac, V. Berejnov, A.P. Hitchcock and J. Stumper, *STXM Characterization of PEM Fuel Cell Catalyst Layers*, 221 Electrochemical Society Conference, Honolulu, USA Oct 7-12, **2012**

- T304 V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *3D chemical mapping of PEM Fuel Cell Cathodes by Scanning Transmission soft X-ray Spectro-tomography*, 221 Electrochemical Society Conference, Honolulu, USA Oct 7-12, **2012**
- T304 W. Cao, M. Masnadi, Y.-F. Hu, J.-M. Baribeau, J. C. Woicik, M. Huttula A.P. Hitchcock and S. G. Urquhart, *The Unusual Electronic and Morphological Structures of SiGe alloys Grown on Ge Substrates*, 12th Int. Conf. on Electronic Structure and Spectra, St. Malo, France, 16-20 Sep, **2012**
- T303 A.P. Hitchcock, E. Najafi, D. Rossouw and G.A. Botton, *Inner shell spectra and linear dichroism of single chirality carbon nanotubes by X-ray absorption and electron energy loss spectromicroscopy*, 12th Int. Conf. on Electronic Structure and Spectra, St. Malo, France, 16-20 Sep, **2012**
- T302 C. Karunakaran, C. Gaillard, J. Wang, Y. Lu, J. Dynes and A.P. Hitchcock, *High resolution soft X-ray spectromicroscopy reveals distribution and association of biopolymers with mineral nutrients in seeds*, 11th International Conference on X-ray Microscopy (XRM2012), Shanghai, China, 5-10 Aug **2012**.
- T301 P. Krüger, C. Bittencourt and A. P. Hitchcock, *Dichroism in x-ray absorption of titanium oxide nanostructures*, at "XAFS theory and nano particles", a satellite meeting to the 15th International conference on X-ray Absorption Fine Structure, Chiba, Japan, 18-20 July, **2012**
- T300 A.P. Hitchcock, B.O. Leung, J.L. Brash, E. Najafi, D. Rossouw and G.A. Botton, *Chemical and structural characterization with soft X-ray spectro-microscopies in correlation with electron and atomic force microscopies*, Microscopy and Microanalysis, Phoenix, 29-Jul – 4 Aug **2012**
- T299 A.F.G. Leontowich and A.P. Hitchcock, *Carbon contamination and the future of high volume photolithography*, SRI conference Satellite Workshop on "Carbon Contamination of Optics", Solei, Paris, France, 16-17 July, **2012**
- T298 S.S. Kalirai, K.P. Lam, D.A. Bazylinski, U. Lins and A.P. Hitchcock, *Magnetism of Individual Magnetosomes in Magnetotactic Bacteria*, Goldschmidt, Montreal, June 24-29, **2012**
- T297 M. Obst, T. Lösekann-Behrens, S. Behrens, A. Kappler, T. Tyliczszak and A. P. Hitchcock, *Spatial distribution of As(V) in cell-mineral aggregates formed by NO₃⁻-reducing Fe(II)-oxidizing bacteria*, Goldschmidt, Montreal, June 24-29, **2012**
- T296 S.S. Kalirai, K.P. Lam, D.A. Bazylinski, U. Lins and A.P. Hitchcock, *Magnetism of Individual Magnetosomes in Magnetotactic Bacteria*, 3rd International Meeting on Magnetotactic Bacteria, Berkeley, CA, June 11-14, **2012**.
- T295 C. Karunakaran, S.G. Urquhart and A.P. Hitchcock, *Magnetic Imaging with Soft X-ray Microscopy at the Canadian Light Source*, Magnetic Noth III, Banff, AB June 8-10, **2012**
- P294 A.F.G. Leontowich and A.P. Hitchcock, *Secondary electron deposition mechanism of carbon contamination*, CLS Users' Meeting, Saskatoon, May 4,5, **2012**
- T293 J.L. Brash, B.O. Leung, A.P. Hitchcock, A. Scholl and A. Doran, *Soft X-ray spectromicroscopy of protein interactions with phase segregated polymer surfaces*, Symposium on Proteins at Surfaces, American Chemical Society spring meeting, San Diego, Mar 24-29, **2012**
- T292 A.F.G. Leontowich and A.P. Hitchcock, *Zone plate focused soft X-ray lithography for fabrication of nanofluidic devices*, Alternative Lithographic Technologies IV and Direct-Write Mask-Less Lithography (ML2) symposium, SPIE 2012, San Jose, Feb 14-16, **2012**
- T291 C. Bittencourt, A. P. Hitchcock, X. Ke, G. Van Tendeloo and P. Guttman, *Imaging the carbon K near-edge polarization dependence of a few layer graphene by NEXAFS-TXM*, Towards Reality in Nanoscale Materials V, Levi, Finland 20-22 Feb. **2012**
- T290 C. Gaillard, C. Karunakaran, B. Bouchet, J. Wang, A. Buléona, A.P. Hitchcock, *Identification d'assemblages de protéines, lipides et polysaccharides par microscopie à balayage par transmission de RX mous*, French Materials Society meeting, **2011**
- T289 E. Najafi, A.P. Hitchcock, D. Rossouw and G. Botton, *Visualizing defect distributions in carbon nanotubes using linear dichroism signals in scanning transmission X-ray microscopy (STXM) and TEM-EELS*, AVS meeting, Nashville, TN, USA Oct. 31-Nov 4, **2011**
- T288 A.P. Hitchcock, V. Berejnov, D. Susac and J. Stumper, *Nanoscale characterization of water*

- distributions in PEM fuel cell membrane electrode assemblies measured by Scanning Transmission soft X-ray Microscopy*, AVS meeting, Nashville, TN, USA Oct. 31-Nov 4, **2011**
- T287 V. Berejnov, A.P. Hitchcock, D. Susac and J. Stumper *Nano to micro scale characterization of water uptake in PEM fuel cell MEAs by Scanning Transmission soft X-ray Microscopy*, Electrochemical Society 220th meeting, Boston, MA, USA, Oct. 9-14, **2011**
- T286 D. Susac, V. Berejnov, A.P. Hitchcock and J. Stumper, *STXM Study of the Ionomer Distribution in the PEM Fuel Cell Catalyst Layers*, Electrochemical Society 220th meeting, Boston, MA, USA, Oct. 9-14, **2011**
- T285 A. P. Hitchcock, *Chemically sensitive imaging of nanomaterials with Scanning Transmission X-ray Microscopy*, Electrochemical Society 220th meeting, Boston, MA, USA, Oct. 9-14, **2011**
- T284 V.S. Coker, J. Byrne, J.R. Lloyd, N.D. Telling, G. van der Laan, A.P. Hitchcock and R.A.D. Pattrick, *Scanning transmission X-ray microscopy (STXM): a powerful imaging tool for the environmental sciences*, Diamond Users Meeting, 7,8 Sep **2011 (invited)**
- P283 W. Cao, M. Masnadi, M. Martinson, L. Zuin, Y.-F. Hu, F. Rosei, A.P. Hitchcock, J.-M. Baribeau, J.C. Woicik and S.G. Urquhart, *Effect of composition and strain on the Si 1s and 2p X-ray absorption spectra of SiGe Thin Films*, CLS Annual Users Meeting, Saskatoon, SK 25-Jun, **2011**
- P282 S. Kalirai, A.P. Hitchcock, K.P. Lam, D.A. Bazylinski, U. Lins and J. Wang, *Scanning Transmission X-ray Microscopy and X-ray Magnetic Circular Dichroism of Magnetotactic Bacteria* CLS Annual Users Meeting, Saskatoon, SK 25-Jun, **2011**
- P281 J. Wang, C. Karunakaran, U.D. Lanke, Y. Lu, J.J. Dynes, S.G. Urquhart and A.P. Hitchcock, *New Techniques and Instrumentation Developments at the 10ID-1 CLS-SM Beamline* CLS Annual Users Meeting, Saskatoon, SK 25-Jun, **2011**
- T280 S. Kalirai, A.P. Hitchcock, K.P. Lam, D.A. Bazylinski, U. Lins and J. Wang, *Scanning Transmission X-ray Microscopy and X-ray Magnetic Circular Dichroism of Magnetotactic Bacteria* Chemical Society of Canada annual meeting, Montreal, Jun 4-7, **2011**
- P279 A.F.G. Leontowich and A.P. Hitchcock, *Temperature Dependent NEXAFS Spectromicroscopy at the Canadian Light Source*, Chemical Society of Canada annual meeting, Montreal, Jun 4-7, **2011**.
- T278 A. P. Hitchcock, E. Najafi, C. Bittencourt, G. Van Tendeloo, P. Umek and C. P. Ewel, *Studies of electronic structure and orientational order of individual sodium titanate nanoribbons by O 1s and Ti 2p X-ray absorption measured in STXM*, MRS Spring meeting, San Francisco, 25-29 April, **2011**
- T277 A.F.G. Leontowich and A.P. Hitchcock, *Three dimensional measurement of the point spread function of a soft X-ray zone plate via single pixel exposure of photoresists at focus*, SPIE Conference on Damage to VUV, EUV and X-ray Optics III, Prague, CZ, 18-19 April **2011**
- T276 A. Sakko, J. A. Bradley, G. T. Seidler, M. Hakala, A. Rubio, G. Cooper, A. P. Hitchcock, K. Schlimmer, K. P. Nagle and K. Hämäläinen, *New Understanding of the Lyman-Birge-Hopfield Band of N₂*, 45th annual meeting of the Finnish Physical Society, Helsinki, Mar 29-31 **2011**
- P275 P. Umek, A. Gloter, C. Bittencourt, A.P. Hitchcock, E. Najafi, C. Díaz-Guera, J. Piqueras, M. Pregelj, P. Cevc and D. Arčon, *Characterization of Sodium Titanate Nanostructures doped with Cu²⁺, Cr³⁺, Co²⁺ ions and Ag nanoparticles*, Nanotech Insight, Cairo, Egypt, Feb 27- Mar 2 **2011**

- T274 A.P. Hitchcock, E. Najafi, J.W. Guan, S. Denomme, B. Simard and J. Wang, *Probing structure, defects, and chemical functionalization of carbon nanotubes with scanning transmission X-ray microscopy*, PacificChem 2010, Honolulu, HI, Dec 15-20, **2010**
- T273 D. Susac, J. Wang, Z. Martin, A.P. Hitchcock, J. Stumper and D. Bessarabov, *Ligand-assisted Migration of Platinum as a New Failure Mechanism in PEM Fuel Cells*, 218th Electrochemical Society Annual conference, Las Vegas, Oct **2010**.
- P272 J.R. Lawrence, J. J. Dynes, D.R. Korber, G.D.W. Swerhone, P.G. Medihala, G.G. Leppard and A.P. Hitchcock, *Fate and effects of Copper nanoparticles in a river biofilm community*, Canadian Society of Microbiologists, Hamilton, Canada **2010**
- P271 C. Gaillard, C. Karunakaran, B. Bouchet, A. Buléon, A.P. Hitchcock, *Analyse de surfaces biologiques par microscopie à balayage par transmission de rayons X mous*, Materiaux2010, Nantes, France, Oct 5-9, **2010**.
- P270 A.P. Hitchcock, K.P. Lam, J. Wang, M. Obst, U. Lins and D.A. Bazylinski, *X-Ray Magnetic Circular Dichroism of individual 30 nm magnetosomes in magnetotactic bacteria by STXM* 10th International Conference on X-ray Microscopy (XRM2010) Chicago, IL 15-20 August **2010**
- T269 A.F.G. Leontowich and A. P. Hitchcock, *Approaching Diffraction Limited Resolution in Zone Plate based Soft X-ray Lithography*, 10th International Conference on X-ray Microscopy (XRM2010) Chicago, IL 15-20 August **2010**
- T268 J. Wang, A.P. Hitchcock, M. Obst, C. Karunakaran, A. Prange, T. Harkness, *3D chemical and elemental imaging by STXM spectro-tomography*, 10th International Conference on X-ray Microscopy (XRM2010) Chicago, IL 15-20 August **2010**
- P267 E. Najafi, J. Wang, A.P. Hitchcock, J. Guan, S. Denomme, O. Bourne. and B. Simard, *X-Ray Linear Dichroism in Single Walled Carbon Nanotube Bundles*, 10th International Conference on X-ray Microscopy (XRM2010) Chicago, IL 15-20 August **2010**
- P266 A.P. Hitchcock, T. Tyliszczak, M. Obst, G.D.W. Swerhone and J.R. Lawrence, *Improving sensitivity in soft X-ray STXM using low energy X-ray fluorescence*, Microscopy & Microanalysis, Portland, OR, July 31 – Aug 6, **2010**
- T265 E. Najafi, A.P. Hitchcock, J. Guan, S. Denomme, B. Simard and J. Wang, *Polarization dependence of the C 1s X-ray absorption spectra of carbon nanotubes*, 37th Int. conf. Vacuum Ultraviolet X-ray Physics, Vancouver, BC, 11-16 July, **2010**
- P264 A.F.G. Leontowich and A.P. Hitchcock, *Zone Plate Based Soft X-ray Lithography*, 37th Int. conf. Vacuum Ultraviolet X-ray Physics, Vancouver, BC, 11-16 July, **2010**
- P263 Z. Martin, M.A. Gomez, I. Jimenez and A.P. Hitchcock, *STXM spectromicroscopy of interfacial interactions in polypropylene-clay nanocomposites*, 37th Int. conf. Vacuum Ultraviolet X-ray Physics, Vancouver, BC, 11-16 July, **2010**
- P262 B.O. Leung, A.P. Hitchcock, J.L. Brash, A. Scholl and A. Doran, *Soft X-ray Spectromicroscopy of Protein Interactions with Model Biomaterials*, 37th Int. conf. Vacuum Ultraviolet X-ray Physics, Vancouver, BC, 11-16 July, **2010**
- P261 J. Wang, J. Zhou, H. Fang, TK Sham, C. Karunakaran, Y.n Lu, G. Cooper and A.P. Hitchcock, *Effect of humidity on individual SnO₂ coated carbon nanotubes studied by in situ STXM*, 37th Int. conf. Vacuum Ultraviolet X-ray Physics, Vancouver, BC, 11-16 July, **2010**
- P260 J.R. Lawrence, J.J. Dynes, D.R. Korber, G.D.W. Swerhone, P.G. Medihala, G.G. Leppard and A.P. Hitchcock, *Soft X-ray spectromicroscopy of copper nanoparticles in a river biofilm* CLS Annual Users Meeting, Saskatoon, 17,18 Jun **2010**
- P259 U.D. Lanke, J. Wang, Y. Lu, C. Karunakaran, A.P. Hitchcock and S.G. Urquhart, *Photo-Emission Electron Microscope at the Canadian Light Source for nano-structured materials characterization*, CLS Annual Users Meeting, Saskatoon, 17,18 Jun **2010**
- P258 E. Najafi, A.P. Hitchcock, J. Guan, S. Denomme, B. Simard and J. Wang, *X-Ray Linear Dichroism in the C 1s X-ray Absorption Spectra of Individual Carbon Nanotubes*, CLS Annual Users Meeting, Saskatoon, 17,18 Jun **2010** (INVITED YOUNG INVESTIGATOR)
- P257 C. Karunakaran, J. Wang, Y. Lu, U.D. Lanke, S.G. Urquhart and A.P. Hitchcock, *Scientific and*

- Instrumental Highlights from the Soft X-ray Spectromicroscopy Facility at the Canadian Light Source*, CLS Annual Users Meeting, Saskatoon, 17,18 Jun **2010**
- P256 A.F.G. Leontowich and A. P. Hitchcock, *Approaching Diffraction Limited Resolution in Zone Plate Focused Soft X-ray Lithography*, Canadian Society of Chemistry 2010 Annual meeting, Jun **2010**
- T255 K.P. Lam, A.P. Hitchcock, M. Obst, D.A. Bazylinski and U. Lins, *Probing magnetism of individual Fe_3O_4 and Fe_3S_4 bacterial magnetosomes by X-ray magnetic circular dichroism in a scanning transmission X-ray microscope*, Canadian Society of Chemistry 2010 Annual meeting, Jun **2010**
- T254 Bonnie O. Leung, Adam P. Hitchcock, John L. Brash, Andreas Scholl, and Andrew Doran, *Soft X-ray Spectromicroscopy of Protein Interactions with Model Biomaterials*, AVS 2009 meeting, San Jose, Ca, USA, Nov 8-13, **2009**
- P253 B.O. Leung, K.P. Lam, A.P. Hitchcock, M. Obst, U. Lins, *Measuring magnetic properties of individual magnetosomes by Scanning Transmission X-ray Microscopy*, in symposium, Quantitative Nanoscale Sensing at Biosurfaces and Interfaces, AVS 2009 meetin, San Jose, Ca, USA, Nov 8-13, **2009**
- P252 E. Najafi, J. Wang, A.P. Hitchcock, C. Andrei, G. Botton, J. Guan and B. Simard, *X-ray Absorption and Electron Energy Loss Spectroscopy of Individual Carbon Nanotubes*, 25th Chemical Physics Symposium, Waterloo, ON, 6-8 Nov **2009**
- P251 G. Ceccone, M. J. Perez-Roldan, A. Valsesia, P. Colpo, F. Rossi, B. Leung, A.P. Hitchcock and A. Scholl, *X-Ray spectromicroscopy study of protein adsorption on plasma polymerized micro and nanostructures*, 13th European Conference on Applications of Surface and Interface Analysis (ECASIA'09), Antalya, Turkey Oct 18-23, **2009**.
- P250 A.F.G. Leontowich and A.P. Hitchcock, *The scanning transmission X-ray microscope (STXM) as a lithographic tool*, ALS Users' Meeting, Oct 16, **2009**
- P249 A.P. Hitchcock, *Soft X-ray spectromicroscopy of polymer, biological and environmental samples*, 11th International Conference on Electronic Spectroscopy and Structure, Nara, Japan, Oct 6-10, **2009**
- P248 A.Felten, X. Gillon, B. Douhard, E. Najafi, M. Obst, A.P. Hitchcock and J.-J. Pireaux, *Single carbon nanotube spectroscopy: electronic and structural defects by Scanning Transmission X-ray Microscopy (STXM)*, 11th International Conference on Electronic Spectroscopy and Structure, Nara, Japan, Oct 6-10, **2009**
- P247 N. Iwata, A. Watada, H. Ikeura-Sekiguchi, T. Araki, A.P. Hitchcock, *Comparison of Scanning Transmission X-ray Microscopy and energy filtered Transmission Electron Microscopy for studies of toner particles* 11th International Conference on Electronic Spectroscopy and Structure, Nara, Japan, Oct 6-10, **2009**
- P246 A.P. Hitchcock, R.A. Bonham, C.A. Chatzidimitriou-Dreismann and G. Cooper, *Quasi-elastic electron scattering from atoms and molecules* 11th International Conference on Electronic Spectroscopy and Structure, Nara, Japan, Oct 6-10, **2009**
- P245 A.P. Hitchcock, G. Cooper, J.A. Bradley, G.T. Seidler and M. Vos, *Valence electronic excitation of N_2 studied by q-dependent electron energy loss spectroscopy and non-resonant inelastic X-ray scattering*, 11th International Conference on Electronic Spectroscopy and Structure, Nara, Japan, Oct 6-10, **2009**
- T244 C. Bittencourt, A. Felten, X. Ke, E. Najafi, A. P. Hitchcock and G. Van Tendeloo, *Combined HRTEM and STXM-NEXAFS study of a patterned CNT*, 11th Int. Conf. on Advanced Mateirals, Rio de Janeiro, Brazil, 20-25 Sep **2009**. (invited)
- T243 K.L.I. Norlund, Kelsey, A.P. Hitchcock and L.A. Warren, *Microbial Sulphur Cycling: New Evidence of Microbial Cooperation in Global Elemental Cycles*, International Symposia on Environmental Biogeochemistry (ISEB2009), Hamburg, Germany – Sept. 14 to 18, **2009**
- P242 M. Obst, J. Wang and A.P. Hitchcock, *3D chemical mapping by STXM angle scan tomography*, Interdisciplinary Symposium on 3D microscopy 2009, Interlaken, Switzerland, 12-16 July **2009**

- P241 Bonnie O. Leung, Adam P. Hitchcock, John L. Brash, Andreas Scholl, and Andrew Doran, *Soft X-ray Spectromicroscopy of Protein Interactions with Model Biomaterials*, ESF-EMBO Symposium on 'Biological Surfaces and Interfaces' , Sant Feliu de Guixols, Spain, 27 Jun – 2 July **2009**
- T240 M. Obst, J. Wang, C. Karunakaran, K. Benzerara, J. J. Dynes, J.R. Lawrence, G. D. W. Swerhone and A. P. Hitchcock, *2D, 3D, and in-situ STXM in Geomicrobiology*, Goldschmidt 2009, Davos, Switzerland, 21-26 Jun, **2009**
- T230 D. Bessarabov, S. Lee, R. Vohra, A.P. Hitchcock and J. Wang, *Soft X-ray spectro-microscopy of catalyst-coated membranes (CCM) subjected to automotive-specific test conditions*, Annual meeting of the North American Membrane Society, Charleston, South Carolina USA, June 20-24, **2009**.
- P238 K.P. Lam, A.P. Hitchcock, M. Obst, J.R. Lawrence, G.D.W. Swerhone, T. Tyliczszak, C. Karunakaran, J. Wang, D. Bazylnski and U. Lins, *X-ray Magnetic Circular Dichroism of individual magnetosomes in a magnetotactic bacterium (MV-1) measured by Scanning Transmission X-ray Microscopy*, CLS Annual Users' Meeting, Saskatoon, Jun 17,18, **2009**.
- P237 A.P. Hitchcock, M. Obst, K. Norlund, L. Warren and J. Wang, *STXM studies of a novel syntrophic sulphur metabolizing consortia at the S 1s and S 2p edges*, CLS Annual Users' Meeting, Saskatoon, Jun 17,18, **2009**.
- T236 C. Karunakaran, U.D. Lanke, J. Wang, Y. Chen, S.G. Urquhart and A.P. Hitchcock, *Soft X-ray Spectromicroscopy – A Synchrotron based Advanced Technique for Materials and Life Sciences Research*, Microscopical Society of Canada 2009 Annual meeting, Winnipeg, June 14-16, **2009**
- T235 C. Gaillard, A. Berquand, C. Karunakaran, H. Gnaegi, B. Bouchet, E. Larquet and A.P. Hitchcock, *Imaging wheat grain tissue through a Fluorescence / AFM / TEM / STXM correlative microscopy approach*, French Microscopy Society annual meeting, Strasbourg, France, 8-12 June **2009**.
- T234 B.O. Leung, A.P. Hitchcock, J.L. Brash, A. Scholl and A. Doran, *Soft X-ray Spectromicroscopy of Protein Interactions with Candidate Biomaterials* Chemical Society of Canada Annual Meeting, Hamilton, Canada, May 30 - 3 Jun **2009**.
- P233 B.O. Leung, A.P. Hitchcock, M. T. Weidner, D.G. Castner A. Scholl, and A. Doran, *Soft X-ray Spectromicroscopy of Patterned Polymeric Surfaces as Candidate Protein Microarrays*, Chemical Society of Canada Annual Meeting, Hamilton, Canada, May 30 - 3 Jun **2009**.
- T232 K.P. Lam, A.P. Hitchcock, M. Obst and J.J. Dynes, J.R. Lawrence, G.D.W. Swerhone, G.G. Leppard, T. Tyliczszak, C. Karunakaran, K. Kaznatcheev, J. Wang, D. Bazylnski and U. Lins, *Characterization of Fe₃O₄ Bacterial Nano-crystals by Scanning Transmission X-ray Microscopy and X-ray Magnetic Circular Dichroism*, Chemical Society of Canada Annual Meeting, Hamilton, Canada, May 30 - 3 Jun **2009**.
- P231 E. Najafi, J. Wang, A.P. Hitchcock, A. Felten and J.-J. Pireaux, *Quantitation of Structural Defects in Carbon Nanotubes by Scanning Transmission X-Ray Microscopy*, Chemical Society of Canada Annual Meeting, Hamilton, Canada, May 30 - 3 Jun **2009**.
- P230 K. Kaznatcheev, C. Karunakaran, M. Obst and A.P. Hitchcock, *Soft x-ray linear dichroism: the route from spectra to images*, Chemical Society of Canada Annual Meeting, Hamilton, Canada, May 30 - 3 Jun **2009**.
- P229 E. Najafi, J. Wang, A.P. Hitchcock, L. Sorin, C. Andrei and G. Botton, *Characterizing defects in individual carbon nanotubes by X-ray absorption and electron energy loss spectromicroscopy*, EDGE 2009, Banff, Canada, 18-22 May **2009**
- P228 M. Obst, C. Karunakaran, J. Wang, J.J. Dynes, K. Benzerara, J.R. Lawrence, S.W. Swerhone, A.P. Hitchcock, *Quantitative mapping of composition and orientation in biological systems using scanning transmission X-ray microscopy*, 119th Eastern Forum of Science and Technology, Shanghai, 31. Oct **2008**
- P227 E. Najafi, A. P. Hitchcock, D. Hernandez-Cruz, M. Obst, A. Felten and J.-J. Pireaux, *Quantitation of Structural Defects in Multi-Walled Carbon Nanotubes by X-Ray Absorption*

- Spectromicroscopy*, ALS Users Meeting, Berkeley, CA, 13,14 Oct **2008**
- P226 B.O. Leung, A.P. Hitchcock, M. T. Weidner, D.G. Castner A. Scholl, and A. Doran, *Soft X-ray Spectromicroscopy of Patterned Polymeric Surfaces as Candidate Protein Microarrays*, ALS Users Meeting, Berkeley, CA, 13,14 Oct **2008**
- P225 J. Wang, A.P. Hitchcock, M.M. West and G.A. Botton, *Quantitative comparison of radiation damage to polyethyleneterephthalate (PET) in electron and X-ray microscopes*, ALS Users Meeting, Berkeley, CA, 13,14 Oct **2008**
- P224 B.O. Leung, A.P. Hitchcock, A. Scholl, and A. Doran, *Soft X-ray spectromicroscopy of protein interactions with polymeric biomaterials*, ALS Users Meeting, Berkeley, CA, 13,14 Oct **2008**
- T223 Martin Obst, J. Wang, A.P. Hitchcock, James J. Dynes, J. R. Lawrence, G.D.W. Swerhone and C. Karunakaran, *New insights into biomineral nucleation provided by STXM*, Highlight young Investigator talk at ALS Users Meeting, Berkeley, CA, 13,14 Oct **2008**
- P222 A. Felten, X. Ke, S. Bals, X. Gillon, J.-J. Pireaux, E. Najafi, A. P. Hitchcock, C. Bittencourt and G. Van Tendeloo, *HRTEM and STXM, a combined study of an individual focused-ion-beam patterned CNT*, European Microscopy Congress, Aachen, Germany, Sep 1-4, **2008**.
- P221 C. Bittencourt, A. Felten, X. Gillon, J.-J. Pireaux, E. Najafi, A. P. Hitchcock, C.P. Ewels, P. Umek and D. Arcon, *STXM-NEXAFS of individual titanate-based nanoribbons*, European Microscopy Congress, Aachen, Germany, Sep 1-4, **2008**.
- T220 A.P. Hitchcock, E.Najafi, D. Hernández Cruz M. Obst A. Felten, B. Douhard, J.-J. Pireaux, *Scanning Transmission X-ray Microscopy of Individual Multi-Walled Carbon Nanotubes: Linear Dichroism and Functionalization Chemistry*, Microscopy and Microanalysis 2008, Albuquerque, NM, USA, 4-8 Aug, **2008**
- T219 E. Najafi, M. Obst, A.P. Hitchcock, B. Douhard, A. Felten and J.-J. Pireaux, *Single carbon nanotube spectroscopy: chemistry and structural defects by Scanning Transmission X-ray Microscopy* 9th International Conference on the Structure of Surfaces, Salvador, Brazil, 3 - 8 August **2008**
- T218 A.P. Hitchcock, G.A. Johansson, G.E. Mitchell, M.Keefe, M. Obst, D. Bertwistle, C.Karunakaran and K.V. Kaznatcheev *3-d chemical imaging with STXM tomography*, 9th Int. Conf. on X-ray Microscopy, Zurich, Switzerland, 21-25 July, **2008**
- P217 T. Tylliszczak, A.L.D. Kilcoyne, A.P. Hitchcock and D.K. Shuh, *Portable UHV Scanning Transmission X-ray Microscope*, 9th Int. Conf. on X-ray Microscopy, Zurich, Switzerland, 21-25 July, **2008**
- P216 T.Lefevre, M. Pézolet, D. Hernández Cruz, M.M. West, M. Obst, A.P. Hitchcock, C. Karunakaran and K.V. Kaznatcheev, *Mapping molecular orientation in dry and wet dragline spider silk* 9th Int. Conf. on X-ray Microscopy, Zurich, Switzerland, 21-25 July, **2008**
- P215 K. Kaznacheev, Ch. Karunakaran, M. Obst, A.P. Hitchcock, T. Hegmann, L. Tortora and O.D. Lavrentovich, *Soft x-ray linear dichroism - the route from spectra to images: a STXM liquid crystal study*, 9th Int. Conf. on X-ray Microscopy, Zurich, Switzerland, 21-25 July, **2008**
- P214 C. Karunakaran, J. Müssig, J.Cutler, and A.P. Hitchcock, *Interfacial bonding characterization of biocomposites by soft X-ray spectromicroscopy with STXM*, 9th Int. Conf. on X-ray Microscopy, Zurich, Switzerland, 21-25 July, **2008**
- P213 E.Najafi, D. Hernández Cruz, M. Obst, A.P. Hitchcock, A. Felten, B. Douhard, J.-J. Pireaux, K. Kaznatcheev and Ch. Karunakaran, *Scanning Transmission X-ray Microscopy of multi-walled carbon nanotubes*, 9th Int. Conf. on X-ray Microscopy, Zurich, Switzerland, 21-25 July, **2008**

- P212 C. Karunakaran, D. Bertwistle, K. V. Kaznatcheev, M. Obst, U. D. Lanke, A. P. Hitchcock and S. G. Urquhart, *Performance Achievements of the Soft X-ray Spectromicroscopy (SM) Facility at the Canadian Light Source*, 9th Int. Conf. on X-ray Microscopy, Zurich, Switzerland, 21-25 July, **2008**
- P211 J.J. Dynes, T. Rema, A.P. Hitchcock, D.R. Korber, G.G. Leppard, G. D.W. Swerhone, Martin Obst and John R. Lawrence, *Biofilm structure and biochemistry with soft X-ray scanning transmission microscopy (STXM)*, Goldschmidt 2008, Vancouver, July 13-18, **2008**.
- T210 M. Obst, A.P. Hitchcock, J.J. Dynes, J.R. Lawrence, G.D.W. Swerhone and K. Benzerara, *Aragonite as a precursor phase of cyanobacterial calcite precipitation and the influence of EPS on the nucleation process - a STXM study*, Goldschmidt 2008, Vancouver, July 13-18, **2008**.
- T209 L.A Warren, K.L.I. NorLund, M. Obst and A.P. Hitchcock, *Bacterial S recycling: integrated experimental and soft X-ray spectromicroscopy characterization of S reaction arrays and S globules*, Goldschmidt 2008, Vancouver, July 13-18, **2008**.
- T208 Alexandre Felten, Bastien Douhard, Xavier Gillon, Jean-Jacques Pireaux, Ebrahim Najafi, M. Obst, Carla Bittencourt, X. Ke, G. Van Tendeloo and Adam P. Hitchcock, *Spectroscopy on individual carbon nanotubes*, 14th International Conference on Solid Films and Surfaces, Dublin, 29 Jun-4 Jul, **2008**.
- T207 A.P. Hitchcock, E.Najafi, D. Hernández Cruz M. Obst A. Felten, B. Douhard, J.-J. Pireaux, K. Kaznatcheev and Ch. Karunakaran, *Scanning Transmission X-ray Microscopy of individual multi-walled carbon nanotubes*, 21st Int. Conf. on X-ray and Inner-Shell Processes, Paris, Jun 22-27, **2008**
- P206 C. Karunakaran, C.R. Christensen, S.S. Miller and A.P. Hitchcock, *Soft X-ray Spectromicroscopy – An Advanced Technique for Plant Polysaccharide Research*, CLS Annual Users' Meeting, Saskatoon, Jun 10-11, **2008**
- T205 M. Obst, A.P. Hitchcock, J.J. Dynes, K. Benzerara, J. Miot, J.R. Lawrence, G.D.W. Swerhone, C. Karunakaran, D. Bertwistle, K.V. Kaznatcheev, *Soft X-ray spectromicroscopy in biogeosciences - Spectacular new insights into biomineral nucleation provided by STXM*, CLS Annual Users' Meeting, Saskatoon, Jun 10-11, **2008**
- P204 K.P. Lam, A.P. Hitchcock, M. Obst, J.J. Dynes, J.R. Lawrence, G.D.W. Swerhone, G.G. Leppard, T. Tyliczszak, D. Bertwistle, C. Karunakaran, K.V. Kaznatcheev and D. Bazyliniski, *X-Ray Magnetic Circular Dichroism of Single Magnetic Domains in Magnetotactic Bacteria*, CLS Annual Users' Meeting, Saskatoon, Jun 10-11, **2008**
- P203 C. Karunakaran, D. Bertwistle, K. V. Kaznatcheev, M. Obst, U. D. Lanke, A. P. Hitchcock and S. G. Urquhart, *Soft X-ray Spectromicroscopy (SM) Facility at the Canadian Light Source*, Synchrotron Radiation Instrumentation, Mechanical Design for Synchrotron Radiation Instrumentation, and CLS Annual Users' Meeting, Saskatoon, Jun 10-14, **2008**
- P202 E. Najafi, A. Felten, B. Douhard, D. Hernández Cruz, Martin Obst, A.P. Hitchcock and J.-J. Pireaux, *Scanning Transmission X-ray Microscopy of Multi-Walled Carbon Nanotubes*, Synchrotron Radiation Instrumentation, Mechanical Design for Synchrotron Radiation Instrumentation, and CLS Annual Users' Meeting, Saskatoon, Jun 10-14, **2008**
- P201 R. Hunter, T.J. Beveridge, J.J. Dynes, M. Obst and A.P. Hitchcock, *Speciation of iron in Pseudomonas aeruginosa biofilms by X-ray spectromicroscopy*, AFMnet Annual Meeting, Vancouver, Jun 1-3, **2008**
- P200 J.J. Dynes, T. Rema, M. Obst, G.D.W. Swerhone, J.R. Lawrence, D.R. Korber, G.G. Leppard and A.P. Hitchcock, *Effect of Antimicrobial Agents on Bacterial Biofilms*, AFMnet Annual Meeting, Vancouver, Jun 1-3, **2008**.
- T199 B.O. Leung, A.P. Hitchcock, J.L. Brash, A. Scholl and A. Doran, *Soft X-ray Spectro-microscopy of Protein Interactions with Polystyrene-Polylactide Blends*, World Biomaterials Congress, Amsterdam, May 28-June 1, **2008**
- P198 J. Liu, D. Feng, A.P. Hitchcock, A.L.D. Kilcoyne, T. Tyliczszak, E. Rühl, J.D. Bozek and P.A. Dowben, *Photo-fragmentation of the closo-carboranes*, Americal Physical Society March

- meeting, New Orleans, March **2008**.
- P197 A. Felten, C. Bittencourt, B. Douhard, J.-J.s Pireaux, E. Najafi, D. Hernández Cruz, M. Obst and A.P. Hitchcock, *Spectroscopy of individual carbon nanotubes using scanning transmission x-ray microscopy*, Materials Research Society, Spring Meeting, San Francisco, 24-28 Mar **2008**
- P196 B.O. Leung, A.P. Hitchcock, J.L. Brash, A. Scholl, A. Doran, P. Henklein, J. Overhage, K. Hilpert, J.D. Hale, R.E.W. Hancock, *Competitive adsorption of protein and peptide to polystyrene-poly(methyl methacrylate): a quantitative X-ray spectromicroscopy study*, Materials Research Society, Spring Meeting, San Francisco, 24-28 Mar **2008**
- P195 B.O. Leung, A. P. Hitchcock, J.L. Brash, A. Scholl, and A. Doran, *Spectromicroscopy Study of Albumin Adsorption to Candidate Biomaterial Thin Films of Polystyrene and Polylactide*, ALS Users meeting, Berkeley, CA, Oct 4, **2007**
- P194 E. Najafi, D. Hernández-Cruz and A.P. Hitchcock, *Linear dichroism of individual carbon nanotubes studied by C 1s STXM*, ALS Users meeting, Berkeley, CA, Oct 4, **2007**
- T193 N. Iwata, K. Tani, A. Watada, H. Ikeura-Sekiguchi, T. Araki, A.P.Hitchcock, *Application of Scanning Transmission X-ray microscopy for observation of organic compounds in toner particles*, N.I.P. 23 Japan, 16-21 Sep **2007**
 ***** awarded “Best Interactive Paper Display” at this conference *****
- P192 K. Kaznatcheev, M. Obst, Ch. Karunakaran, T. Hegmann, and A.P. Hitchcock, *Soft X-Ray Linear Dichroism: The Route from Spectra to Images*, 15th Int. Conf. Vac. Ultraviolet Physics, Berlin, 29 Jul – 3 Aug, **2007**.
- P191 E. Najafi, D. Hernández-Cruz and A.P. Hitchcock, *Chemical imaging of functionalized carbon nanotubes and polymer-nanotube composites by soft X-ray spectromicroscopy*, 15th Int. Conf. Vac. Ultraviolet Physics, Berlin, 29 Jul – 3 Aug, **2007**.
- P190 A.P. Hitchcock, Li Li, B. Leung, D. Hernández-Cruz, J.L. Brash, M.-E. Rousseau and M. Pézolet, *Soft X-ray spectromicroscopy of biomaterials*, 15th Int. Conf. Vac. Ultraviolet Physics, Berlin, 29 Jul – 3 Aug, **2007**.
- P189 M. Obst, A.P. Hitchcock, J.J. Dynes, M.M. West, G.D. Swerhone, J.R. Lawrence, G.G. Leppard, D.R. Korber, K. Kaznatcheev and C. Karunakaran, *New insights into calcite biomineralization from Scanning Transmission X-ray Microscopy*, 15th Int. Conf. Vac. Ultraviolet Physics, Berlin, 29 Jul – 3 Aug, **2007**.
- P188 J. Wang, A.P. Hitchcock, H.D.H. Stöver and T. Tylliszczak, *Chemically selective soft X-ray direct-write patterning of multilayer polymers*, Canadian Association of Physicists Annual Meeting, Saskatoon, SK, Jun 18-21, **2007**
- P187 J. Wang, A.P. Hitchcock, H.D.H. Stöver and T. Tylliszczak, *Chemically selective soft X-ray direct-write patterning of multilayer polymers by STXM*, CLS Annual Users Meeting, Saskatoon, June 15, **2007**.
- T186 B.O. Leung, J. Stewart-Ornstein, J.L. Brash, A.P.Hitchcock, J. Overhage, K. Hilpert, J.D. Hale and R.E.W. Hancock, *An X-Ray Spectromicroscopy Investigation of the Competitive Adsorption of Protein and Peptide on a Phase Segregated Polymer Surface*, CLS Annual Users Meeting, Saskatoon, June 15, **2007**.
- P185 T. Rema, J. J.Dynes, A. P.Hitchcock, G.G. Leppard, G.D.W. Swerhone, J.R. Lawrence and D.R. Korber, *Examination of chlorhexidine-tolerant and mutant chlorhexidine-sensitive *Delftia acidovorans* biofilms using soft X-ray Scanning Transmission X-ray Microscopy (STXM)*, CLS Annual Users Meeting, Saskatoon, June 15, **2007**.
- T184 S.G. Urquhart, U. Lanke, B. Haines, S. Christensen, P. Hitchcock, J. Stewart-Ornstein, R. Coulombe, E. Christensen, Ch. Karunakaran, Kaznatcheev and A.P. Hitchcock, *Recent results with the Canadian Photoelectron emission Research Spectromicroscope (CaPeRS) at the Canadian Light Source Microscopical Society of Canada*, Ann. Meeting, Edmonton, 12-15 Jun, **2007**
- P183 E. Najafi, *STXM of carbon nanotubes: polarization dependence and functionalization*, Microscopical Society of Canada, Ann. Meeting, Edmonton, 12-15 Jun, **2007**

- T182 Martin Obst, James Dynes, George Swerhone, John Lawrence, Chithra Karunakaran, Konstantine Kaznatcheev and Adam Hitchcock, *Studies of CaCO₃ biomineralization by freshwater cyanobacteria and biofilms*, Microscopical Society of Canada, Ann. Meeting, Edmonton, 12-15 Jun, **2007** (INVITED)
- T181 Bonnie O. Leung, Jacob Stewart-Ornstein, John L. Brash, Adam Hitchcock, Joerg Overhage, Kai Hilpert, John D. Hale and Robert E.W. Hancock, *An x-ray spectromicroscopy investigation of the competitive adsorption of protein and peptide on a phase segregated polymer surface*, Microscopical Society of Canada, Ann. Meeting, Edmonton, 12-15 Jun, **2007**
- T180 T. Rema, J.J. Dynes, M. Reid, A.P. Hitchcock, G.G. Leppard, G.D.W. Swerhone, J.R. Lawrence and D.R. Korber, *Microscopic evaluation of biofilms formed by chlorhexidine- tolerant and mutant chlorhexidine-sensitive Delftia acidovorans*, 3rd annual meeting of Advanced Food and Materials Network, Quebec, QC 3,4 Jun **2007**
- T179 J. Li, H.D.H. Stöver, A.P. Hitchcock and I. Shirley, *Probing Polyurea Microcapsule Chemistries by Scanning Transmission X-ray Microscopy*, Hangzhou International Polymer Forum, Hangzhou China, May 13-17 **2007**
- T178 B.O. Leung, A.P. Hitchcock, J. L. Brash, A. Scholl and A. Doran, *An X-ray Spectromicroscopy Study of Albumin Adsorption to Candidate Biomaterial Thin Films of Polystyrene and Polylactide*, Canadian Biomaterials Society annual meeting, London, ON, May 25-27, **2007**
- T177 Li Li, A.P. Hitchcock, J. L. Brash, R. Cornelius, A. Scholl and A. Doran, *Adsorption of albumin and fibrinogen on a chemically patterned surface*, Canadian Biomaterials Society annual meeting, London, ON, May 25-27, **2007**
- T176 K. Kaznatcheev, C. Karunakaran, M. Obst and A.P. Hitchcock, *Soft X-ray Spectromicroscopy Beamline at the CLS*, Synchrotron Radiation Instrumentation, LSU, Baton Rouge, LA, (April 25-27, **2007**)
- T175 Li Li, J. L. Brash, A.P. Hitchcock, A. Scholl and A. Doran, *pH Dependence of Albumin Spatial Distribution on a Patterned PS/PMMA Surface*, Society for Biomaterials, Chicago, April 18-21, **2007**.
- P174 James J. Dynes, Adam P. Hitchcock, Darren R. Korber, Tara Rema, Gary G. Leppard, George D.W. Swerhone, and John R. Lawrence, *Effects of Broad Spectrum Antimicrobial Agents on Pseudomonas fluorescens Biofilms*, ASM Biofilms meeting in Quebec City, March **2007**
- P173 S.G. Urquhart, U. D. Lanke, E. Christensen, R. Coulombe, S. Christensen, B. Haines, M. Paige, A. P. Hitchcock, P. Hitchcock, J. Stewart-Ornstein, B. Hall, K. Kenny, S. Chioveli, K. Kaznatcheev and C. Karunakaran, *First results from the X-ray photoelectron emission microscopy facility at the Canadian Light Source* Vth International PEEM-LEEM conference, Himeji, Japan, Oct 16-19, **2006**
- T172 G.A. Johansson, T. Tylliszczak and A.P. Hitchcock, *Chemical Tomography with STXM at the ALS*, ALS User Meeting., Oct 10, **2006**
- P171 D. Hernández Cruz, A. P. Hitchcock, M.M. West, M.-E. Rousseau and M. Pézolet, *Quantitative mapping of the β -sheet orientation in N. clavipes spider silk fibers by Scanning Transmission X-ray Microscopy* ALS User Meeting., Oct 10, **2006**
- P170 Jacob Stewart-Ornstein, Daniel Hernández Cruz, Adam Hitchcock, John Hale, Joerg Overhage, Kai Hilpert and Bob Hancock, J.J. Dynes, J.R. Lawrence, D.R. Korber and G.G. Leppard. *Predicting and verifying NEXAFS spectral standards for STXM mapping of antimicrobial peptides*. ALS User Meeting., Oct 10, **2006**
- T169 G. Cooper, A.P. Hitchcock, C.A. Chatzidimitriou-Dreismann and M. Vos, *Electron Compton scattering from methane and methane-d₄*, Scattering, Coincidence and Absorption Studies of Molecules (SCASM), Rio de Janeiro, Brazil, September 4-6, **2006**
- P168 I.G. Eustatiu, T. Tylliszczak, G. Cooper, A. P. Hitchcock, C.C. Turci, A.B. Rocha, M. Barbatti, and C.E. Bielschowsky, *Experimental and theoretical study of S 2p and C 1s spectroscopy in CS₂*, ICES-10, Foz d'Igacu, Brazil, Aug27-Sep3, **2006**

- P167 A.C.O. Guerra, J.B. Maciel, H. Ikeura-Sekigushi, C.C. Turci and A.P. Hitchcock, *Improved Quantitative Performance for a Time-of-Flight Mass Spectrometer using Multi-ion Coincidence Detection and Synchrotron Light*, ICESS-10, Foz d'Igacu, Brazil, Aug27-Sep3, **2006**
- P166 A.P. Hitchcock, *Soft X-ray spectromicroscopy – core excitation with sub-50 nm spatial resolution* ICESS-10, Foz d'Igacu, Brazil, Aug27-Sep3, **2006**
- T165 G. Cooper, J. Stewart-Ornstein and A.P. Hitchcock, *Design and performance of a novel (e,e+ion) spectrometer for studies of fragmentation of non-dipole states of gaseous molecules*, ICESS-10, Foz d'Igacu, Brazil, Aug27-Sep3, **2006**
- T164 G.A. Johansson, J.J. Dynes, A.P. Hitchcock, T. Tyliczszak, G.D. Swerhone and J.R. Lawrence, *Chemically sensitive 3D imaging at 50 nm spatial resolution using tomography in a scanning transmission x-ray microscope*, SPIE, San Diego, Aug **2006**.
- T163 Adam P. Hitchcock, Daniel Hernández-Cruz, Harald Stöver, Marie-Eve Rousseau and Michel Pézolet, *Soft X-ray spectromicroscopy of polymer and biomaterials: from analysis to synthesis*, 5th Synchrotron Radiation in Materials Science, Chicago, IL, Jul 30 – Aug 2, **2006**
- T162 G.A. Johansson, J.J. Dynes, A.P. Hitchcock, T. Tyliczszak, G.D. Swerhone and J.R. Lawrence, *Chemically Sensitive Tomography at 50 nm Spatial Resolution using a Soft X-ray Scanning Transmission X-Ray Microscope*, Microscopy and Microanalysis 2006, Chicago July 30-Aug 3, **2006**.
- T161 S.G. Urquhart, U. Lanke, K. Kaznatcheev, C. Karunakaran, A.P. Hitchcock, B. Hall, K. Kenny and S. Chiovelli, *X-ray Spectromicroscopy at the Canadian Light Source: Recent Scientific Results*, 89th Canadian Chemical Society, Annual Meeting, Halifax, NS, May 27-31, **2006**. (invited)
- P160 K. Kaznatcheev, A.P. Hitchcock, S.G. Urquhart, C. Karunakaran and U. Lanke, *Commissioning Report on the Soft X-ray Spectromicroscopy Beamline at CLS*, 89th Canadian Chemical Society, Annual Meeting, Halifax, NS, May 27-31, **2006**.
- T159 M.E. Rousseau, D. Hernández Cruz, M.M. West, M. Pézolet and A.P. Hitchcock, *Quantitative Mapping of the Orientation of β -sheets in Silk Fibers by Scanning Transmission X-ray Microscopy*, 89th Canadian Chemical Society, Annual Meeting, Halifax, NS, May 27-31, **2006**.
- P158 Li Li, A. P. Hitchcock, Rena Cornelius, John Brash, A. Scholl and A. Doran, *Adsorption of albumin on a phase segregated polystyrene/ polymethylmethacrylate surface*, Canadian Biomaterials Society annual meeting, Calgary, AB May 26-28, **2006**.
- T157 J.J. Dynes, A.P. Hitchcock, J.R. Lawrence, G.D.W. Swerhone, G.G. Leppard, T. Rema and D.R. Korber, *Antimicrobial Agents and their Effects on Bacterial Biofilms*, 2nd annual meeting of the Advanced Food and Materials Network, Calgary, April 30-May 2, **2006**.
- P156 K.P. Lee, A. Gopalan, K.S. Kim and A.P. Hitchcock, *Molecular level interactions between polyaniline and multiwall carbon nanotubes – a critical analysis*, Korean Chemical society Annual Meeting, Korea, 20,21 April **2006**
- P155 A. Gopalan, K.P. Lee, A.P. Hitchcock, K.M. Manesh and P. Santhosh, *Structure and morphology of electrospun blend nanofibrous mats*, Korean Chemical society Annual Meeting, Korea, 20,21 April **2006**
- P154 J. Wang, A.P. Hitchcock, H.D.H. Stöver, D. Hernández Cruz and T. Tyliczszak, *Chemically Selective Soft X-ray Lithography*, Materials Research society Spring Meeting, San Francisco, 17-21 April **2006**
- T153 A. Felten, C. Bittencourt, A.G. Brolo, D.H. Cruz, A.P. Hitchcock and J.-J. Pireaux, *Gold and Iron Nanoparticles embedded in plasma-polymerized matrix*, PacifiChem 2005, Honolulu 14-18 Dec **2005**.
- P152 J.J. Dynes, A.P. Hitchcock, J.R. Lawrence, G. Swerhone, G.G. Leppard and D.R. Korber, *Metal mapping in riverine biofilms with soft X-ray scanning transmission X-ray microscopy (STXM)*, CLS Users' Meeting, Saskatoon, Nov 19, **2005**
- P151 K. Kaznatcheev, A. P. Hitchcock and C. Karunakaran, *Commissioning Phase Highlights of Soft X-ray Spectromicroscopy Beamline at CLS*, CLS Users' Meeting, Saskatoon, Nov 19, **2005**

- P150 A.P. Hitchcock, J. Wang, L. Li, J. Stewart-Ornstein, H.D. Stöver, J.L. Brash and D. Guay, *Materials research with soft X-ray scanning transmission X-ray microscopy (STXM)*, CLS Users' Meeting, Saskatoon, Nov 19, **2005**
- P149 D. Hernández Cruz, A.P. Hitchcock, M.M. West, M.E. Rousseau and M. Pézolet, *Mapping protein crystallites in B. Mori cocoon silk fibers by Scanning Transmission X-ray Microscopy*, ALS User's meeting, Berkeley, 18 Oct **2005**
- P148 K. Kaznatcheyev, P. Dudin and A.P. Hitchcock, *Liquid crystal thin film texture probed by STXM*, ALS User's meeting, Berkeley, 18 Oct **2005**
- P147 A. P. Hitchcock, J. Wang, G.A. Botton and R.F. Egerton, *Quantitative dose-damage relationships for radiation damage to polymers and molecular compounds in X-ray and electron microscopes*, Microscopy & Microanalysis 2005, Honolulu, HI. July 31-Aug 4, **2005**
- T146 A. P. Hitchcock, G. Gao and H.D.H. Stöver, *Self-assembled, nano-structured 3-d polymer spheres: synthesis and chemical characterization by scanning transmission X-ray microscopy*, Microscopy & Microanalysis 2005, Honolulu, HI. July 31-Aug 4, **2005**
- P145 M.M. Reid, G. G. Leppard, J. J. Dynes, G. D. W. Swerhone, T. Tyliczszak, T. Araki, D. R. Korber, A. P. Hitchcock and J. R. Lawrence, *Characterizing Riverine Biofilms Using Scanning Transmission X-ray and Transmission Electron Microscopies*, Microscopy and Microanalysis 2005 Honolulu, HI. July 31 – Aug 4, **2005**
- P144 U.D. Lanke, A.P. Hitchcock, A.P. Hitchcock, J. Stewart – Ornstein, K.Kaznatcheev and S.G. Urquhart , *CaPeRS and LOX: Photoemission Electron Spectromicroscopy at the Canadian Light Source*, X-ray Microscopy 2005, Himeji, Japan, Jul 26-30, **2005**
- P143 J. Kikuma and A.P. Hitchcock, Distribution analysis of hydrophilic component in polysulfone hollow fiber using scanning transmission x-ray microscope (STXM), X-ray Microscopy 2005, Himeji, Japan, Jul 26-30, **2005**
- P142 N. Iwata, K. Tani, A.i Watada, H. Ikeura-Sekiguchi, T. Araki, A.P. Hitchcock, Mapping very similar chemical components in micron-scale organic particles by Scanning Transmission X-ray Microscopy, X-ray Microscopy 2005, Himeji, Japan, Jul 26-30, **2005**
- P141 W. Gates, and A.P. Hitchcock, *Soft X-ray STXM study of clay-salt interactions*, X-ray Microscopy 2005, Himeji, Japan, Jul 26-30, **2005**
- P140 J.J. Dynes, A.P. Hitchcock, J. R. Lawrence and G.G. Leppard, *Quantitative analysis of environmental biofilms with STXM*, X-ray Microscopy 2005, Himeji, Japan, Jul 26-30, **2005**
- P139 A.C.O. Guerra, C.C. Turci and A.P. Hitchcock, *Core level photofragmentation of Organic Acids and Esters studied by Quantitative, Multicoincidence Time-of-Flight Mass Spectrometry*, Int.l Workshop on Photoionization, Campinas, Brazil, July 27-31, **2005**
- P138 K.V. Kaznatcheyev, P. Dudin and A.P. Hitchcock, *Liquid crystal thin film texture, probed by X-ray spectromicroscopy*, 005 Canadian Society of Chemists conference, Saskatoon, May 31-Jun 5, **2005**
- P137 K.V. Kaznatcheyev, S.G. Urquhart and A.P. Hitchcock, *SpectroMicroscopy beamline at the CLS*, 2005 Canadian Society of Chemists conference, Saskatoon, May 31-Jun 5, **2005**
- P136 J. Wang and A.P. Hitchcock, *Inner Shell Excitation Spectroscopy of Biphenyl and Substituted Biphenyls* 2005 Canadian Society of Chemists conference, Saskatoon, May 31-Jun 5, **2005**
- P135 H. Jiang and A.P. Hitchcock, *Inner Shell Excitation Spectroscopy of Gaseous Amino Acids and Small Peptides*, 2005 Canadian Society of Chemists conference, Saskatoon, May 31-Jun 5, **2005**
- P134 L. Li, A.P. Hitchcock, J.L. Brash, N. Robar, A. Scholl and A. Doran, *Mapping protein adsorption on polymer blends using soft X-ray spectromicroscopy*, 2005 Canadian Society of Chemists conference, Saskatoon, May 31-Jun 5, **2005**
- P133 K.V. Kaznatcheyev, S. Urquhart and A.P. Hitchcock, *Soft X-Ray Spectromicroscopy Facility at the Canadian Light Source*, Microscopical Society of Canada, 32nd Annual Meeting, Hamilton, ON 18-20 May **2005**.
- T132 G. G. Leppard, M. M. Reid, J. J. Dynes, G. D. W. Swerhone, T. Araki, T. Tyliczszak, D. R. Korber, J. R. Lawrence, and A. P. Hitchcock, *Correlative Mapping of Biofilms Using Scanning*

- Transmission X-Ray And Transmission Electron Microscopies*, Microscopical Society of Canada, 32nd Annual Meeting, Hamilton, ON 18-20 May **2005**.
- T131 John R. Lawrence, James J. Dynes, Adam P. Hitchcock, M.M. West, G.G. Leppard, G.D.W. Swerhone, T. Tyliszczak and Tohru Araki, *Mapping of metal species in riverine biofilms using scanning transmission X-ray microscopy*, 2005 Goldschmidt conference, Moscow, Idaho, USA May 5-9, **2005**. [INVITED]
- T130. A. P. Hitchcock, G.A. Botton and R.F. Egerton, *Radiation damage in X-ray and electron microscopes*, EDGE05, Workshop on Electron Energy Loss Spectroscopy, Grundlee, May 1-5, **2005**
- P129 Adam P. Hitchcock, Tohru Araki, Hiromi Ikeura-Sekiguchi, Yasunobu Ueno, Noriyuki Iwata, Katsuhiko Tani, *Industrial applications of chemical mapping of polymers by STXM*, 27th Australasian Polymer symposium, Adelaide, Australia, 1-4 Dec **2004**.
- P128 James J. Dynes, Adam P. Hitchcock, Gary G. Leppard, George D.W. Swerhone, John R. Lawrence, and Darren R. Korber, *Effect of Antimicrobial Agents on Biofilm Structure and Chemistry*, 7th Annual CLS Users' Meeting, Saskatoon, 18 Nov **2004**
- P127 James J. Dynes, Adam P. Hitchcock, Marcia M. West, Gary G. Leppard, George D.W. Swerhone, John R. Lawrence, Tolek Tyliszczak and Tohru Araki, *Quantitative mapping of metal species in riverine biofilms using scanning transmission X-ray microscopy*, 7th Annual CLS Users' Meeting, Saskatoon, 18 Nov **2004**
- T126 James J. Dynes, Adam P. Hitchcock, Gary G. Leppard, George D.W. Swerhone, John R. Lawrence and Darren R. Korber, *Effect of Antimicrobial Agents on Biofilm Structure and Chemistry*, selected young investigator talk at the Advanced Light Source Users' Meeting, 18 Oct **2004** [INVITED]
- P125 K. Tani, N. Iwata, H. Ikeura-Sekiguchi, T. Araki and A.P. Hitchcock, *Observation of Phase separated polymer by STXM*, 8th Int. conf. on biology and Synchrotron Radiation, Himeji, Japan, 7-11 Sep **2004**.
- P124 N. Iwata, K. Tani, H. Ikeura-sekiguchi, T. Araki and A.P. Hitchcock, *Chemical component mapping of toner by Scanning Transmission X-ray Microscopy*, 8th Int. conf. on biology and Synchrotron Radiation, Himeji, Japan, 7-11 Sep **2004**.
- P123 T. Tyliszczak, A.L.D. Kilcoyne, J.A. Liddle, T. Warwick, A.P. Hitchcock, H. Ade and D.K. Shuh, *Scanning Transmission X-ray Microscopes at the Advanced Light Source: Performance and Experimental Capabilities*, Microscopy and Microanalysis 2004, Savannah, GA, Aug 1-4, **2004** [INVITED]
- P122 T.Tyliszczak, H.Ade, S. Fakra, B.Harteneck, A.P. Hitchcock, A.L.D.Kilcoyne, J.A.Liddle, D.K.Shuh and T. Warwick, *Scanning Transmission X-ray Microscopes at the Advanced Light Source: Performance and Scientific Capabilities* 14th International Conference on Vacuum Ultraviolet Radiation Physics, Cairns, Australia, July 26-31, **2004**
- P121 A. P. Hitchcock, G. Cooper, C.C. Turci and Maarten Vos, *Electron Compton scattering from methane and inelastic electron scattering from molecular nitrogen at variable impact energy and scattering angle*, 14th International Conference on Vacuum Ultraviolet Radiation Physics, Cairns, Australia, July 26-31, **2004**
- P120 A.P. Hitchcock, A.C. O. Guerra, J.B. Maciel, C.C. Turci and Hiromi Ikeura-Sekiguchi, *Ionic photofragmentation of C 1s excited and ionized formic acid*, 14th International Conference on Vacuum Ultraviolet Radiation Physics, Cairns, Australia, July 26-31, **2004**
- T119 S.G. Urquhart, U.D. Lanke, K. Kaznatcheev and A.P. Hitchcock, *Materials Chemistry with CaPeRS: The Canadian Photoemission Electron Research Microscope*, Canadian Society of Chemistry annual meeting, London, ON, May 29-Jun 1, **2004**
- P118 D. Loken, D. Lowe, K. Kaznatcheev and A.P. Hitchcock, *Scanning Transmission X-Ray Microscope (STXM) for the Soft X-Ray Beamline at the Canadian Light Source (CLS)*, Mechanical Design in Synchrotron Instrumentation, ESRF, Grenoble, May, **2004**

- T117 J.R. Lawrence, T. Araki, X. Zhang, M.M. West, G. D.W. Swerhone, G.G. Leppard, T.R. Neu, A.P. Hitchcock. 2004. *Scanning transmission X-ray mapping of microbial biofilms and associated metals*. 1st European Conference on Biofilm - Prevention of Microbial Adhesion Osnabrück, Germany, March 31 to April 2, **2004**. [INVITED]
- P116 Cynthia Morin, Adam Hitchcock, Rena Cornelius, John Brash, Andreas Scholl, Andrew Doran, *Soft X-Ray Spectromicroscopy of Blood Proteins on Patterned Polymer Substrates*, Chemical Biophysics Symposium, Toronto Mar 19-21, **2004**.
- T115 A.P. Hitchcock, T. Araki, X. Zhang, M.M. West, G. D.W. Swerhone, G.G. Leppard, T.R. Neu and J.R. Lawrence. 2003. *Scanning transmission x-ray mapping of microbial biofilms and associated metals*. ASM Biofilms 2003, November 1 - 7, **2003**, Victoria, BC
- P114 X. Zhang, T. Araki, A.P. Hitchcock, J.R. Lawrence and G.G. Leppard, *X-ray absorption spectroscopy of biologically relevant molecules: developing reference spectra for STXM spectromicroscopy*, ALS Users' meeting Oct 9, **2003**
- T113 T. Araki, X. Zhang, A.P. Hitchcock, F. Shen, P. Chang, M. Wang, and R. Childs, *Quantitative chemical mapping of polymer reinforcement of alginate microcapsules by soft X-ray spectromicroscopy*, Workshop on X-ray microscopy, ALS Users' meeting Oct 9, **2003**
- T112 J.R. Lawrence, T. Araki, X. Zhang, M.M. West, G. D.W. Swerhone, G.G. Leppard, T.R. Neu, and A.P. Hitchcock. 2003. *Comparative scanning transmission x-ray and laser scanning microscopy of microbial biofilms*. Invited Lecture, Advanced Light Source Users Workshop, Berkeley CA, Oct 6-7, **2003**. [INVITED]
- T111 J.R. Lawrence, T. Araki, X. Zhang, M.M. West, G. D.W. Swerhone, G.G. Leppard, T.R. Neu, and A.P. Hitchcock. 2003. *Application of synchrotron radiation (STXM) for mapping of biofilm exopolymers and associated metals*. ISEB XVI, September 1 - 6, 2003, Oirase in Towada Hachimantai National Park, Japan.
- T110 C. Morin, A.P. Hitchcock, A. Scholl, A. Doran, R. Cornelius and J.L. Brash, *Soft X-ray Spectromicroscopy of Blood Proteins on Patterned Polymer Substrates*, Chemical Society of Canada, IUPAC meeting, Ottawa, ON Aug 11, **2003**
- T109 C. Morin A.P. Hitchcock, T. Araki, A. Scholl and A. Doran, *Comparative radiation damage rates in scanning and full field X-ray microscopies*, Chemical Society of Canada, IUPAC meeting, Ottawa, ON Aug 11, **2003**
- P108 A. P. Hitchcock, G. Cooper, M.L. Gordon, C.C. Turci and K. Kaznatcheev, *C 1s, N 1s and O 1s spectra of glycine and related peptides: inner shell excitation spectroscopy of the peptide bond*, 9th Int. Conf on Electronic Structure and Spectroscopy, Uppsala, Sweden, Jun 28-Jul 2, **2003**.
- P107 A. P. Hitchcock, G. Eustatiu, G. Cooper, T. Tyliczszak, C.C. Turci, A.B. Rocha, M. Barbatti, and C.E. Bielschowsky, *Core excitation of COS and CS₂: S 2p and C 1s spectroscopy and generalized oscillator strengths*, 9th Int. Conf on Electronic Structure and Spectroscopy, Uppsala, Sweden, Jun 28-Jul 2, **2003**.
- P106 S.G. Urquhart, C. Morin, A.P. Hitchcock and K. Kaznatcheev, *Spectromicroscopy with the "CaPeRS" X-PEEM Microscope*, Int. conf. on X-ray Absorption Fine Structure, Lund, Sweden, Jun 21-26, **2003**
- T105 J.R. Lawrence, G.D.W. Swerhone, G.G. Leppard, T. Araki, M.M. West and A.P. Hitchcock. 2003. *Mapping biofilm constituents using scanning transmission X-ray microscopy*. Abstract, Canadian Society of Microbiologists Annual Meeting, Ville de Laval, Quebec, May 25-28, **2003**.
- P104 C. Morin, A.P. Hitchcock, D.G. Castner, A. Scholl, A. Doran, *X-Ray PhotoEmission Electron Microscopy of micro-contact printed protein and polymer coated surfaces*, 49th AVS meeting, Denver, CO, 4-8 Nov, **2002**
- P103 A.P. Hitchcock, C. Morin and S.G. Urquhart, *X-ray PhotoEmission Electron Microscopy of Polymeric Thin Films*, 49th AVS meeting, Denver, CO, 4-8 Nov, **2002**
- T102 G.E. Mitchell, I. Koprinarov, E.G. Rightor, S.G. Urquhart, H. Ade and A. P. Hitchcock, *Polymer Characterization by X-ray Spectromicroscopy*, 7th Int. Conf. X-ray Microscopy, Grenoble, France, 28 Jul-Aug 3, **2002**

- T101 L.M. Croll, C. Morin, I. Koprinarov, A. P. Hitchcock, H. D.H. Stöver, *Optimization of polymer capsules aided by Scanning Transmission X-ray Microscopy*, 7th Int. Conf. X-ray Microscopy, Grenoble, France, 28 Jul-Aug 3, **2002**
- P100 I. Koprinarov, G.E. Mitchell, E.G. Rightor, H. Ade and A.P. Hitchcock, *Applications of X-ray Microscopy to Industrial Polymer Science*, 7th Int. Conf. X-ray Microscopy, Grenoble, France, 28 Jul-Aug 3, **2002**.
- P99 T. Tyliczszak, P. Hitchcock, A.L.D. Kilcoyne, H. Ade, A.P. Hitchcock and T. Warwick, *Implementation of an Interferometric Control for Scanning Transmission X-ray Microscope*, 7th Int. Conf. X-ray Microscopy, Grenoble, France, 28 Jul-Aug 3, **2002**
- P98 A.L.D. Kilcoyne, T. Tyliczszak, P. Hitchcock, A.P. Hitchcock, T. Warwick and H. Ade, *Technical aspects of high spatial and energy resolution using a scanning transmission X-ray microscope*, 7th Int. Conf. X-ray Microscopy, Grenoble, France, 28 Jul-Aug 3, **2002**
- P97 T. Warwick, H. Ade, A.L.D. Kilcoyne, T. Tyliczszak, M. Kritscher, S.Fakra, A.P. Hitchcock, P. Hitchcock and H. Padmore, *A New Bend Magnet Beamline for Scanning Transmission X-ray Microscopy at the Advanced Light Source*, 7th Int. Conf. X-ray Microscopy, Grenoble, France, 28 Jul-Aug 3, **2002**.
- P96 A.P. Hitchcock, T. Araki, H. Ikeura-Sekiguchi, N. Iwata and K. Tani, *3-d Chemical Mapping of Toners by Scanning Transmission X-ray Microscopy*, 7th Int. Conf. X-ray Microscopy, Grenoble, France, 28 Jul-Aug 3, **2002**.
- P95 A.P. Hitchcock, T. Araki, H. Ikeura-Sekiguchi, N. Iwata, K. Tani, *3-d chemical imaging with STXM*, ALS Basic Energy Sciences review meeting, Berkeley, 4 Feb **2002**
- P94 A.P. Hitchcock, C. Morin, K. Kaznatcheyev*, H. Ade, A. Scholl, A. Doran, *Radiation Damage in X-ray Microscopy: Optimization of the ALS X-PEEM for Studies of Radiation Sensitive Materials*, ALS Users' Meeting, Berkeley, Oct **2001**
- P93 C. Morin, H. Ikeura-Sekiguchi, A.P. Hitchcock, A. Scholl, F. Nolting, A. Doran, G. Appel, D.A. Winesett, K. Kaznatcheyev, H. Ade, *X-ray Spectromicroscopy Studies of PS-PMMA blends*, ALS Users' Meeting, Berkeley, Oct **2001**
- T92 T. Warwick, H. Ade, S. Fakra, A.P. Hitchcock, P. Hitchcock, K. Kaznatcheyev, A.L.D. Kilcoyne, W.F. Steele and T. Tyliczszak, *New Scanning Transmission X-ray Microscopes at ALS*, SPIE, San Diego, July **2001**.
- P91 A.L.D. Kilcoyne, H. Ade, A.P. Hitchcock, P. Hitchcock, T. Tyliczszak, S. Fakra, K. Franck, W.F. Steele and T. Warwick, *Interferometric Scanning Transmission X-Ray Microscopy at the ALS*, *Synchrotron Radiation Instrumentation*, Aug **2001**, Madison.
- P90 T. Tyliczszak, P. Hitchcock, A.L.D. Kilcoyne, H. Ade, A.P. Hitchcock, S. Fakra, W.F. Steele and T. Warwick, *Control and Acquisition Systems for New Scanning Transmission X-Ray Microscopes at ALS*, *Synchrotron Radiation Instrumentation*, Aug **2001**, Madison.
- P89 G. Appel, D. Winesett, K. Kaznatcheyev, H. Ade, S. Stadler (NRL), A. Marsh, D. Fischer, A. Scholl, F. Nolting, J. Luning, C. Morin and A.P. Hitchcock, *Is there a PS-Skin on Annealed Polystyrene/Poly(methyl methacrylate) Samples?*, American Physical Society, March **2001**.
- P88 T. Tyliczszak, H. Ade, S. Fakra, K. Franck, A.P. Hitchcock, P. Hitchcock, A.L.D. Kilcoyne, W.F. Steele and T. Warwick, *New Scanning Transmission X-ray Microscopes at ALS*, ALS User meeting, October **2000**
- P87 A.P. Hitchcock, I.N. Koprinarov, T. Tyliczszak, H. Stöver, W.H. Li, J. R. Dutcher, C. Murray, K. Dalnoki-Veress and H. Ade, *X-ray Spectromicroscopy Studies of Polymer Microstructure*, ALS User meeting, October **2000**
- T86 C. Morin, A.P. Hitchcock, I. Koprinarov, T. Tyliczszak, Y.M. Heng, R. Cornelius, J.L. Brash and A. Scholl, *X-Ray Spectromicroscopy Studies of Protein-Polymer Interactions*, ALS User meeting, October 2000 (Student/pdf competition oral presentation)
- P85 C. Morin, A.P. Hitchcock, I. Koprinarov, R. Cornelius and J.L. Brash, *Soft X-ray Spectromicroscopy of Protein Adsorption on Polyurethanes*, AVS, Boston, Oct **2000**.
- P84 T. Tyliczszak, H. Ade, S. Fakra, K. Franck, A.P. Hitchcock, P. Hitchcock, A.L.D. Kilcoyne,

- W.F.Steele and T. Warwick, *Laser Interferometric Control of Scanning X-Ray Microscopes*, Synchrotron Radiation Instrumentation, Berlin Aug. **2000**
- P83 A.P. Hitchcock, I.G. Eustatiu, T. Tyliczszak, C.C. Turci, A.B. Rocha and C.E. Bielschowsy, *Generalized Oscillator Strength Profiles for Inner Shell Excitation of CO₂ Derived from Variable Angle Electron Energy Loss Spectroscopy*, 8th International Conference on Electron Spectroscopy and Structure, Berkeley, Aug **2000**.
- P82 A.P. Hitchcock, L.E. Ennis and J.F. Lehmann, *Transient ISEELS: a new probe of chemical reactions*, 8th International Conference on Electron Spectroscopy and Structure, Berkeley, Aug **2000**.
- P81 I. Koprinarov, A.P. Hitchcock, T. Tyliczszak, H. Stöver, W.H. Li, J R. Dutcher, C. Murray, K. Dalnoki-Veress and H. Ade, *X-ray Spectromicroscopy Studies of Polymer Microstructure*, 8th International Conference on Electron Spectroscopy and Structure, Berkeley, Aug **2000**.
- P80 G.E. Mitchell, L.R. Wilson, E.G. Rightor, M.T. Dineen, F. Hayes, S.G. Urquhart, A.P. Hitchcock, H. Ade, *Characterization of Microscopic Variation in Crosslink Density of Superabsorbent Polymers Using X-Ray Microscopy*, 6th Int. Conf. X-ray Microscopy , Berkeley, CA Aug **1999**
- P79 A.P. Hitchcock, T. Tyliczszak, I. Koprinarov, H. Stöver, W.H. Li, Y.M. Heng, K. Murti, P. Gerroir, J. R. Dutcher, K. Dalnoki-Veress and H.W. Ade, *X-ray Spectromicroscopy Studies of Polymer Microstructure*, 6th Int. Conf. X-ray Microscopy , Berkeley, CA Aug **1999**
- P78 A.P. Hitchcock, T. Tyliczszak, Y.M. Heng, R. Cornelius, J.L. Brash and H. Ade, *X-ray Spectromicroscopy Studies of Protein-Polymer Interactions*, 6th Int. Conf. X-ray Microscopy , Berkeley, CA Aug **1999**
- T77 E. G. Rightor, S. Urquhart, A. Hitchcock, H. Ade, G. Mitchell, A. Smith, R. Priester, W. Lidy, *Identification and Quantitation of Important Phases in Flexible Polyurethanes by X-Ray Spectromicroscopy*, 6th Int. Conf. X-ray Microscopy , Berkeley, CA Aug **1999**
- P76 A. P. Hitchcock, J.F. Lehmann, S.G. Urquhart and M. Denk "Core Excitation Spectra of Silylenes, Germylenes and Carbenes: Explaining the Exceptional Stability of Divalent Group 14 Ring Compounds", 12th Int. Conf on Vac. Ultraviolet Radiation Physics, San Francisco, Aug **1998**
- P75 A. P. Hitchcock, T. Tyliczszak, H. Ade, E.G. Rightor, G.E. Mitchell and T. Warwick, "NEXAFS Zone-plate Microscopy of Polymer Surfaces", 12th Int. Conf on Vac. Ultraviolet Radiation Physics, San Francisco, Aug **1998**
- P74 A.P. Hitchcock, S.G. Urquhart, H. Ade, E.G. Rightor, W. Lidy and T. Warwick, "Sub-micron Analysis of Multi-Phase Polymers using Core Excitation Spectra recorded with a Scanning Transmission X-Ray Microscope" 12th Int. Conf on Vac. Ultraviolet Radiation Physics, San Francisco, Aug **1998**
- P73 J.J. Neville, A. Jürgensen, R. G. Cavell, N. Kosugi, and A.P. Hitchcock, "The role of LS-coupling in the P 2p spectroscopy of phosphorous halides", 12th Int. Conf on Vac. Ultraviolet Radiation Physics, San Francisco, Aug **1998**
- P72 J.J. Neville, T. Tyliczszak, A. Jürgensen, R. G. Cavell, and A.P. Hitchcock, "Photofragmentation of OCS and SPF₃ at the S 1s and P 1s edges", 12th Int. Conf on Vac. Ultraviolet Radiation Physics, San Francisco, Aug **1998**
- P71 G. Mitchell, S.G. Urquhart, M. Dineen, E.G. Rightor, A.P. Hitchcock, H. Ade, W. Meyer-Ilse, T. Warwick and L. Wilson, "Characterization of Core/Shell structure in Superabsorbent Polymers using Transmission X-ray Microscopy", X-ray Microscopy of Synthetic and Natural Polymers, NIST, Gaithersburg, May 10, **1998**
- P70 A.P. Hitchcock, S.G. Urquhart, H.Ade, E.G. Rightor, W. Lidy and T. Warwick, "Quantitative Sub-micron Analysis of Multi-phase polymers using STXM", X-ray Microscopy of Synthetic and Natural Polymers, NIST, Gaithersburg, May 10, **1998**
- P69 E.G. Rightor, S.G. Urquhart, A.P. Hitchcock, H.Ade, A. Smith, G. Mitchell and W. Lidy, "Urea Precipitates in Polyurethanes: A challenging application for X-ray Spectromicroscopy", X-ray Microscopy of Synthetic and Natural Polymers, NIST, Gaithersburg, May 10, **1998**

- P68 A.P. Hitchcock, “*AXIS – Analysis of X-ray Images and Spectra*”, X-ray Microscopy of Synthetic and Natural Polymers, NIST, Gaithersburg, May 10, **1998**
- P67 A.P. Hitchcock, S.G. Urquhart, H.Ade, E.G. Rightor, W. Lidy and T. Warwick, “*STXM Investigation of co-polyol polymer (CPP) particles in polyurethanes*”, X-ray Microscopy of Synthetic and Natural Polymers, NIST, Gaithersburg, May 10, **1998**
- T66 T. Warwick, H. Ade, S. Cerasari, J. Denlinger, A. Garcia, S.Hayakawa, A. Hitchcock, J. Kikuma, J. Kortright, M. Moronne, E.G. Rightor, E. Rotenberg, S. Seal, H-J. Shin, R. Steele and B. Tonner, *Scanning Zone-plate X-ray Microscopes for Materials Analysis at the Advanced Light Source*, 9th Intl. Conf. Modern. Materials. Techn., Italy (**1998**)
- P65 A P. Hitchcock, J.T. Francis, U.G. Eustatiu and C.C. Turci, *Electron Impact Core Excitation of Molecules: Non Dipole Spectroscopy and Generalized Oscillator Strengths*, 7th Int. Conf. on Electron Spectroscopy, Chiba, Japan (Sep-**1997**).
- P64 A.P. Hitchcock, S.G. Urquhart, E.G. Rightor, A.P. Smith, H. Ade and T. Warwick, *Microanalysis of Polymers Using Inner-shell Excitation in Scanning X-ray Transmission Microscopes*, 7th Int. Conf. on Electron Spectroscopy, Chiba, Japan (Sep, **1997**).
- T63 A. P. Hitchcock, *Ionic Fragmentation of Inner-shell Excited Molecules*, 7th Int. Conf. on Electron Spectroscopy, Chiba, Japan (Sep, **1997**).
- T62 T. Warwick, H. Ade, S. Cerasari, J. Denlinger, A. Garcia, S.Hayakawa, A. Hitchcock, J. Kikuma, J. Kortright, M. Moronne, E.G. Rightor, E. Rotenberg, S. Seal, H-J. Shin, R. Steele and B. Tonner, *Scanning Zone-plate X-ray Microscopes for Materials Science Spectromicroscopy at the Advanced Light Source*, Synchrotron Radiation Instrumentation, **1997**, Himeji, Japan.
- T61 A.P. Hitchcock, S.G. Urquhart, E.G. Rightor, W. Lidy, H. Ade, A.P. Smith and T. Warwick, *Quantitative Chemical Analysis of Sub-micron Phase Segregation in Polyurethane Polymers by Soft X-ray Spectromicroscopy* (Microscopy and Microanalysis'97, Cleveland, Aug, **1997**)
- T60 S.G. Urquhart, A.P. Hitchcock, M.A. Brook, C.C. Turci, and M. Denk, *p-Delocalization in Organosilanes: A Core Excitation Spectroscopy Investigation*, CSC-97, Chemical Society of Canada, (Windsor, Jun 1-3, **1997**)
- P59 T. Tylliszczak, A.P. Hitchcock and J.C. Aubry,; Z.H. Lu, J.M. Baribeau and T.E. Jackman, *Combined Si-K and Ge-K XAFS Study of the Si-Ge Bond Length in $\text{Si}_x\text{Ge}_{1-x}$ Single Crystal Alloys* CSC-97, Chemical Society of Canada, (Windsor, Jun 1-3, **1997**)
- T58 S.G. Urquhart, A.P. Hitchcock, E.G. Rightor, H. Ade and A.P. Smith *Chemical Speciation by NEXAFS Spectro-microscopy: Insights from Molecular Modeling of Polymers*, CSC-97, Chemical Society of Canada, (Windsor, Jun 1-3, **1997**)
- P57 T. Tylliszczak, A.P. Hitchcock, J. Aubry, Z.H. Lu, J.M. Baribeau and T.E. Jackman, *XAFS Study of the Si-Ge bond length in Strained and Relaxed $\text{Si}_x\text{Ge}_{1-x}$ single crystal thin films*, Surface Canada '97 (Sherbrooke, May 24, **1997**).
- P56 T.Tylliszczak, A.P. Hitchcock, S. Wu and J. Lipkowski, *in-situ X-ray Absorption Spectroscopy of Electrode Surfaces*, IX XAFS Int. Conf., Grenoble, Aug, **1996**.
- P55 S.G. Urquhart, A.P. Hitchcock, E.G. Rightor and H. Ade, *Polymer Chemical Speciation by NEXAFS Spectromicroscopy: Insights from Molecular Modelling*, symposium on "Applications of SR to Materials Science", 1996 Spring meeting of the MRS (San Francisco, Apr 8, **1996**)
- P54 A.P. Hitchcock, S.G. Urquhart and M. Denk, *Inner-shell Excitation and ionic fragmentation spectroscopy of $\text{Si}(\text{NBu}^t\text{CH}_2\text{NBu}^t)$: delocalisation in a stable silylene*, Pacific Basin Chemistry Conference, Honolulu, Dec 19, **1995**
- P53 S.G. Urquhart, M. Denk and A.P. Hitchcock, *Probing Delocalisation in Silylenes by Core Excitation Spectroscopy*, Chemical Physics Conference, Waterloo, Nov 4, **1995**
- P52 S. Wu, J. Lipkowski, T. Tylliszczak and A.P. Hitchcock, *Coadsorption of Cu and anions at the $\text{Au}(111)/\text{electrolyte}$ interface - an in situ study using EXAFS and XANES*, Surface Canada '95, Waterloo, Ont. (May 25-27, **1995**).

- P51 T. Tylliszczak, A.P. Hitchcock, S. Wu and J. Lipkowski, *Polarisation Dependent Cu-K XAFS of co-adsorption of Cu and Cl on the Au(111) Electrode Surface*, 78th CSC, Guelph, Ont (May 28-Jun-1, 1995)
- P50 J.T. Francis, T. Tylliszczak, A.P. Hitchcock, C.C. Turci, G.G.B. deSouza, *Electron Impact core Excitation of SF₆: Non-dipole Spectroscopy and Generalised Oscillator Strengths*, 78th CSC, Guelph, Ont (May 28-Jun-1, 1995)
- P49 J. Aubry, A.P. Hitchcock, B. Robinson and T. Tylliszczak, *Extended X-ray Absorption Fine Structure Studies of In_{1-x}Ga_xAs_yP_{1-y} Alloys*, 78th CSC, Guelph, Ont (May 28-Jun-1, 1995)
- P48 S.G. Urquhart, M. Denk and A.P. Hitchcock, *Probing Delocalisation in a Stable Silylene: Core Excitation Spectroscopy of Si(NBu^tCHCHNBe^t)*, 78th CSC, Guelph, Ont (May 28-Jun-1, 1995)
- P47 A.P. Hitchcock, T. Tylliszczak, T.E. Jackman, J.-M. Baribeau, Z.H. Lu and D.J. Lockwood, *Studies of Strained Si-Ge Alloys using Si-K and Ge-K X-ray Absorption Spectroscopy*, 41st American Vacuum Society meeting, Denver, CO, Oct 24-28, 1994.
- P46 T. Tylliszczak, A.P. Hitchcock, S. Wu and J. Lipowski, *Polarisation Dependent Cu-K XAFS of co-adsorption of Cu and Cl on a Au(111) Electrode Surface*, XAFS VIII, Aug 28-31, 1994.
- T45 T. Tylliszczak, A.P. Hitchcock, Z.H. Lu, J.M. Baribeau and T.E. Jackman, *X-ray Absorption Studies of Strain in Si_xGe_{1-x} alloy and [(Si)_m(Ge)_n]_p Atomic Layer Superlattice Films*, Symposium on "Interface Formation and Dynamics in Layered Structures", at Scanning Microscopy 1994, Toronto, May 7-12, 1994.
- T44 E.G. Rightor, G. Mitchell, R. Leapman, S. Urquhart, A. Hitchcock, D. Fischer, J. Hunt and J. Gland, *Polymer Characterisation in the STEM by EELS and Comparison to Synchrotron and Gas Phase EELS Results*, Microscopic Analysis Society, Los Angeles, July 1993.
- T43 E. Rühl, C. Heinzl, S. Rabe, H. Baumgartel, A.P. Hitchcock, H.C. Schmelz, C. Reynaud, P. Morin and M. Lavalloee, *Core Excitation in Clusters*, Molecular Beams, Berlin, May 1993
- T42 E. Rühl, C. Heinzl, H. Baumgartel, W. Drube and A.P. Hitchcock, *Ar 2p and Ar 1s Spectroscopy of Free Argon Clusters*, Proc. of XAFS-VII, Kobe, Japan, Aug 23-29, 1992.
- T41 T. Tylliszczak, P. Aebi, A.P. Hitchcock, T.E. Jackman, J.-M. Baribeau and D.J. Lockwood, *Simultaneous Multiple file EXAFS Analysis: Methodology and Application to Buried Ge-Si Interfaces* Proc. of XAFS-VII, Kobe, Japan, Aug 23-29, 1992
- T40 E. Rühl, H.W. Jochims, C. Schmale, E. Biller, A.P. Hitchcock and H. Baumgärtel, *Core Level Excitation in Clusters*, 74th Can. Chem. Conf., Hamilton, Jun 2-6, 1991.
- T39 G. Denes, Y.H. Yu, T. Tylliszczak and A.P. Hitchcock, *Sn-K, Pb-L₃ and Ba-L₃ EXAFS, X-ray diffraction and Mössbauer Studies of Ordered MSnF₄ (M=Pb and Ba) Fluoride Ionic Conductors with the α-PbSnF₄ Structure*, 74th Can. Chem. Conf., Hamilton, Jun 2-6, 1991.
- P38 R.S. DeWitte, J.M. Esbroeck, A.P. Hitchcock, C.L. French, R.T. Oakley and N.P.C. Westwood, *Quinoid versus Aromaticity: A Valence and Inner-shell electronic and Photoelectron Spectroscopic Study*, 74th Can. Chem. Conf., Hamilton, Jun 2-6, 1991.
- P37 J.T. Francis, A.T. Wen and A.P. Hitchcock, *C and O K-shell Excitation of Phenol, Hydroquinone and p-Benzoquinone Studied by Gas Phase ISEELS*, 74th Can. Chem. Conf., Hamilton, Jun 2-6, 1991.
- P36 A.T. Wen, E. Rühl and A.P. Hitchcock, *Inner-shell Excitation of Organo-Transition Metal Complexes*, 74th Can. Chem. Conf., Hamilton, Jun 2-6, 1991.
- T35 T. Tylliszczak, P. Aebi, A.P. Hitchcock and T.E. Jackman, *X-ray Absorption Spectroscopy of Single Crystal Semiconductor Materials Using Electron Yield Detection*, 74th Can. Chem. Conf., Hamilton, Jun 2-6, 1991.
- T34 T. Tylliszczak, P. Aebi and A.P. Hitchcock, *Inner-shell Excitation of Surface Adsorbates by Reflection EELS*, Surface Canada '91, Peterborough, Ont May 28-30, 1991.
- P33 P. Aebi, T. Tylliszczak, A.P. Hitchcock, T.E. Jackman, J.-M. Baribeau and D.J. Lockwood, *Interface Structure of Si_mGe_n Superlattices Studied by X-ray Absorption Spectroscopy*, Surface Canada '91, Peterborough, Ont May 28-30, 1991.

- P32 M. Szymonski, T. Tyliszczak, P. Aebi and A.P. Hitchcock, *The Growth and Properties of Thin Epitaxial Layers of NaCl Deposited on Ge(100) Surface*, Surface Canada '91, Peterborough, Ont May 28-30, **1991**.
- T31 P. Aebi, T. Tyliszczak, A.P. Hitchcock, T.E. Jackman and J.-M. Baribeau, *X-ray Absorption Fine Structure Studies of Buried Ge-Si Interfaces*, 37th Nat. Sym. American Vacuum Society, Toronto, Oct 8-12, **1990**.
- T30 T. Tyliszczak, P. Aebi and A.P. Hitchcock, *Reflection Electron Energy Loss Studies of Core Electronic Excitation of Chemisorbed Molecules*, 37th Nat. Sym. American Vacuum Society, Toronto, Oct 8-12, **1990**.
- P32 F.J. Esposto, P. Aebi, T. Tyliszczak, A.P. Hitchcock, M. Kasrai, J.D. Bozek, T.E. Jackman and S.R. Rolfe, *Boron K-shell spectroscopy of boron-doped silicon*, 37th Nat. Sym. American Vacuum Society, Toronto, Oct 8-12, **1990**.
- P31 A.P. Hitchcock, P. Aebi and T. Tyliszczak, *EXAFS Studies of Dopants in Single Crystal Semiconductors*, CHESS Users meeting, Cornell University, June 19-20, **1990**.
- P30 T. Tyliszczak, A.P. Hitchcock and T.E. Jackman, *X-ray Absorption Studies of As-low-energy Ion Implanted into Si(100) Grown by Molecular Beam Epitaxy*, 36th Nat. Symp. of the American Vacuum Society, Boston, Oct 23-27, **1989**.
- T29 T. Tyliszczak and A.P. Hitchcock, *Near Edge Electron Energy Loss Fine Structure (NEELFS): Core Excitation of Chemisorbed Molecules in the Laboratory*, 36th Nat. Symp. of the American Vacuum Society, Boston, Oct 23-27, **1989**.
- P28 T. Tyliszczak, A.P. Hitchcock and M. De Crescenzi, *"Origin and Structural Sensitivity of Extended Fine Auger Structure"*, 4th Int. Conf. on Electron Spectroscopy (Hawaii, July, **1989**)
- P27 T. Tyliszczak and A.P. Hitchcock, *"Surface Anisotropy Probed by Angle-resolved Reflection Inner-shell EELS"*, 4th Int. Conf. on Electron Spectroscopy (Hawaii, July, **1989**)
- T26 N. Kosugi, S. Bodeur and A.P. Hitchcock, *Bond-Angle and Bond-length Dependence of bound State Resonances in Inner-shell Excitation Spectra of SF₄*, 4th Int. Conf. on Electron Spectroscopy (Hawaii, July, **1989**)
- P25 A.P. Hitchcock, B.P. Hollebone and T. Tyliszczak, *"Extended Fine Structure of Gases Studied by Inelastic Electron Scattering"*, 4th Int. Conf. on Electron Spectroscopy (Hawaii, July, **1989**)
- T24 T. Tyliszczak and A.P. Hitchcock, *"Advances in Inner-shell Excitation Spectroscopy of Surface Adsorbates"* 9th Int. Conf. of Vacuum UV Radiation Physics (Hawaii, July, **1989**)
- T23 A.P. Hitchcock, E. Rühl and A.T. Wen, *"K-shell Excitation Spectroscopy of Gas Phase Organometallic Compounds"*, 72nd Can. Chem. Conf. (Victoria, BC, June, **1989**)
- P22 T. Tyliszczak, J.A. Sawicki and A.P. Hitchcock, *"EXAFS Studies of Diffused and Implanted Single Crystal Semiconductors"*, Surf. Canada '89 (Vancouver, Jun, **1989**)
- T21 A.P. Hitchcock and T. Tyliszczak, *"Reflection Inner-shell Electron Energy Loss Spectroscopy of Metallic and Organic Adsorbates"*, Surface Canada '89 (Vancouver, June **1989**)
- T20 M. De Crescenzi, A.P. Hitchcock and T. Tyliszczak, *"Temperature and Core Hole Dependence of EXFAS: The Auger Extended Fine Structure of Ag(111)"*, Auger and Related Techniques, Taormina, Italy, Sept, **1988**
- T19 M. De Crescenzi, A.P. Hitchcock and T. Tyliszczak, *"Temperature and Core Hole Dependence of EXFAS: The Auger Extended Fine Structure of Ag(111)"*, XII Ann. Meeting on Advances in Surface and Interface Physics, Modena, Italy, Dec., **1987**
- T18 T. Tyliszczak, A.P. Hitchcock and M. De Crescenzi, *"The Cu/Ag(111) Interface Studied by SEELFS Spectroscopy at Grazing Incidence"*, XII Ann. Meeting on Advances in Surface and Interface Physics, Modena, Italy, Dec., **1987**
- P17 T. Tyliszczak, A.P. Hitchcock and A.H. Kitai, *"Electron-Yield EXAFS Using a Gas-Flow Electron Detector: Studies of Mn-ZnS Phosphors"*, New Opportunities in Chemistry: An Int. Symposium on Synchrotron Radiation in Chemistry, Brookhaven National Lab, Upton, USA, Nov., **1987**

- P16 A.P. Hitchcock, S. Bodeur and M. Tronc, *"Sulfur K-Shell Absorption Spectroscopy of Gases"*, New Opportunities in Chemistry: Int. Symposium on Synchrotron Radiation in Chemistry, Brookhaven National Lab, Upton, USA, Nov., **1987**
- P15 A.P. Hitchcock, P. Lablanquie, P. Morin and I. Nenner, *"Ionic Fragmentation of K-Shell Excited and Ionized CO"*, New Opportunities in Chemistry: An Int. Symposium on the Uses of Synchrotron Radiation in Chemistry, Brookhaven National Lab, Upton, USA, Nov., **1987**.
- P14 A.P. Hitchcock and R. McLaren, *"K-Shell Excitation Spectra of Fluorinated Molecules Studied by Electron Energy Loss Spectroscopy"*, 8th Int. Conf. on Vac UV Radiation Physics, Lund, Sweden, Aug. 1, **1986**.
- P13 A.P. Hitchcock, I. Ishii and D.C. Newbury, *"Inner-Shell Spectroscopy of Heterocyclic Molecules"*, 8th Int. Conf. Vac. UV Rad. Phys., Lund, Sweden. Aug. 1, **1986**.
- T12 A.P. Hitchcock, P. Fischer and R. McLaren, *"Resonances in the K-Shell Spectra of Fluorinated Organic Molecules"*, NATO Advanced Study Institute, Les Houches, France, Jun. 16, **1986**
- P11 A.P. Hitchcock, C.J.L. Lock and B. Lippert, *"Pt L₃ EXAFS of Pt-base Model Compounds and [(NH₃)₂Pt(OH)₂Pt(NH₃)₂] Bound to DNA"*, Prog.in X-ray Studies by Synchrotron Radiation, Strasbourg, Apr. **1985**
- T10 A.P. Hitchcock, D. C. Newbury and J. Stöhr, *"Bond Length Determination from Near Edge Resonances"*, Prog. in X-ray Studies by Synchrotron Radiation, Strasbourg, Apr. **1985**
- P9. A.P. Hitchcock and J. Stöhr, *"Molecular Geometry from K-Shell Resonances in Inelastic Electron Scattering Spectra"*, XIV Int. Conf. on Elect. and Atomic Coll., Stanford, Jul. **1985**
- P8. A.P. Hitchcock, D. C. Newbury, A. L. Johnson, J. L. Horsley and J. Stöhr, *"Inner-Shell Spectra of Benzene, Pyridine and Cyclohexane Studied by keV Electron Impact"*, XIV Int. Conf. on Elec. and Atomic Coll., Stanford, Jul. **1985**
- T7. A.P. Hitchcock, *"K-Shell Spectroscopy of Molecules: Bond Lengths from Sigma Shape Resonances"*, CAN-AM Chemical Conference, Montreal, Canada, June 6, **1984**.
- T6. A.P. Hitchcock, *"K-Shell Ionization of Molecules - Bond Lengths from Continuum Shape Resonances"*, Atomic and Molecular Physics Division, CAP. Fall Meeting, Waterloo, October, **1983**.
- P5. C.E. Brion, S. Daviel and A.P. Hitchcock, *"A New High Performance Electron Energy Loss Spectrometer for Valence and Inner Shell Molecular Electronic Spectroscopy"*, Int. Conf. on Physics of Electron and Atomic Collisions. Berlin, July, **1983**.
- P4. A.P. Hitchcock, M. Turner, M.L. Martens, B. Lippert and C.J.L. Lock, *"EXAFS of Pt-DNA and Pt-base Model Compounds"*, Coordination Chemistry and Cancer Chemotherapy, Vermont, **1983**.
- P3. A.P. Hitchcock, *"EXAFS of Pt-DNA complexes"*, (June 2, **1982**) Chemical Institute of Canada, Toronto.
- P2. A.P. Hitchcock, *"PES Studies of Thermolysis of Oxadiazoline"*, (June 1, **1982**) Chemical Institute of Canada, Toronto.
- T1. A.P. Hitchcock and C.E. Brion, *"Fluorine K-shell Spectra of HF and F₂"* (July 16, **1980**) Gordon Conference on Electron Spectroscopy.

E. Training workshops on aXis2000 (software for processing spectromicroscopy data)

- 2007.06.15 CSC annual meeting, Edmonton, AB, Canada
- 2012.11.25 Australian synchrotron annual meeting, Melbourne, AU
- 2014.05.21 CLS annual meeting, Saskatoon, SK, Canada
- 2016.05.10 Soleil, Paris, France
- 2018.06.11 Soleil, Paris, France
- 2018.09.18 STXM-PEEM workshop, Australian synchrotron, Melbourne, AU

F. Other Presentations (invited talks at academic and industrial institutions)*"Inner Shell Excitation of Molecules by Electron Impact"*

- May 23, 1980 University of Western Ontario (Chem.)
- May 21, 1981 Cornell University (Appl. & Eng. Physics)
- Jul 22, 1981 Waterloo University (Chemical Physics)

"K-Shell Spectroscopy of Molecules"

- Nov 1, 1984 University of Maryland (Chem.)
- Nov 2, 1984 Exxon Research & Eng. Co., Annandale N.J.
- Nov 29, 1984 University of Toronto (Chem.)

"Structural Studies by X-ray Absorption Spectroscopy"

- Oct 10, 1985 Guelph University (Chem.)
- Dec 11, 1985 Universite de Montreal (Chem.)
- Dec 12, 1985 Universite de Sherbrooke (MRC Group).
- Mar 19, 1986 University of Western Ontario (Chem.)

"Inner-Shell Excitation of Complex Molecules: Towards an Understanding of σ^ States"*

- Oct 6, 1986 Univ. of Siegen, Germany. (Theor. Chem.)
- Nov 9, 1987 AT&T Bell Laboratories, New Jersey

"Bond Length Determination from the Near Edge Spectra of Molecules"

- Sep 20, 1986 Daresbury Synchrotron Lab., England.
- Oct 3, 1986 University of Rome II, Italy. (Phys)
- Oct 5, 1986 BESSY, West Berlin, Germany
- Oct 31, 1986 Meudon, France
- Jan 19, 1987 LURE, Univ. Paris-Sud, France
- Feb 5, 1987 Inst. for Nucl. Research, Karlsruhe, Germany
- Mar 30, 1987 Univ. of Liege, Belgium. (Chem)

"Structures of Gases and Surfaces from Near Edge and Extended Fine Structure in Electron Energy Loss Spectra"

- Jun 26, 1986 Lyon, France
- Oct 4, 1986 CNR, Montelebrite, Italy
- Feb 2, 1987 Univ. Paris-Sud, France
- May 8, 1987 Free University, W. Berlin, Germany. (Phys)

"Excitation en Couche Interne de Molecules par Perte d'Energie d'Electron"

- Feb 10, 1987 Univ. P. et M. Curie, Paris, France (Chem. Phys.)
- Mar 30, 1987 Univ. of Liege, Belgium. (Chem)

"Reference Energies for NEXAFS Bond Length - σ^ Resonance Relationships"*

- May 7, 1987 Free University, W. Berlin, Germany (Physics)

"Surface Structure Studied by Reflection Electron Energy Loss Spectroscopy"

- Nov 18, 1987 Trent University (Physics)
- May 11, 1988 Univ. P. et M. Curie, Paris, France (Chem. Phys.) (in French)

"Photoionization and Photodissociation of Core Excited Molecules"

- Nov 25, 1987 Waterloo University (Chem. Phys.)
- Jan 7, 1988 McMaster University (Chem)
- May 18, 1988 Univ. P. et M. Curie, Paris, France (Chem. Phys.) (in French)
- May 25, 1988 Labo. de Collisions, Univ. Paris Sud, Orsay, France (")

"Extended Fine Structure Spectroscopies"

- Feb 7, 1989 University of British Columbia (Chemistry)
- Feb 9, 1989 Arizona State University (Physics)

"ISEELS of Molecules: Connections to Polymer Characterisation"

- Feb 10, 1989 Dow Polymer Research (Houston, TX)

"Studies of the Local Structure of Dopants in Semiconductors by X-ray Absorption Fine Structure Techniques"

Mar 14, 1989 National Research Council (Physics)
"Studies of Organometallic Compounds by ISEELS"
Nov. 1, 1989 Syracuse University (Physics)
Apr. 5, 1990 Indiana University (Chemistry)
Jun. 9, 1991 Simon Fraser University (Chemistry)
Jul 20, 1991 Fritz-Haber Institute, Berlin
Oct. 4, 1991 Concordia University (Chemistry)
"Inner-shell Excitation in the Soft X-ray Region"
Feb. 9, 1990 University of British Columbia (Chemistry)
"Molecular Inner-shell Spectroscopy by Electron Impact and Synchrotron Radiation Excitation"
Apr. 3, 1991 Daresbury Laboratory, England
Apr. 9, 1991 Cambridge University (Chemistry)
"Core Excitation in Organo-Transition Metal Complexes: What can we learn about Chemisorption?"
Jun 28, 1991 Technical University, Munich (Physics)
Jul 10, 1991 Free University, Berlin (Chemistry)
"Synchrotron Radiation: What's so exciting about doing Research at 3 a.m.?"
Jun. 8, 1991 Simon Fraser University
"X-ray Absorption Studies of Si-Ge Interfaces using Synchrotron Radiation"
Dec 16, 1991 Northern Telecom Electronics, Group IV Materials workshop
"X-ray Absorption Spectroscopy of Atomic and Molecular Clusters"
Mar. 8, 1992 Carleton University (Chemistry)
Sep. 1, 1992 Photon Factory, KEK, Tsukuba, Japan
"Core Electronic Excitation by Reflection EELS"
Sep. 2, 1992 Dept. of Materials Science, Yokohama University, Japan
"Inner-shell Spectroscopy by Electron and Photon Impact: Applications to Materials Research"
Oct. 21 1992 IMR, McMaster University
"Inner-shell Spectroscopy of Molecules and Clusters"
Mar 4, 1994 Chemistry, Dalhousie
"X-ray Absorption of Si-Ge Alloys and Atomic Layer Superlattices",
Sep 9, 1994 Advanced Light Source, Lawrence-Berkeley Lab
"Ionic Fragmentation of Core-excited molecules and cluster beams",
Apr 7, 1995 Advanced Light Source, Lawrence-Berkeley Lab
"Polymer Analysis by Synchrotron and Electron Impact Core Excitation"
Jun 7, 1995 Dow Chemical USA, Midland, MI
"Chemical Analysis by X-ray Spectromicroscopy using Synchrotron Radiation"
Oct 13, 1995 Chemical Physics, Waterloo University, Waterloo
Mar 14, 1996 Chemistry, McMaster University, Hamilton
Jul 30, 1996 National Light Source, Campinas, Brazil
Oct 20, 1997 Chemistry, McMaster University
Jan 23, 1998 Xerox Research Centre of Canada, Mississauga
May 12, 1998 Microscopy Section, ORNL, Oak Ridge, TN
Oct. 10, 1998 Research Department, Solutia, Pensacola, Florida
"Core excitation spectroscopy: molecular models and X-ray spectromicroscopy"
Nov 13, 1995 Dow Chemical USA, Freeport, TX (polyurethanes Workshop1)
"Analysis of polyurethanes using X-ray spectromicroscopy"
Nov 11, 1996 Dow Chemical USA, Freeport, TX (polyurethanes Workshop 2)
Jan 26,27 1998 Dow Chemical USA, Freeport, TX (polyurethanes Workshop 3)
"Spectromicroscopie avec rayons-X mous: Situation presente et le futur au Centre de Rayonnement Synchrotron Canadien"
Dec 8, 1995 Reunion annuel de la societe microscopist du Quebec, Montreal, QC
"Recent Advances in Inner-shell Excitation by Electron and Photon Impact"

- Jul 22,23,24, 1996 - 9 hour course, Chemistry, Federal University of Rio de Janeiro, Brazil
 Jul 29,30,31, 1996 - 9 hour course, Chemistry, Federal University of Sao Carlos, Brazil
"Inner-shell Spectroscopy and Ionic Fragmentation of Molecules Studied by Time-of-flight and Coincidence Techniques"
 Feb 28, 1997 Chemistry, University of Alberta, Edmonton
"Low-Z Materials Analysis Using Soft X-ray Spectromicroscopy"
 Sep 4, 1997 Chemistry, Nagoya University, Nagoya, Japan
 Sep 4, 1997 Institute for Molecular Sciences, Okazaki, Japan
 Sep 5, 1997 Chemistry, Chiba University, Chiba, Japan
"Synchrotron Radiation Research - current Trends and Prospects at the Canadian Light Source"
 Oct. 15, 1998 Physics, Queen's University
 Feb 12, 1999 Steacie Institute, NRC, Ottawa
"Spectromicroscopy of Polymers"
 Oct 10, 1998 Solutia, Pensacola, FL
 Jun 3, 1999 ALS Divisional Review
 Feb 2, 2000 Basic Energy Sciences Review, ALS, Berkeley, CA
"Inner-shell Spectroscopy of atoms and molecules: What may we learn with Chandra (AXAF) ?"
 Feb 17, 1999 Physics & Astronomy, U. Wisconsin-Madison
"Inner-shell Excitation Spectroscopy: Interpretational Perspectives"
 Jun 17,24, 1999 Advanced Light Source, Berkeley, CA (2 lectures)
"Canadian Light Source: Perspectives and Procedures"
 Sep 18, 1999 McMaster University
Centre Candien de Rayonnement synchrotron: Perspectives et Procédures
 Sep 20, 1999 Université de Montréal
 Sep 21, 1999 Université Laval, Québec
"How Synchrotron Light can affect everyday life"
 Sep 29, 1999 Saskatoon Public Library
"Chemical Applications of Synchrotron Radiation - is the CLS part of your future?"
 Nov 26, 1999 McMaster Chemistry club
"CLS - the User's perspective"
 Dec 1, 1999 Ottawa, Innovation Canada Workshop
Études des surfaces et interfaces par absorption rayons-X avec rayonnement synchrotron
 Dec 7, 1999 SIMA-2, Entretiens Jacques Cartier, Lyon, France
"Photoionization Dynamics via Core Ionization Mass Spectrometry: from CSRF to CLS"
 Dec 10, 1999 Chemistry, Waterloo University
"Quantitative chemical analysis at the tenth micron scale by Scanning Transmission X-ray Microscopy"
 Dec 13, 1999 Dow Research Centre, Midland, MI, USA
"Polymer Analysis on the submicron scale by Scanning Transmission X-ray Microscopy"
 Dec 15, 1999 3M Canada Research Centre, London, ON
"Materials chemistry with synchrotron light"
 25-Jan-00 Saskatoon Dept, of Chemistry
"Rayonnement synchrotron et les sciences des forêts"
 10-Feb-00 Quebec, Forestry Canada
"Synchrotron Radiation and Forestry Science"
 11-Feb-00 Fredericton, Forestry Canada
"Polymer analysis using X-ray Microscopy and Synchrotron Light"
 11-Feb-00 Chemistry, UNB, Fredericton, NB
"Photoionization Mass Spectrometry and Dynamics using Synchrotron Light"
 24-Jul-00 Hiroshima, HISOR facility, Hiroshima University, Japan
"Reflection EELS - considerations for surface EMS"
 25-Sep-00 Peter Wall Institute Workshop, UBC

"Soft X-ray Spectromicroscopy of Polymers"

30-Oct-00 Dow Chemical, Midland, MI
 29-Nov-00 Chemistry, Queen's University
 08-Dec-00 Canada Centre for Inland Waters
 26-Jan-01 Chemistry, State University of Buffalo
 01-Mar-01 Buckeye Technologies
 28-Jan-02 BIMR, McMaster University
 30-Jan-02 Dow Chemical, Midland, MI

"Canadian Light Source"

25-Jan-02 Stoney Creek Rotary Club

"X-ray Microscopy of Polymers and Biofilms: A New Searchlight at the ALS"

4-Feb-02 DoE BES review meeting

"Soft X-ray spectromicroscopy: materials analysis at the nanoscale"

17-May-02 BIMR, McMaster - 1st annual workshop on materials research

"X-ray Microscopy: using Gigavolt accelerators to study nanostructures"

02-Jul-02 BIMR Summer School seminar series

"Soft X-ray microscopy: a powerful probe for fundamental and applied research on soft materials"

26-Jul-02 ANKA, Karlsruhe, Germany
 26-Jul-02 BASF, Ludwigshafen, Germany
 20-Nov-02 Advanced Light source, Berkeley, CA
 2-Dec-02 U. Nevada Las Vegas (Chemistry)
 6-Dec 02 UCSD, San Diego (Chemistry)
 21-Nov-03 Physics, U. Alberta & NINT, Edmonton, AB

"Soft X-ray spectromicroscopy: a powerful tool for polymer microstructure analysis"

4-Apr-03 Xerox Research Centre (Mississauga)
 27-Jun-03 BASF, Ludwigshafen, Germany
 10-Mar-04 Syngenta, London, England

"Soft X-ray absorption spectroscopy: basics and applications to troubleshooting contamination of the Chandra ACIS detector"

03-Oct-03 MIT, Space Research, Boston, MA

"Recent Advances in STXM Capabilities"

7 Jan04 Xerox Research Centre of Canada (Mississauga)

*"NEXAFS Spectroscopy"**"X-ray Microscopy"**"Studying Polymers with synchrotron light"*

2,4,5 Feb 2004 Australian National University, Canberra, AU (Synchrotron summer school)

"Present and Future Capabilities of X-ray microscopy"

6 Feb 2004 Australian Synchrotron Project, Annual Meeting, Canberra, AU

"Materials analysis using scanning transmission X-ray microscopy"

23 Aug 2004 Dow Chemical, Midland, MI

"Radiation damage in X-ray microscopy"

6 Oct 2004 X-ray Science & Technology Series, Advanced Light Source, Berkeley, CA

"Chemical analysis at high spatial resolution using scanning transmission X-ray microscopy"

20 April 2005 Bessy synchrotron, Berlin, Germany
 21 April 2005 Physical Chemistry II, Erlangen, Germany
 22 April 2005 Physical Chemistry, Würzburg, Germany

"High brightness of 3rd generation synchrotrons – so what is it good for, anyway?"

16 Sep 2005 Canadian Light Source, Saskatoon, SK

"Materials science and engineering at the Light Source: chemically sensitive imaging with scanning transmission X-ray microscopy"

26 Oct 2005 Chemical Engineering, University of Toronto ("Lectures at the Leading Edge")

- “Materials analysis at high spatial resolution using scanning transmission X-ray microscopy”*
28 Nov 2005 BIMR, McMaster University
“La microscopie sous rayons X mou (STXM) – un outil idéal pour la recherche sur la matière molle”
28 April 2006, Synchrotron Soleil, Paris, France
03 May 2006 L’Oréal research centre, Paris, France
“Synchrotron Science at CLS”
06 June 2006 BIMR summer student seminar series, McMaster University
“Soft X-ray Spectromicroscopy – Current capabilities and future plans”
05 Oct 2006 CLS NSERC review meeting, Saskatoon
“Materials Analysis at high spatial resolution using soft X-ray scanning transmission X-ray microscopy”
15 Feb 2007 Dept. of Physics, University of British Columbia, Vancouver, BC
“Chemical imaging at 30 nm spatial resolution in 2-d and 3-d with Scanning Transmission X-ray Microscopy”
21 Aug 2008 Dept. Mech. Eng., University of Philadelphia, PA
04 Sep 2008, Dept. of Chemistry, Utrecht University, The Netherlands
“Mapping chemistry and orientation by scanning transmission X-ray microscopy”
08 Sep 2008 BASF, Ludwigshaven, Germany
21 Sep 2009 Institute for Applied Geosciences, University of Tübingen, Germany
16 Jun 2010 Notre-Dame de la Paix, Namur, Belgium,
“Chemical imaging in 2-d and 3-d with Scanning Transmission X-ray Microscopy”
18 Jan 2010 Materials Science, Stevens Inst. Tech, Hoboken, New Jersey, USA
06 April 2011 Advanced Light Source, Lawrence-Berkeley National Lab, Berkeley, CA
“Scanning transmission X-ray microscopy (STXM) of Membrane Electrode Assemblies”
08 July 2010 Automotive Fuel Cell Cooperation, Burnaby, BC, Canada
“Spectromicroscopy with high brightness tunable X-rays”
30 March 2011 Joint Laboratory for Attosecond Science, U. Ottawa, Canada
“STXM - applications & potential for auto-FC R&D”
03 June 2012 Automotive Fuel Cell Cooperation and Ballard, Burnaby, BC, Canada
“Soft x-ray scanning x-ray microscopy: current capabilities and future trends”
24 Oct 2012 Dept of Physics, Kings College London, London, UK
03 Dec 2012 Dept of Chemistry, University of Tasmania, Australia
18 Jan 2013 Dept. of Physics, McGill University, Montreal, Canada
14 Mar 2013 National Synchrotron Research Centre of China, Taiwan
16 Mar 2013 TamKang University, Taiwan
22 Jul 2013 Shanghai Synchrotron Research Facility, Shanghai, China
04 Nov 2013 BIMR, McMaster University, Hamilton, Canada
10 Nov 2014 Chemistry, Flinders University, Adelaide, Australia
“Nanoscale chemical imaging by soft X-ray spectro-microscopy and spectro-ptychography”
31 March 2016 Diamond Light Source, Dicot, UK
01 April 2016 Dept. of Materials Science, Cambridge University, Cambridge, UK
16 March 2016 CDI Workshop, MaxIV, Lund, Sweden
“STXM at the Canadian Light Source - progress towards cryo-spectro-tomo-ptychography”
17 March 2016, Scientific Advisory Committee meeting, MaxIV, Lund, Sweden
“Soft X-ray spectro-ptychography and spectro-ptycho-tomography at the ALS and CLS - examples from hard and soft materials”
06 June 2018 Soleil, Paris, France
“Nanoscale materials analysis by soft X-ray Scanning X-ray Microscopy”
08 June 2018 Soleil, Paris, France
03 Aug 2018, NIST, Gaithersburg, ND, USA
17 Sep 2018, U. Newcastle, Newcastle, NSW, AU

- 26 Sep 2018 Chemical Engineering, Adelaide U, Adelaide, SA, AU
28 Sep 2018 Nanoscience & Technology, Flinders U, Adelaide, SA, AU
“Recent trends in soft X-ray imaging and spectromicroscopy “
29 Jan 2018 NSRRC, Hsinchu, Taiwan
17 Sep 2018 U. Newcastle, Australia
21 Sep 2018 Australian Synchrotron, Melbourne, AU
“Soft X-ray Spectromicroscopy: new techniques and selected applications”
12 Nov, 2018, Chemistry, Univ. Fed. Do Rio de Janeiro, Brasil
“Soft X-ray Spectromicroscopy in Scanning Transmission X-ray Microscopes”
26 March 2020, XAS online webinar series. (G. Seidler, U. Washington)
available online at: tinyurl.com/XASvideos
“Evaluating radiation dose and damage by focused electron and photon beams”
21 April 2021, McMaster University, CCEM Radiation damage group