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Author (s): Feizhou He, Siyue Chen, Tony Wilson, David Muir, Canadian Light Source George Sawatzky, University of British Columbia, Alexander Moewes, University of Saskatchewan

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Author (s): Michel Fodje, CLSI, Pawel Grochulski, CLSI

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Author (s): Sheldon Smith; Biomedical Imaging and Therapy Beamlines, Canadian Light Source; Christopher H. Ryan; Physics and Engineering Physics, College of Engineering, University of Saskatchewan; Tomasz W. Wysokinski; Biomedical Imaging and Therapy Beamlines, Canadian Light Source; L. Dean Chapman; Anatomy and Cell Biology, College of Medicine, University of Saskatchewan; Greg Adams; Veterinary Biomedical Science, Western College of Veterinary Medicine, University of Saskatchewan.

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Title: **CLS Beamline Update: 07ID, Biological X-ray Absorption Spectroscopy (BioXAS)**

Author (s): Ingrid J. Pickering[1], Graham N. George[1] and Helen Nichol[2]. [1]Department of Geological Sciences, University of Saskatchewan. [2]Department of Anatomy and Cell Biology, University of Saskatchewan

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Author (s): Andrea Damascelli, University of British Columbia

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Author (s): David Muir, Mark Boots, Mikhail Yablonskikh, Alexander Moewes, Department of Physics, University of Saskatchewan.

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Title: **The Canadian Light Source – A New Tool for Industrial Research**

Author (s): J.N. Cutler, C. Christensen, T.G. Kotzer, T. Ogunremi, T. Pushparajah and J. Warner. Canadian Light Source Inc. Saskatoon, SK S7N 0X4

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Author (s): Julie Thompson, Tom Regier, Robert Blyth, Glenn Wright, David Beauregard, Canadian Light Source, TK Sham, Dept. of Chemistry, University of Western Ontario

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Author (s): Ronald G. Cavell, Dept of Chemistry, University of Alberta, Samuel Webb, Stanford Synchrotron Radiation Laboratory, Stanford, CA, Julie Thompson, Canadian Light Source, Chang-Yong Kim, Canadian Light Source, Ning Chen, Canadian Light Source, Ru Igarashi, Canadian Light Source, DeTong Jiang, Dept of Physics, University of Guelph, Renfei Feng, Canadian Light Source.

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Author (s): Jesse S. Smith, Department of Physics, University of Ottawa. Serge Desgreniers, Department of Physics, University of Ottawa. John S. Tse, Department of Physics and Engineering Physics, University of Saskatchewan. Dennis D. Klug, Steacie Institute for Molecular Sciences, National Research Council of Canada

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Author (s): Uday Lanke[1], Brian Haines[1], Stephen Christensen[1], Peter Hitchcock[2], Jacob Stewart-Ornstein[2], Remy Coulombe[4], Eric Christensen[4], Eric Lapointe[4], Chithra Karunakaran[3], Konstantine Kaznatcheev[3], Adam Hitchcock[2], and Stephen Urquhart[1] [1] Department of Chemistry, University of Saskatchewan, Saskatoon, SK [2] Brockhouse Institute for Materials Research, McMaster University, Hamilton, ON [3] Canadian Light Source, University of Saskatchewan, Saskatoon, SK [4] Département de physique, Université de Sherbrooke, Sherbrooke, QC

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Author (s): T. Regier, Department of Physics and Engineering Physics, University of Saskatchewan. J. Shi, Department of Physics, University of Guelph. X. R.

Qin, Department of Physics, University of Guelph. R. G. Wilks, Department of Physics and Engineering Physics, University of Saskatchewan. R. I. R. Blyth, Canadian Light Source. J. S. Tse, Department of Physics and Engineering Physics, University of Saskatchewan. D. T. Jiang, Department of Physics, University of Guelph.

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Author (s): R.I.R. Blyth, T. Regier and J. Thompson, Canadian Light Source

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Author (s): Julie Thompson, Canadian Light Source, University of Western Ontario. Yongfeng Hu, Canadian Light Source. Ru Igarashi, Canadian Light Source. David Beauregard, Canadian Light Source. Tom Regier, Canadian Light Source. Robert Blyth, Canadian Light Source. T.K. Sham, Chemistry Department, University of Western Ontario. Lucia Zuin, Canadian Light Source.

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Author (s): E.D. Crozier and R.A. Gordon, Pacific Northwest Consortium Synchrotron Radiation Facility, Physics Department, Simon Fraser University

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Author (s): Julien J. H. Cotelesage, Hughes Goldie, J. Gregory Zeikus, Maris Laiveniks Louis T. J. Delbaere

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

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Author (s): Obiero, J., van Straaten, K. E., and Sanders D. A. R, Department of Chemistry University of Saskatchewan

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Author (s): Derek Peak, Department of Soil Science, University of Saskatchewan Steven Siciliano, Department of Soil Science, University of Saskatchewan P.M. Huang, Department of Soil Science, University of Saskatchewan Abhishek Mandal, Department of Soil Science, University of Saskatchewan Brian Laird, Department of Soil Science, University of Saskatchewan Jen Arnold, Department of Soil Science, University of Saskatchewan

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Author (s): Danielle Covelli, Department of Chemistry, University of Saskatchewan. Vincente Munoz, Canmet Energy Technology Centre, Natural Resources Canada, Devon, AB. Oladipo Omotoso, Canmet Energy Technology Centre, Natural Resources Canada, Devon, AB. Randy Mikula, Canmet Energy Technology Centre, Natural Resources Canada, Devon, AB. Stephen Urquhart, Department of Chemistry, University of Saskatchewan

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Author (s): A.G. Hardie, Department of Soil Science, University of Saskatchewan. J.J. Dynes, Environment Canada, Innovation Place, Saskatoon. L.M. Kozak, Department of Soil Science, University of Saskatchewan. P.M. Huang, Department of Soil Science, University of Saskatchewan.

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Title: Coordination nature of short-range ordered aluminum oxyhydroxides formed under the influence of tannic acid studied by X-ray absorption spectroscopy

Author (s): R.K. Xu[1,2], Y. F. Hu[3], J.J. Dynes[4,5], R.I.R. Blyth[3], G. Yu[1,2], L.M. Kozak[1], and P.M. Huang[1], [1] Department of Soil Science, University of Saskatchewan, 51 Campus drive, Saskatoon, SK S7N 5A8, Canada; [2] Institute of Soil Science, Chinese Academy of Sciences, P.O. Box 821, Nanjing, China; [3] Canadian Light Source, 101 Perimeter Road, Saskatoon, SK S7N OX4, Canada; [4] National Hydrology Research Center, 11 Innovation Boulevard, Saskatoon, SK S7N 3H5, Canada; [5] Department of Chemistry, McMaster University, Hamilton, ON, Canada

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Author (s): Tom Regier, Canadian Light Source. Robert Blyth, Canadian Light Source. Peter Leinweber, Department of Land Use, Rostock University. Richard Farrell, Department of Soil Science, University of Saskatchewan. Fran Walley, Department of Soil Science, University of Saskatchewan.

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Author (s): Na Liu, Peiqiang Yu*, J.J. McKinnon, and D.A. Christensen College of Agriculture and Bioresources, University of Saskatchewan

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Author (s): Limei Zhang and Graham N George, Dept of Geological Sciences, University of Saskatchewan; Tong Liu, Arati Ramesh, Zhen Ma, David P Giedroc, James C Sacchettini, Department of Biochemistry and Biophysics, and Center for Structural Biology, Texas A&M University; MadisonSarah K Ward, Adel M Talaat, Department of Animal Health and Biomedical Sciences, University of Wisconsin

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Author (s): Ying Zhu, Biomedical Engineering, College of Engineering, University of Saskatchewan. Honglin Zhang, Biomedical Engineering, College of Engineering, University of Saskatchewan. Richard McCrea, Anatomy and Cell Biology, College of Medicine, University of Saskatchewan. Brian Bewer, Physics and Engineering Physics, College of Arts and Science, University of Saskatchewan Sheldon Wiebe, Medical Imaging, College of Medicine and Royal University Hospital, University of Saskatchewan. Helen Nichol, Anatomy and Cell Biology, College of Medicine, University of Saskatchewan. Christopher Ryan, Physics and Engineering Physics, College of Arts and Science, University of Saskatchewan. Tomasz Wysokinski, Biomedical Imaging and Therapy Beamlines, Canadian Light Source. Dean Chapman, Anatomy and Cell Biology, College of Medicine, University of Saskatchewan

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Author (s): Ying Zhu, Biomedical Engineering, College of Engineering, University of Saskatchewan. Honglin Zhang, Biomedical Engineering, College of Engineering, University of Saskatchewan. Brian Bewer, Physics and Engineering Physics, College of Arts and Science, University of Saskatchewan. Dean Chapman, Anatomy and Cell Biology, College of Medicine, University of Saskatchewan

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Author (s): Brian Bewer, Physics and Engineering Physics, College of Arts and Science, University of Saskatchewan. Dean Chapman, Anatomy and Cell Biology, College of Medicine, University of Saskatchewan. Ian Cunningham, Robarts Research Institute, University of Western Ontario

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Author (s): Adriana Szeghalmi, Department of Chemistry, University of Manitoba. Kosta Jilkine Department of Chemistry, University of Manitoba. Bob Julian, Synchrotron Radiation Centre, Stoughton WI. Susan Kaminskyj, Department of Biology, University of Saskatchewan. Kathy Gough, Department of Chemistry, University of Manitoba.

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Author (s): Doiron, K., Department of Animal and Poultry science, College of Agriculture, University of Saskatchewan, Yu, P., Department of Animal and Poultry Science, College of Agriculture, University of Saskatchewan,, McKinnon, J. Department of Animal and Poultry Science, College of Agriculture, University of Saskatchewan,, Christensen, C., Feeds Innovation Institute, Saskatoon, Saskatchewan, Christensen, D., Department of Animal and Poultry Science, College of Agriculture, University of Saskatchewan.

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Title: **Optimizing Magnetic Resonance (MR) to Image Brain Metals: Correlating MR with X-ray Fluorescence Spectroscopic Imaging in a Model of Alzheimer's Disease**

Author (s): Richard McCrea, Department of Anatomy and Cell Biology, College of Medicine, University of Saskatchewan. Sheri Harder, Department of Medical Imaging, Royal University Hospital, Saskatoon. Darrell Mousseau, Neuropsychiatry Research Unit, University of Saskatchewan. Melanie Martin, Department of Physics, University of Winnipeg. Richard Buist, Department of Pharmacology, University of Manitoba. Helen Nichol, Department of Anatomy and Cell Biology, University of Saskatchewan

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Title: **Simultaneous mapping of multiple metals in Friedreich's Ataxia Whole Brain Slices**

Author (s): Bogdan F. Gh. Popescu, Department of Anatomy and Cell Biology, College of Medicine, University of Saskatchewan. Helen Nichol, Department of Anatomy and Cell Biology, College of Medicine, University of Saskatchewan

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Title: **Interaction between elemental mercury and biologically relevant thiols: Spectroscopic investigation**

Author (s): S.P. Singh[1], I.J. Pickering[1], and G.N. George[1], [1]Department of Geological Sciences, University of Saskatchewan, Saskatoon, R.J. Hughes2, A.S. Ross[2] [2]National Research Council, Plant Biotechnology Institute, Saskatoon

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Author (s): Honglin Zhang, Division of Biomedical Engineering, College of Engineering, University of Saskatchewan. Limei Zhang, Department of Geological Sciences, College of Arts and Science, University of Saskatchewan. Gosia Korbas, Department of Geological Sciences, College of Arts and Science, University of Saskatchewan. Ingrid Pickering, Department of Geological Sciences, College of Arts and Science, University of Saskatchewan. Graham George, Department of Geological Sciences, College of Arts and Science, University of Saskatchewan. Ying Zhu, Division of Biomedical Engineering, College of Engineering, University of Saskatchewan. Brian Brewer, Department of Physics and Engineering Physics, College of Art and Science, University of Saskatchewan. Dean Chapman, Department of Anatomy and Biology, College of Medicine, University of Saskatchewan.

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Author (s): Tara Rema, Applied Microbiology & Food Science, University of Saskatchewan; James J. Dynes, Chemistry and BIMR, McMaster University, Hamilton, Ontario; Adam P. Hitchcock, Chemistry and BIMR, McMaster University, Hamilton, Ontario; Gary G. Leppard, Environment Canada, Burlington, Ontario; George D.W. Swerhone, Environment Canada, Saskatoon, Saskatchewan; John R. Lawrence, Environment Canada, Saskatoon, Saskatchewan and Darren R. Korber, Applied Microbiology & Food Science, University of Saskatchewan.

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Author (s): Stefan H.J. Idziak, Department of Physics, University of Waterloo. Gianfranco Mazzanti, Department of Process Engineering and Applied Science, Dalhousie University.

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Author (s): Marcel Risch, Michael Bradley, Department of Physics & Engineering Physics, College of Arts & Science, University of Saskatchewan.

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Author (s): John J. Neville, Liu Yang, Yongheng Fan and Samuel Odoh, Department of Chemistry, University of New Brunswick, and Narayan Appathurai, Canadian Synchrotron Radiation Facility, SRC, U. Wisconsin-Madison.

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Author (s): J. A. Miwa[1], L. Casalis[2], E. Delvigne[3], F. Ratto[1], J. V. Barth[3,4], F. Rosei[1] [1]INRS-ÉMT, Université du Québec, Varennes, Québec [2]Elettra Synchrotron Laboratory, Trieste, Italy [3]École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland [4]Department of Chemistry, University of British Columbia, Vancouver, British Columbia

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Author (s): Mario Gomez, George Demopoulos and Levente Becze, Department of Mining, Metals and Materials, College of Engineering, McGill University. Jeffrey Cutler, Canadian Light Source.

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Title: Pressure-induced transformations of zinc phosphates

Author (s): Yang Song, Department of Chemistry, University of Western Ontario, London, Ontario, N6A 5B7, Canada. Dmitry Shakhvorostov and Martin Muser, Department of Applied Mathematics, University of Western Ontario, London, Ontario, N6A 5B7, Canada. John Tse, Department of Physics and Engineering Physics, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 5E2, Canada. Zhenxian Liu, Geophysical Laboratory, Carnegie Institution of Washington, Washington DC 20015, USA

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Title: X-ray 2p photoelectron and $L_{3,2}$ resonant x-ray emission spectra of the 3d metals in Ni_2MnZ (Z=In, Sn, Sb) Heusler alloys

Author (s): M. V. Yablonskikh, Department of Physics and Engineering Physics, University of Saskatchewan, S7N5E2, Canada. J. Braun, Physikalisches Institut, Westfälische-Wilhelms Universität Münster, Wilhelm-Klemm-Str. 10, D-48149 Münster, Germany. M. T. Kuchel, Physikalisches Institut, Westfälische-Wilhelms Universität Münster, Wilhelm-Klemm-Str. 10, D-48149 Münster, Germany. A. V. Postnikov, Department of Physics, Osnabrück University, D-49069 Osnabrück, Germany. J. D. Denlinger, Lawrence Berkeley National Laboratory, Berkeley, California 94720. E. I. Shreder,Institute of Metal Physics, Russian Academy of Sciences, Ural Division, 620219 Yekaterinburg GSP-170, Russia. Y. M. Yarmoshenko, Institute of Metal Physics, Russian Academy of Sciences, Ural Division, 620219 Yekaterinburg GSP-170, Russia. M. Neumann, Department of Physics, Osnabrück University, D-49069 Osnabrück, Germany. A. Moewes, Department of Physics and Engineering Physics, University of Saskatchewan.

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Author (s): Edwige Otero, Department of Chemistry, University of Saskatchewan. Regan G. Wilks, Department of Physics and Engineering Physics, University of Saskatchewan. Alexander Moewes, Department of Physics and Engineering Physics, University of Saskatchewan. Patrick O, Shipman, Department of Chemistry, University of British Columbia Okanagan. Alaa S. Abd-El-Aziz, Department of Chemistry, University of British Columbia Okanagan. Stephen G. Urquhart, Department of Chemistry, University of Saskatchewan.

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Author (s): Andrew P. Grosvenor, Department of Chemistry, University of Alberta. Ronald G. Cavell, Department of Chemistry, University of Alberta. Arthur Mar, Department of Chemistry, University of Alberta. Robert I. R. Blyth, Canadian Light Source, University of Saskatchewan.

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Author (s): Songlan Yang, Department of Mechanical Engineering, University of Saskatchewan. Qiaoqin Yang, Department of Mechanical Engineering, University of Saskatchewan. Yongji Tang, Department of Mechanical Engineering, University of Saskatchewan

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Author (s): J. Zhang, H. Wang, A.K. Dalai, Department of Chemical Engineering, College of Engineering, University of Saskatchewan. Y. Hu, L. Zuin, and T. Regier Canadian Light Source.

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Author (s): Bonnie O. Leung, BIMR, McMaster University. Jacob Stewart-Ornstein, BIMR, McMaster University. John L. Brash, Department of Biomedical Engineering, McMaster University. Adam P. Hitchcock, BIMR, McMaster University. Joerg Overhage, Department of Microbiology, University of British Columbia. Kai Hilpert, Department of Microbiology, University of British Columbia. John D. Hale, Department of Microbiology, University of British Columbia. Robert E.W. Hancock, Department of Microbiology, University of British Columbia.

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Author (s): Gurinder Kaur, Y.M.Yiu, T.K. Sham. Department of Chemistry, the University of Western Ontario, London, Canada.

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Author (s): Dennis D. Klug, Steacie Institute for Molecular Sciences, National Research Council of Canada. John S. Tse, Deptartment of Physics, University of Saskatchewan. J.Y. Zhao, W. Sturhahn, and E.E. Alp, Argonne National Laboratory, Advanced Photon Source

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Author (s): Tor Pedersen, Department of Physics, University of Saskatchewan. Gap Soo Chang, Department of Physics, University of Saskatchewan. Junghwa Seo, Institute of Physics and Applied Physics, Yonsei University. Alexander Moewes, Department of Physics, University of Saskatchewan

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Author (s): Brian Haines, Department of Chemistry, University of Saskatchewan. Uday Lanke, Department of Chemistry, University of Saskatchewan. Stephen Urquhart, Department of Chemistry, University of Saskatchewan. Bob Hall, Syncrude Canada Ltd. Kim Kenny, Syncrude Canada Ltd. Stefan Chiovelli, Syncrude Canada Ltd.

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Author (s): Regan G. Wilks, Department of Physics and Engineering Physics, College of Arts and Science, University of Saskatchewan. Janay B. MacNaughton, Stanford Synchrotron Radiation Laboratory. Alex Moewes, Department of Physics and Engineering Physics, College of Arts and Science, University of Saskatchewan Tom Regier, Canadian Light Source Incorporated

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Author (s): S.L. Christensen, Department of Chemistry, University of Saskatchewan. S. Qaqish, Department of Chemistry, University of Saskatchewan. U.D. Lanke, Department of Chemistry, University of Saskatchewan. S.G. Urquhart, Department of Chemistry, University of Saskatchewan. M.F. Paige, Department of Chemistry, University of Saskatchewan.

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Author (s): Jian Wang, Adam P. Hitchcock, Harald D.H. Stöver, BIMR, McMaster University, Hamilton, Ontario, L8S 4M1 Canada; and Tolek Tyliszczak, ALS Division, LBNL, Berkeley, CA 94720 USA

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Author (s): J.S. Tse, Department of Physics and Engineering Physics, University of Saskatchewan, Saskatoon, Canada. H. Sternemann, C. Sternemann, A. Schacht, M. Tolan, Institute of Physics, DELTA, University of Dortmund, D-44221 Dortmund, Germany. S. Desgreniers, Department of Physics, University of Ottawa, Ottawa, Ontario, Canada. Y.Q. Cai, N. Hiraoka, National Synchrotron Radiation Research Center, Hsinchu 30076, Taiwan. G. Vankó European Synchrotron Radiation Facility, Grenoble, France. J.A. Soininen, Division of X-ray Physics, Department of Physical Sciences, University of Helsinki, Finland

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Author (s): Hebert Molero, Ana Mani, Dustin Banham, and Viola Birss, Department of Chemistry, Faculty of Science, University of Calgary

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Author (s): Roxana Flacau, Department of Physics, University of Ottawa. Serge Desgreniers, Department of Physics, University of Ottawa. John S. Tse, Department of Physics and Engineering Physics, University of Saskatchewan

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Author (s): I. Oguocha, Department of Mechanical Engineering, University of Saskatchewan Saskatoon, Saskatchewan. R. Sammynaiken, Saskatchewan Structural Sciences Centre, University of Saskatchewan, Saskatoon, Saskatchewan.

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Author (s): A. Tersigni, D.T. Jiang*, J. Shi, and X.R. Qin. Department of Physics and Physics Institute, University of Guelph. *corresponding author

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Author (s): J. Shi[1], D.T. Jiang[1]*, T. Regier[2,3], and X.R. Qin[1] [1]Department of Physics and Physics Institute, University of Guelph [2]Canadian Light Source [3]Department of Physics and Engineering, University of Saskatchewan *corresponding author

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Author (s): Chad Glemser[1], Chris Hawkes[2], Tom Kotzer[1,3], Jennifer Robb[3], Steve Whittaker[4] 1)Dept. of Geological Sciences, University of Saskatchewan; 2)Dept. of Civil and Geological Engineering, University of Saskatchewan; 3)Canadian Light Source, University of Saskatchewan; 4)Canada Capital Energy Corp., Regina, SK.

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Title: **Speciation of arsenic in insects using X-ray Absorption Spectroscopy**

Author (s): Ruwandi Andrahennadi and Ingrid J. Pickering. Department of Geological Sciences, University of Saskatchewan, 114, Science Place, Saskatoon, Saskatchewan, S7N 5E2, Canada.

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Title: **Se L-edge Spectroscopy at the SGM Beamline as a Tool for Environmental Speciation**

Author (s): Jason Madwid,[†] Dil Thavarajah,[†] Limei Zhang,[†] Ruth Hoffmeyer,[†] Jamie Ruszowski,[†] Christian J. Doonan,[†] Ruwandi Andrahennadi, [†] Satya P. Singh,[†] Cheryl Wiramanaden,[†] Malgorzata Korbas,[†] Thomas Regier, [‡] Robert Blyth, [‡] Graham N. George[†] and Ingrid J. Pickering[†]

[†]Department of Geological Sciences, University of Saskatchewan, 114 Science Place, Saskatoon, Saskatchewan, Canada S7N 5E2, and [‡]Canadian Light Source Inc, 101 Perimeter Road, Saskatoon, Saskatchewan, Canada S7N 0X4

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Author (s): Sumol Nilratnisakorn[1], Paitip Thiravetyan[2], Ingrid J. Pickering[3], Graham N. George[3] and Woranan Nakbanpote[4]

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Author (s): John Hechler, Pamela Koski, Al Lock, and Graeme Spiers. GeoScience Laboratories, Ministry of Northern Development and Mines, Sudbury, ON. Centre for Environmental Monitoring, MIRARCO, Sudbury, ON.

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Title: **Nature of Atmospheric Particulate Matter Within The Sudbury Footprint**

Author (s): Pamela Koski[1,2], Graeme Spiers[1,2] and Jeff Warner[3]. [1]Laurentian University, Sudbury, ON. [2]Centre for Environmental Monitoring, MIRARCO, Sudbury, ON. [3]Canadian Light Source, Saskatoon, SK

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Author(s): Jeff Warner, Canadian Light Source

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Title: **Plasma enhanced CVD growth of diamond film on ferrous alloy substrates**

Author(s): Yuanshi Li, Chijin Xiao, and Akira Hirose, Department of Physics and Engineering Physics, University of Saskatchewan. Yongji Tang, Qiaoqin Yang , Department of Mechanical Engineering, University of Saskatchewan.