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Author(s): Catherine Aldous, Serge Desgreniers - Physics, University of Ottawa

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Author(s): Tesfalidet Lemma Balcha, Jonathan Strobl, and Robert W.J. Scott* -Department of Chemistry, University of Saskatchewan, 110 Science Place, SK, S7N 5C9

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Title: **Investigation of antimicrobial distribution in bladder tissue using synchrotron radiation**

Author(s): K.R. Ball¹, F. Sampieri¹, J.M. Chirino-Trejo², L. Bernstein³, R.I.R. Blyth⁴, D.L. Hamilton¹, T.K. Sham⁵, P.M. Dowling¹, J. Thompson⁴

¹ Department of Veterinary Biomedical Sciences, University of Saskatchewan, ² Department of Veterinary Microbiology, University of Saskatchewan, ³ Terrametrix, ⁴ Canadian Light Source Inc., ⁵ Department of Chemistry, University of Western Ontario

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Title: **Hard x-ray microprobe analysis of iron and gallium distribution in tissues of mice treated with gallium maltolate**

Author(s): K.R. Ball¹, F. Sampieri¹, N. Chen², J.M. Chirino-Trejo³, L. Bernstein⁴, R.I.R. Blyth², D.L. Hamilton¹, T.K. Sham⁵, P.M. Dowling¹, J. Thompson²

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Author(s): Yasmin Carter, David Cooper - Department of Anatomy and Cell Biology, University of Saskatchewan

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Author(s): Jing Chao¹, Marina L. Suominen Fuller¹, N. Stewart McIntyre¹, R. Newman², A. Carcea², S. Ramamurthy³, L. Lau³, Renfei Feng⁴

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Title: Theoretical X-ray Absorption Spectroscopy Study of Sulfur-capped Gold Nanoparticle Staple-Motif

Author(s): S.L. Christensen, M. MacDonald, A. Chatt, P. Zhang, Department of Chemistry, Dalhousie University

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Author(s): Sean A. Dalrymple, David A.R. Sanders - Department of Chemistry, University of Saskatchewan

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Author(s): Nataliya V. Dolgova¹, Doug Olson², Svetlana Lutsenko³, Oleg Y. Dmitriev¹

¹ Department of Biochemistry, University of Saskatchewan, ² National Research Council, Saskatoon, ³ Department of Physiology, Johns Hopkins University, Baltimore, MD 21205, United States

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Author(s): Laura E. Downie, Jesse S. Smith, Serge Desgreniers - Department of Physics, University of Ottawa

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Author(s): James J. Dynes¹, Jianjun Yang², J. Derek Peak¹, John S. Tse³, Guifen Yu⁴, Leonard M. Kozak¹, Thomas Regier⁵, P. Ming Huang¹ (late)

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Title: Soft X-ray spectromicroscopy of copper nanoparticles in a river biofilm

Author(s): John R. Lawrence¹, James J. Dynes², Daren R. Korber³, George D.W. Swerhone¹, Prabhakara G. Medihala³, Gary G. Leppard⁴, Adam P. Hitchcock⁵

¹ Environment Canada, Saskatoon, Canada, ² Department of Soil Science, University of Saskatchewan, Saskatoon, Canada, ³ Department of Food and Bioproduct Sciences, University of Saskatchewan, Saskatoon, Canada, ⁴ Environment Canada, Burlington, Canada, ⁵ Brockhouse Institute for Materials Research, McMaster University, Hamilton, Canada

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Author(s): Michael W. Gaultois, Andrew P. Grosvenor - Department of Chemistry, University of Saskatchewan

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Title: Quantum Material Spectroscopy Center at the Canadian Light Source

Author(s): Sergey Gorovikov¹, Brian Yates¹, Andrea Damascelli², Harold Davis², Ruben Reininger³, K. Ingvar Blomqvist⁴, Michael Sigrist¹, Vinay Nagarkal¹, Siyue Chen¹, Emil Hallin¹, Mark de Jong¹

¹ Canadian Light Source Inc., ² Departments of Physics and Astronomy, University of British Columbia, ³ Scientific Answers and Solutions, ⁴ Consultant

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Author(s): Robert Green, Alex Moewes, Gap Soo Chang - Physics & Engineering Physics, U of S

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Author(s): Andrey Grishin¹, Eunice Ajamian¹, Limei Tao², Linhua Zhang², Allan Matte², Miroslaw Cygler¹

¹ Department of Biochemistry, McGill University, Montreal QC Canada, ² Biotechnology Research Institute, National Research Council, Montreal QC Canada

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Author(s): Adrian Hunt¹, Teak Boyko¹, Ernst Kurmaev², Dmitriy Dkin³, Alex Moewes¹

¹ Physics and Engineering Physics, University of Saskatchewan, ² Institute of Metal Physics, Russian Academy of Sciences-Ural Division, ³ Department of Mechanical Engineering, Northwestern University

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Author(s): Farideh Jalilehvand¹, Ödül Karayazi², Carrie Shemanko², Peter Lay³

¹ Department of Chemistry, University of Calgary, ² Department of Biological Sciences, University of Calgary, ³ School of Chemistry, University of Sydney

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Author(s): Pantea Niksirat, Farideh Jalilehvand - Department of Chemistry, University of Calgary

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Author(s): Chenguang Jiang, Robert C. Robinson and Leslie D. Burtnick

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Author(s): Darren R. Korber¹, Sinisa Vidovic², James J. Dynes³, John R. Lawrence⁴ and Adam P. Hitchcock⁵
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Title: A XAS study on the dispersion of MoS₂ phase on SBA-15 support

Author(s): Chandra Mouli K¹., Sidhartha M¹., Ajay K. Dalai^{1*}, Yongfeng Hu² ¹Catalysis and Chemical Reaction Engineering Laboratories, Department of Chemical Engineering, University of Saskatchewan, Saskatoon, SK, S7N 5A9, Canada ² Canadian Light Source, Saskatoon, SK, Canada *Corresponding author: ajay.dalai@usask.ca, Tel. +1-306-966-4771

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Title: Multi-Component Hollow Tubules Formed Using Phytosterol and gamma-Oryzanol Based Compounds: An Understanding of Their Molecular Embrace.

Author(s): Ricky Lam¹, Ho Sze¹, Michael Rogers¹, Tor Pedersen², Arjen Bot³, Tim May²
¹ Food and Bioproduct Sciences, University of Saskatchewan, ² Canadian Light Source, ³ Unilever Research and Development Vlaardingen

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Title: A molecular insight into the nature of crystallographic mismatches in self-assembled fibrillar networks under non-isothermal crystallization conditions

Author(s): Ricky Lam¹, Ho Sze¹, Luca Quaroni², Tor Pedersen², Michael Rogers¹
¹ Food and Bioproduct Sciences, University of Saskatchewan, ² Canadian Light Source

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Title: Discovery of Natural Occurring Magnetic Domains in an Extraterrestrial Object: PEEM Studies of an Iron Meteorite

Author(s): U. Lanke¹, M. Quann², A. Trevors², S. Mason², A. O'Reilly², T. Saulnier³, A. Riebel³, J. d'Entremont³, E. Flett³, P. MacDonald², K. Cripps³, M. Stauffer⁴, A. Odeshi⁵, V. Olorunda⁵, T. Walker¹
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Title: Investigation of adiabatic shear bands in metal alloys: X-ray Photo-Emission Electron Microscopy application to Metallurgical Science

Author(s): Uday Lanke¹, Homa Mostanhipi Ghomi² and Akindede Odeshi²

¹ Canadian Light Source Inc., University of Saskatchewan, 101 Perimeter Road, Saskatoon, SK, Canada S7N 0X4 ² Mechanical Engineering Department, University of Saskatchewan, Saskatoon, Canada

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Title: Photo-Emission Electron Microscope at the Canadian Light Source for nano-structured materials characterization

Author(s): U.D. Lanke¹, J. Wang¹, Y. Lu¹, C. Karunakaran¹, A.P. Hitchcock² and S.G. Urquhart³

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Title: Zone Plate Based Soft X-ray Lithography

Author(s): Adam F. G. Leontowich, Adam P. Hitchcock - Department of Chemistry, McMaster University

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Title: Nucleation and growth of diamond coatings on inter-layered high speed steel cutting tools: an XAS-assisted analysis

Author(s): Y.S. Li, A. Hirose, University of Saskatchewan, Ivan Vendrov, Bedford Road Collegiate

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Title: Molecular Spectral Features and Protein Metabolic Characteristics of New Co-Products of BioEthanol Production

Author(s): Bo Liu, John J. McKinnon, Philip A. Thacker, Peiqiang Yu - Department of Animal and Poultry science, University of Saskatchewan

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Title: Speciation of Arsenic and Selenium in Rabbit Using X-ray Absorption Spectroscopy

Author(s): Dongmei Liu, Ingrid J. Pickering and Graham N. George - Department of Geological Sciences, University of Saskatchewan, Saskatoon

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Title: Chemical Form Matters: Studying Mercury Accumulation in Zebrafish Larvae Using Synchrotron X-ray Fluorescence Imaging

Author(s): Tracy C. MacDonald¹, Malgorzata Korbas, Ingrid J. Pickering², Patrick H. Krone³, Graham N. George²

¹ Toxicology Centre, University of Saskatchewan, ² Geological Sciences, University of Saskatchewan, ³ Anatomy and Cell Biology, University of Saskatchewan

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Title: Digital Imaging for a Wide Range of Optical Wavelengths Using Passive Pixel Arrays and Amorphous Pelenium photoconductor

Author(s): Shaikh H Majid, Bahman Hadji, Amir H. Goldan, Nicholas Allec and Karim S. Karim - Electrical and Computer Engineering Department, University of Waterloo

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Title: Soft X-ray study of Photocatalytic Polymeric Carbon Nitride

Author(s): Eamon McDermott¹, Eva Wirnhier², Wolfgang Schnick², Alexander Moewes¹

¹ Physics and Engineering Physics, University of Saskatchewan, ² Department Chemie, Ludwig-Maximilians-Universitat

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Title: Cage Conduction Bands in Superconducting Cement

Author(s): J. A. McLeod¹, A. Moewes¹, E. Z. Kurmaev², L. D. Finkelstein², Yu. A. Izyumov², P. V. Sushko³, S.-W. Kim⁴, H. Hosono⁴

¹ Department of Physics and Engineering Physics, University of Saskatchewan, ² Institute of Metal Physics, Russian Academy of Sciences-Ural Division, ³ Department of Physics and Astronomy, University College London, ⁴ Materials and Structures Laboratory, Tokyo Institute of Technology

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Title: Photoacoustic Spectroscopy Using Coherent synchrotron Radiation

Author(s): K.H. Michaelian, Natural Resources Canada; B.E. Billinghamurst, T.E. May, L. Dallin, W. Wurtz, M. de Jong, Canadian Light Source Inc.

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Title: Combination of synchrotron technique and biochemical analysis to elucidate the mechanistic aspects of chemical species-specific selenium toxicity in isolated hepatocytes of rainbow trout.

Author(s): Sougat Misra¹, Derek Peak², Som Niyogi¹

¹ Department of Biology, University of Saskatchewan, Saskatoon, SK, Canada, ² Department of Soil Science, University of Saskatchewan, Saskatoon, SK, Canada

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Title: Novel sampling methods for soft x-ray analysis of environmental samples

Author(s): D. Peak¹, G.Kar¹, J.Shoenau¹, J.Dynes¹, C.Kosty¹, T.Regier²

¹ Soil Science, U of S, ² Canadian Light Source Inc.

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Title: CIHR-THRUST: CIHR Training grant in Health Research Using Synchrotron Techniques

Author(s): Ingrid J. Pickering¹, L. Dean Chapman², Ian Coulthard³, Graham N. George¹, Pawel Grochulski³, Helen Nichol², M. Jake Pushie¹

¹ Geological Sciences, University of Saskatchewan, ² Anatomy and Cell Biology, University of Saskatchewan, ³ Canadian Light Source

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Author(s): D. Pohl, and S. Desgreniers, Laboratoire de physique des solides denses, Department of Physics, University of Ottawa.

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Title: Visualizing the Influence of the Prion Protein on Copper, Iron and Zinc Levels in the Brain

Author(s): MJ Pushie¹, IJ Pickering¹, S. Tsutsui², FR Jirik², GN George¹

¹ Department of Geological Sciences, University of Saskatchewan, ² Department of Biochemistry and Molecular Biology, The McCaig Institute for Bone and Joint Health, University of Calgary

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Title: Synchrotron Imaging of Burgess Shale Fossils: Evidence for Biochemical Copper (Hemocyanin) in the Middle Cambrian Arthropod *Marrella splendens*

Author(s): Pushie MJ, Andrahennadi R, Fu J, Liu D, TC MacDonald, Singh S, Tse JJ, Wiramanaden CIE, Yang S-I, Pickering IJ, George GN, Pratt BR - Department of Geological Sciences, University of Saskatchewan

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Title: Structures of C185S and C185A Mutants of Sulfite Oxidase Reveal Rearrangement of the Active Site: A Combined Crystallography, EXAFS and DFT Study.

Author(s): Qiu JA¹, Wilson HL¹, Pushie MJ², Kisker C³, George GN², Rajagopalan KV¹

¹ Department of Biochemistry, Duke University Medical Center, ² Department of Geological Sciences, University of Saskatchewan, ³ Rudolf Virchow Center for Experimental Biomedicine, University of Wuerzburg

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Title: Students-on-the-Beamline Investigation of Lignite Coal: A XANES Study

Author(s): Tina Rioux¹, Sarah Clark¹, Derek Mortenson², Fatima Ahmed¹, Morgan Brososky¹, Laura Newton¹, Dan Stasiuk¹, Maha Yaqoob¹, Tracy Walker², Jeff Warner²

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Title: Synchrotron-based Characterization of Heat-treated Archaeological Toolstone

Author(s): Elizabeth Robertson, Department of Archaeology and Anthropology, University of Saskatchewan, Robert I.R. Blyth, Canadian Light Source

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Title: XANES analysis techniques studying the phosphorus L-edges of soil organic matter

Author(s): Christopher H. Ryan¹, Lucia Zuin¹, Cassandra R. Schefe², Peter Kappen³
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Author(s): Vijitha Senanayake, Helen Nichol - Department of Anatomy and Cell Biology University of Saskatchewan.

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Author(s): Jesse S. Smith and Serge Desgreniers Laboratoire de physique des solides denses, Department of Physics, University of Ottawa

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Title: Crystal structure of human lanosterol 14alpha-demethylase (CYP51) in complex with ketoconazole

Author(s): Natallia Strushkevich, SGC, University of Toronto Sergey Usanov, Department of Protein Engineering, Institute of Bioorganic Chemistry NASB Hee-Won Park, SGC, University of Toronto

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Author(s): Stubbins, R. S., Van Straaten, K. E., Palmer, D. R. J., Sanders, D. A. R.

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Author(s): Venkateswara Rao Surisetty¹, Yongfeng Hu², Ajay Kumar Dalai¹, Janusz Kozinski¹

¹ Department of Chemical Engineering, University of Saskatchewan, Saskatoon, SK, S7N 5A9, Canada, ² Canadian Light Source, 101 Perimeter Road, Saskatoon, SK, S7N 0X4, Canada

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Author(s): Justin J. Tse, Ingrid J. Pickering - Department of Geological Sciences, University of Saskatchewan

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Author(s): Jamie Van Cleemput, Health Safety and Environment Department, Canadian Light Source Inc.

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Author(s): Karin E. van Straaten and David A. R. Sanders Department of Chemistry, University of Saskatchewan

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Author(s): Tracy Walker, Educational Outreach, Canadian Light Source

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Author(s): J. Wang¹, C. Karunakaran¹, Y. Lu¹, U.D. Lanke¹, S.G. Urquhart², A.P. Hitchcock³

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Title: X-Ray Absorption Spectroscopy Study of the Growth and Structure of Luminescent Nitride-Passivated Silicon Nanoclusters

Author(s): P. R. J. Wilson¹, T. Roschuk¹, K. Dunn¹, E. Normand², E. Chelomentsev¹, J. Wojcik¹, P. Mascher¹

¹ Department of Engineering Physics and Centre for Emerging Device Technologies, McMaster University, ² Department of Physics and Engineering Physics, University of Saskatchewan

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Title: The Effects of Titanium Dioxide Nanoparticles on the Development of the Common Bean Plant

Author(s): Sherry Chu, Eric Langlois, Yongjian Lu, Nicole Sidebottom, Tim Xu All authors are affiliated with Bell High School, Department of Science

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Title: Biotransformation of selenium in multi-species biofilms

Author(s): SOO I. YANG¹, JOHN R. LAWRENCE², SUSAN G.W. KAMINSKY³, INGRID J. PICKERING¹

¹ Department of Geological Sciences, University of Saskatchewan, ² Environment Canada, ³ Department of Biology, University of Saskatchewan

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Title: NEXAFS study of Diamond Nanotips by Broad Ion Beam Etching

Author(s): Y. Tang and Q. Yang Mechanical Engineering, University of Saskatchewan, Y.S. Li and A. Hirose Plasma Physics Laboratory, University of Saskatchewan

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Title: Visualization of Low Density Engineered Scaffolds and Soft Tissues by BMIT Beamline

Author(s): Ning Zhu, Yijing Guan - Biomedical Engineering, University of Saskatchewan; Xiongbiao Chen, Biomedical Engineering & Mechanical Engineering, University of Saskatchewan; Dean Chapman, Biomedical Engineering & Anatomy and Cell Biology, University of Saskatchewan;

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Title: A novel confocal X-ray fluorescence detection system for 3D elemental mapping using a bent Laue analyzer

Author(s): Ying Zhu, Biomedical Engineering, University of Saskatchewan Helen Nichol, and Dean Chapman, Anatomy and Cell Biology, University of Saskatchewan