

Technical Excellence Update

2009 calendar year
(sorted alphabetically by publication title)

I am pleased to present the *Technical Excellence Update* for the 2009 calendar year, which showcases the public domain publications and presentations available through SRC. This version is sorted alphabetically by the publication title.

SRC continues to be an innovative research and development organization that works in many strategic sectors, including Agriculture, Biotechnology and Food; Alternative Energy and Manufacturing; Energy; Environment and Forestry; and Mining and Minerals. Our employees have a wide range of experience and scientific expertise, enabling SRC to meet unique and varied client needs.

SRC technical specialties include, but are not limited to:

Natural Sciences

Biology, chemistry, computing science, geology, math, physics, etc.

Engineering

Chemical, civil, industrial, mechanical, metallurgical, petroleum, etc.

Management Sciences

Business administration, business disruption/resumption management, commerce, facilities management, information technology, marketing and communications, law, risk management, safety, etc.

Visit our website at www.src.sk.ca for additional calendar year updates.

*Laurier L. Schramm
President and CEO
November 2010*

- 12 Years of Leadership at ARC**, Invited Keynote Speech, Gala Retirement Event Marking the Retirement of the Alberta Research Council's President and CEO, John McDougall, Edmonton, AB, *Schramm, L.L.*, December 16, 2009
- 2009 Satellite Site Field Work**, Presentation, Uranium City Public Meeting, *MacDonell, A.*, May, 6, 2009
- 3D Modeling for Vegetation Analysis**, Presentation, Environmental Systems Research Institute (ESRI) User Conference, Regina, SK, *Thorpe, J.*, September 2009
- A Dry Oasis, Institutional Adaptation to Climate on the Canadian Plains**, Book Chapter, G. Marchildon (ed), Community Case Studies of Vulnerability to Climate Change: Cabri and Stewart Valley, SK; Canadian Plains Research Centre, University of Regina, Regina, SK, p. 261-288, SRC Publication Number# 11899-4E09, *Diaz, H., S. Kulshreshtha, B. Matlock, E. Wheaton, and V. Wittrock*, 2009
- A Semi-Empirical Manganese-in-Garnet Single Crystal Thermometer**, *Lithos* 112S: 177-182, *Creighton, S.*, November 2009
- Adapting to Climate Change: An Adaptation Policy Assessment for the Canadian Forest Sector**, Presentation, Climate Change and Environmental Sustainability in India and Canada: Approaches and Strategies Conference, Chennai, India, *Johnston, M.*, September 2009
- Adapting to Climate Impacts in the Canadian Prairies**, Invited Panel Presentation, Climate Change Multidisciplinary Faculty Panel, U of S, Saskatoon, SK, *Wheaton, E.*, November 2009
- Annual Progress Report for 2006: The Climatological Nature of the 1995-2005 Drought in the Canadian Prairies**, Research Report, Prepared for the Canadian Foundation for Climate and Atmospheric Sciences, 10 pp., SRC Publication Number# 11602-1E09, *Meinert, A., B. Bonsal and E. Wheaton*, February 2009
- Annual Progress Report for 2008: The Climatological Nature of the 1995-2005 Drought in the Canadian Prairies**, Research Report, Prepared for the Canadian Foundation for Climate and Atmospheric Sciences, 15 pp., SRC Publication Number# 11602-2E09, *Meinert, A., B. Bonsal and E. Wheaton*, February 2009
- Better Bioprocessing**, Magazine Article, *Biotechnology Focus*, p.12-15, *Zimmer, C.*, July 2009
- Bioprocessing Activities Overview**, Invited Presentation, Saskatchewan Biorefinery Strategic Planning session, organized by Ag West Bio, Saskatoon, SK, *Pretorius P.J.*, November 18, 2009
- Canada's Tree Species Vulnerability to Climate Change**, Invited Presentation, Canadian Council of Forest Ministers, *Johnston, M.*, 2009
- Capturing the Dynamics of the 1995-2005 Canadian Prairie Drought using the SPI and PDSI**, Invited Presentation, DRI Precipitation and Drought Indices Workshop, Toronto, ON, SRC Publication Number# 11602-3D09, *Meinert, A., B. Bonsal and E. Wheaton*, April 30, 2009
- Carbon Credits**, Presentation, Saskatchewan Environmental Industry and Manager's Association (SEIMA), *Wismer, M.*, November 2009
- Characterization of a Heavy Oil-Propane System in the Presence or Absence of Asphaltene Precipitation**, Research Paper, *Fluid Phase Equilibria*, 277 (1), 1-8, *Luo, P. and Y. Gu*, 2009
- Characterizing the 1999-2005 Canadian Prairie Drought Using Drought Indices**, Presentation, Canada Drought Research Initiative (DRI) Annual General Meeting, Regina, SK, *Wheaton, E., A. Meinert and B. Bonsal*, 2009
- Climate Change Adaptation: Initiatives and Issues in Canada's Forest Sector**, Journal Article, *Forest Policy and Climate Change*, L. Paoloni, Ed. Tellus Editore, Rome, p. 151-184, *Williamson, T. and M. Johnston*, 2009
- Climate Change and its Impacts on Forest Species**, Presentation, Forest Management Branch, Yukon Government, *Johnston, M.*, 2009
- Climate Change: How Will It Affect Saskatchewan?**, Invited Presentation, Frances Morrison Library, Saskatoon, SK, 45 pp., SRC Publication Number# 11178-2D09, *Wheaton, E.*, September 23, 2009
- Climate Hazard, Impacts and Adaptation Project: Overview and Planning**, Presentation, Climate Hazards Planning Workshop, Saskatoon, SK, 21 pp., SRC Publication Number# 12624-1D09, *Wheaton, E. and V. Wittrock*, February 4, 2009
- Climate Hazards Research Planning and Canadian Drought Alert Monitoring Program Testing Workshop February 18, 2009**, Research Report, Prepared for Adaptation and Impacts Research Division, Environment Canada, 48 pp., SRC Publication Number# 12624-4E09, *Wittrock, V., E. Wheaton, C. Beaulieu, B. Bonsal, R. Godwin, G. Koshida, S. Mamer, A. Meinert, N. Nicolichuk, K. Orosz, I. Radchenko, A. Rodriguez-Prado, B. Schreiner, D. Sorley, J. Thorpe, R. Udinoor-Palliath, J. Wilkinson and K. Winder*, March 2009
- Climate Hazards Workshop**, Presentation, Saskatchewan Research Council and University of Saskatchewan, Adaptation and Impacts Research Division, Environment Canada, 5 pp., SRC Publication Number# 12829-1D09, *Wheaton, E., G. Koshida and V. Wittrock*, November 25, 2009
- Climate Hazards, Impacts and Adaptation Project: Highlights**, Presentation, Climate Hazards Planning Workshop #2, Saskatoon, SK, 19 pp., SRC Publication Number# 12624-4D09, *Wheaton, E. and V. Wittrock*, February 18, 2009
- Climate Hazards, Impacts and Adaptation Research Planning Workshop**, Research Report, Prepared for Adaptation and Impacts Research Division, Environment Canada, 70 pp., SRC Publication Number# 12624-3E09, *Wittrock, V. and E. Wheaton*, February 2009
- Climatological Reference Station Saskatoon, Annual Summary, 2008**, Research Report, Saskatchewan Research Council, 54 pp., SRC Publication Number# 10440-1E09, *Beaulieu, C. and V. Wittrock*, May 2009
- Cold Flow: a Multi-Well Cold Production (CHOPS) Model**, Journal Article, *Journal of Canadian Petroleum Technology*, 48(2) 22-28, *Tremblay, B.*, February 2009

- Community Case Studies of Vulnerability to Climate Change: Cabri and Stewart Valley, SK**, Journal Article, *Prairie Forum* 34(1):261-288, SRC Publication Number# 11899-4E09, Diaz, H., S. Kulshreshtha, B. Matlock, E. Wheaton and V. Wittrock, Spring 2009
- Comparing Climate Trends and Extremes: A Saskatoon Case Study**, Invited Presentation, Climate Hazards Workshop, Saskatoon, SK, 19 pp., SRC Publication Number# 12829-2D09, *Beaulieu, C. and E. Wheaton*, November 25, 2009
- Confronting Climate Hazards: Implications for Vulnerability**, Invited Presentation, Research for Disaster-reduction from Extremes Workshop (REDE), Winnipeg, MB, 29 pp., SRC Publication Number# 11178-1D09, *Wheaton, E., V. Wittrock and G. Koshida*, May 20-21, 2009
- Coupling Immiscible CO2 Technology and Polymer Injection to Maximize EOR Performance for Heavy Oils**, Research Paper, Paper No. 2009-008, Proceedings of the 60th Annual Technical Meeting of the Petroleum Society, The Canadian International Petroleum Conference, Calgary, AB, *Zhang, Y., S. Huang, and P. Luo*, June 16-18, 2009
- Drain Water Recovery - SRC Test Facilities**, Invited Presentation, Hot Water Forum 2009, Monterey, CA, *James, C.*, June 2009
- Drought Characterizations**, Presentation, Climate Hazards Workshop, 18 pp., SRC Publication Number# 12829-3D09, *Bonsal, B., E. Wheaton, E. Siemens and N. Nicolichuk*, November 25, 2009
- Drought Impacts - Science and Social Costs ENVS 898 Selected Reading Course**, Research Report, School of Environment and Sustainability, University of Saskatchewan, Saskatchewan Research Council, Environment and Forestry, Saskatoon, SK, 7 pp., SRC Publication Number# 12829-11E09, *Kulshreshtha, S. and E. Wheaton*, December 2009
- Energy Efficient Building Products**, Invited Presentation, Saskatchewan Home Builders Association (SHBA), Builders and Renovators Industry Trade Forum, Saskatoon, SK, *Winder, K.*, May 2009
- Energy Saving Opportunities in Recreational Facilities**, Invited Presentation, SIAST, Saskatoon, SK, *Winder, K.*, February 2009
- Evidence That Naturally Occurring Inhibitors Affect the Low-Temperature Oxidation Kinetics of Heavy Oil**, Conference Presentation, Canadian International Petroleum Conference (CIPC), Calgary, AB, *Freitag, N.P.*, June 16-18, 2009
- From Sampling to Report - How to get the Most from Your Test Results**, Presentation, Northern Waterworks Annual Workshop, La Ronge, SK, *Zimmer, J. and W. Yuen*, 2009
- Funding Assistance for Net Metering Projects**, Invited Presentation, Bruno Credit Union, Bruno, SK; Craik Solar Living Project (CSLP) Solar Fair and Trade Show, Craig, SK; Going Green... Growing Green Conference, Saskatoon, SK, *Winder, K.*, 2009
- Future Climate Conditions in the South Saskatchewan River Basin**, Invited Presentation, Stakeholder Workshop on Climate Change in Saskatchewan, Regina, SK, SRC Publication Number# 11899-3D09, *Sauchyn, D., C. Perez Valdivia, S. Lapp, E. Wheaton and V. Wittrock*, November 26, 2009
- Global Climate Models and Downscaling: An Introduction**, Invited Presentation, Renewable Resources Management 389.3, University of Saskatchewan, Saskatoon, SK, SRC Publication Number# 11178-3D09, *Barrow, E. and E. Wheaton*, November 19, 2009
- Gunnar & Lorado Legacy Sites - Licencing Exemption Extension**, Presentation, Canadian Nuclear Safety Commission (CNSC), Ottawa, ON, *Muldoon, J. and A. MacDonell*, December 10, 2009
- Gunnar Mine Site Environmental Assessment Progress**, Presentation, Uranium City Public Meeting, *MacDonell, A.*, October 7, 2009
- Gunnar Uranium Mine Environmental Remediation – Northern Saskatchewan**, Presentation and Published Conference Proceedings Paper, 12th International Conference on Environmental Remediation and Radioactive Waste Management, ICEM'09/DECOM'09, Liverpool, UK, Peer-reviewed Paper, ICEM2009-16102, 12 pp., *Muldoon, J. and L.L. Schramm*, October 11-15, 2009
- Gunnar Uranium Mine Remediation**, Presentation, Athabasca Regional Government Land and Resources Conference, Fond du Lac, SK, *MacDonell, A.*, November 2009
- Gunnar Uranium Mine Remediation - Northern Saskatchewan**, Presentation, Environmental Quality Committee, La Ronge, SK, *Simpson, M.*, November 18, 2009
- How CO2 and Steam are Defining Canada's Petroleum Resources**, Presentation, North Dakota Society of Professional Engineers Annual Meeting, *Kristoff, B.J.*, April 15, 2009
- Hybrid Poplar Growth in Bioenergy Production Systems: Biomass Prediction with a Simple Process-Based Model (3PG)**, Research Report, Biomass and Bioenergy Journal, *Amichev, B., M. Johnston and K.C.J. Van Rees*, September 2009
- Implementation of CO2 Flooding in Southeast Saskatchewan**, Presentation, Penn West Energy Trust, *Luo, P.*, November 18, 2009
- Improvements in Using Chromite and Clinopyroxene in Diamond Exploration**, Poster Presentation, Saskatchewan Geological Survey Open House, Saskatoon, SK, *Creighton, S.*, November 2009
- National Drought Study Update: Developing the Prairies Component**, Invited Presentation, Adaptation, Impacts and Research Division (AIRD) National Project Review Meeting, Fredericton, NB, SRC Publication Number# 12803-1D09, *Koshida, G., E. Wheaton and V. Wittrock*, August 20, 2009
- Poplar and Willow Fungicide Screening Trial**, Poster, Poplar Council of Canada, Regina, SK, *Pappy, S.*, September 2009
- Potential Utility of RT-PCR to Detect and Quantify Fusarium spp. Causing FHB in Oat**, Poster Presentation, 6th Canadian Workshop on Fusarium Head Blight, Ottawa, ON, *Grewal, T.S., W. Yan, W. Yajima, X.M. Zhang, A. Beattie, G.J. Scoles and B.G. Rossnagel*, November 1-4, 2009
- Practical Application of Marker-Assisted Selection for Net Blotch Resistance in Barley**, Poster Presentation, 7th Canadian Plant Genomics Workshop, Saskatoon, SK, *Grewal, T.S., P.E. Eckstein, B.G. Rossnagel, and G.J. Scoles*, August 24-27, 2009
- Prairie Climates are Hazardous!! An Overview**, Presentation, Hazards Planning Workshop, Saskatoon, SK, 29 pp., SRC Publication Number# 12624-2D09, *Wittrock, V. and E. Wheaton*, February 18, 2009

- Predictive Vegetation Mapping and 3D Visualization**, Presentation, Saskatchewan Ministry of Tourism, Parks and Sport, *Thorpe, J.*, November 2009
- Predictive Vegetation Mapping at Grasslands National Park**, Invited Presentation, Environmental Systems Research Institute (ESRI) Users Conference, Regina, SK, *Thorpe, J.*, September 2009
- Preparing for Extreme Climatic Events: How Do We Improve?**, Invited Presentation, National Agriculture-Water Forum on Agricultural Adaptation to Climate Change (Agriculture and Agri-Food Canada) 14 pp., SRC Publication Number# 12624-12D09, *Wheaton, E. and V. Wittrock*, March 17-18, 2009
- Productivity Improvement in the Viking Reservoirs of West-Central Saskatchewan**, Research Paper, Proceedings of the 60th Annual Technical Meeting of the Petroleum Society, The Canadian International Petroleum Conference, Calgary, AB, Paper No. 2009-008 p.1-13, *Sayegh, S., P. Luo, Y. Zhang and S. Huang*, June 16-18, 2009
- Role of Climate in Outbreaks of West Nile Virus, Saskatchewan**, Presentation, American Association of Geographers' Annual Meeting, Las Vegas, NV, 24 pp., SRC Publication Number# 12624-6D09, *Wheaton, E., P. Curry and V. Wittrock*, March 23-27, 2009
- Rural Community Vulnerability: Institutional Adaptations to Climate Change Project**, Invited Presentation, Stakeholder Workshop on Climate Change in Saskatchewan, Regina, SK, SRC Publication Number# 11899-2D09, *Hadarits, M., V. Wittrock, S. Kulshreshtha, E. Wheaton and J. Pittman*, November 26, 2009
- Saskatchewan's Natural Capital in a Changing Climate: An Assessment of Impacts and Adaptation**, Research Report, Report to Saskatchewan Ministry of Environment from the Prairie Adaptation Research Collaborative, 167 pp., *Sauchyn, D., E. Barrow, X. Fang, N. Henderson, M. Johnston, J. Pomeroy, J. Thorpe, E. Wheaton and B. Williams*, 2009
- Saskatchewan's Place in the Canadian Oil Sands**, Presentation and Published Conference Proceedings Paper, Canadian International Petroleum Conference, Petroleum Society of CIM, Calgary, AB, Paper 2009-116, 12 pp., *Schramm, L.L., J.W. Kramers and E.E. Isaacs*, June 16-18, 2009
- Saskatchewan's Natural Capital in a Changing Climate: An Assessment of Impacts and Adaptation**, Research Report, Report to the Saskatchewan Ministry of Environment from the Prairie Adaptation Research Collaborative, Regina, SK, 167 pp., SRC Publication Number# 11299-1E09, *Wheaton, E. Agriculture. in: Sauchyn D., E. Barrow, X. Fang, N. Henderson, M. Johnston, J. Pomeroy, J. Thorpe, E. Wheaton and B. Williams*, April 2009
- Saskatchewan's SLOWPOKE**, Magazine Article, Saskatchewan Business Magazine, *Stanek, B.*, March 2009
- Saskatchewan's Thermal Bioprocessing and Syngas Utilization**, Presentation, World Congress of Industrial Biotechnology, Montreal, QC, *Anweiler, D.*, 2009
- Sixty-Two Years of Change in Subtropical Wet Forest Structure and Composition at El Verde, Puerto Rico**, Journal Article, *Interciencia* 34:34-40, *Drew, A.P., J.D. Boley, Y. Zhao, M. Johnston and F.H. Wadsworth*, 2009
- SRC Environmental Analytical Laboratories Products and Services**, Presentation, Canadian Institute of Public Health Inspectors (CIPI), Saskatchewan Branch Annual Conference, *Stanek, B.*, November 2009
- Sustainable Energy Alternatives**, Invited Presentation, Sustainable Energy Alternatives Workshop, North Battleford, SK; Prince Albert Development and Diversification Board, Prince Albert, SK, *Sieber, R.*, 2009
- Testing Acidic Soils using Boreal Forest Plants**, Invited Presentation, Society of Environmental Chemistry and Toxicology, New Orleans, LA, *Moody, M.J.*, November 2009
- The First 21st Century Extreme Drought Event and Its Impacts on Canadian Prairie Communities**, Presentation, Annual National Conference of the Canadian Meteorological and Oceanographic Society Climate Change and Extreme Events (Part 3), Halifax, NS, Session #3043, Paper #2783, 29 pp., SRC Publication Number# 11899-1D09, *Wittrock, V., S. Kulshreshtha and E. Wheaton*, May 31-June 4, 2009
- The Fischer-Tropsch Process**, Invited Lecture, 4th Year students, College of Agriculture, University of Saskatchewan, Saskatoon, SK, *Pretorius P.J.*, November, 27, 2009
- The Future of Innovation in Saskatchewan**, Invited Panel Speaker and Overall Master of Ceremonies, Saskatchewan Innovation Summit, Saskatoon, SK, *Schramm, L.L.*, April 30, 2009
- TRIBE: Wastewater Irrigation on Tree Plantations in India**, Presentation, Climate Change and Environmental Sustainability in India and Canada: Approaches and Strategies Conference, Chennai, India, *Johnston, M.*, September 2009
- Unconventional Petroleum Resources in Saskatchewan: Heavy Oil, Oil Sands, and Oil Shale**, Conference Presentation, Atlantic Canada Petroleum Show, St. John's, NF, *Schramm, L.L.*, June 16, 2009
- Watching and Preparing for Climate Impacts and Adaptations**, Invited Presentation, Climate Change Awareness Walk, organized by the Saskatchewan Environmental Society and the University of Saskatchewan for the International Day of Climate Action Activities, Saskatoon, SK, 2 pp., SRC Publication Number# 11225-9D09, *Wheaton, E.*, October 24, 2009
- West Nile Virus Outbreaks: The Climate Factor**, Invited Presentation, Climate Hazards Workshop, Saskatoon, SK, SRC Publication Number# 12829-10D09, *Wittrock, V., P. Curry and E. Wheaton*, November 25, 2009

For more information, contact:
 SRC Business Ventures and Communications
 125 - 15 Innovation Blvd.
 Saskatoon, SK Canada S7N 2X8
 Toll Free (Saskatchewan Only):
 1-877-772-7227
 Saskatoon and Outside Saskatchewan:
 306-933-5400