

# Technical Excellence Update

2009 calendar year  
(sorted alphabetically by publication author)

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 author.

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](http://www.src.sk.ca) for additional calendar year updates.

*Laurier L. Schramm  
President and CEO  
November 2010*

- Anweiler, D. (2009), *Saskatchewan's Thermal Bioprocessing and Syngas Utilization*. Presentation, World Congress of Industrial Biotechnology, Montreal, QC.
- Barrow, E. and E. Wheaton. (2009), *Global Climate Models and Downscaling: An Introduction*. Invited Presentation, Renewable Resources Management 389.3, University of Saskatchewan, SRC Publication No. 11178-3D09, Saskatoon, SK.
- Beaulieu, C. and E. Wheaton. (2009), *Comparing Climate Trends and Extremes: A Saskatoon Case Study*. Invited Presentation, Climate Hazards Workshop, SRC Publication No. 12829-2D09, Saskatoon, SK, 19 pp.
- Beaulieu, C. and V. Wittrock. (2009), *Climatological Reference Station Saskatoon, Annual Summary, 2008*. Research Report, Saskatchewan Research Council, SRC Publication No. 10440-1E09, Saskatoon, SK, 54 pp.
- Bonsal, B., E. Wheaton, E. Siemens and N. Nicolichuk. (2009), *Drought Characterizations*. Presentation, Climate Hazards Workshop, SRC Publication No. 12829-3D09, 18 pp.
- Creighton, S. (2009), *A Semi-Empirical Manganese-in-Garnet Single Crystal Thermometer*. Research Paper, Lithos 112S: 177-182.
- Creighton, S. (2009), *Improvements in Using Chromite and Clinopyroxene in Diamond Exploration*. Poster Presentation, Saskatchewan Geological Survey Open House, Saskatoon, SK.
- Diaz, H., S. Kulshreshtha, B. Matlock, E. Wheaton and V. Wittrock. (2009), *Community Case Studies of Vulnerability to Climate Change: Cabri and Stewart Valley, SK*. Journal Article, Prairie Forum 34(1):261-288, SRC Publication No. 11899-4E09.
- Diaz, H., S. Kulshreshtha, B. Matlock, E. Wheaton, and V. Wittrock. (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, SRC Publication No. 11899-4E09, Regina, SK, p. 261-288.
- Drew, A.P., J.D. Boley, Y. Zhao, M. Johnston and F.H. Wadsworth. (2009), *Sixty-Two Years of Change in Subtropical Wet Forest Structure and Composition at El Verde, Puerto Rico*. Journal Article, Interciencia 34:34-40.
- Freitag, N.P. (2009), *Evidence That Naturally Occurring Inhibitors Affect the Low-Temperature Oxidation Kinetics of Heavy Oil*. Conference Presentation, Canadian International Petroleum Conference (CIPC), Calgary, AB.
- Grewal, T.S., P.E. Eckstein, B.G. Rossnagel, and G.J. Scoles. (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., W. Yan, W. Yajima, X.M. Zhang, A. Beattie, G.J. Scoles and B.G. Rossnagel. (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.
- Hadarits, M., V. Wittrock, S. Kulshreshtha, E. Wheaton and J. Pittman. (2009), *Rural Community Vulnerability: Institutional Adaptations to Climate Change Project*. Invited Presentation, Stakeholder Workshop on Climate Change in Saskatchewan, SRC Publication No. 11899-2D09, Regina, SK.
- James, C. (2009), *Drain Water Recovery - SRC Test Facilities*. Invited Presentation, Hot Water Forum, Monterey, CA.
- Johnston, M. (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. (2009), *Canada's Tree Species Vulnerability to Climate Change*. Invited Presentation, Canadian Council of Forest Ministers.
- Johnston, M. (2009), *Climate Change and its Impacts on Forest Species*. Presentation, Forest Management Branch, Yukon Government.
- Johnston, M. (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.
- Koshida, G., E. Wheaton and V. Wittrock. (2009), *National Drought Study Update: Developing the Prairies Component*. Invited Presentation, Adaptation, Impacts and Research Division (AIRD) National Project Review Meeting, SRC Publication No. 12803-1D09, Fredericton, NB.
- Kristoff, B.J. (2009), *How CO<sub>2</sub> and Steam are Defining Canada's Petroleum Resources*. Presentation, North Dakota Society of Professional Engineers Annual Meeting.
- Kulshreshtha, S. and E. Wheaton. (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, SRC Publication No. 12829-11E09, Saskatoon, SK, 7 pp.
- Luo, P. (2009), *Implementation of CO<sub>2</sub> Flooding in Southeast Saskatchewan*. Presentation, Penn West Energy Trust.
- Luo, P. and Y. Gu. (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.
- MacDonell, A. (2009), *2009 Satellite Site Field Work*. Presentation, Uranium City Public Meeting.
- MacDonell, A. (2009), *Gunnar Mine Site Environmental Assessment Progress*. Presentation, Uranium City Public Meeting.
- MacDonell, A. (2009), *Gunnar Uranium Mine Remediation*. Presentation, Athabasca Regional Government Land and Resources Conference, Fond du Lac, SK.
- Meinert, A., B. Bonsal and E. Wheaton. (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, SRC Publication No. 11602-1E09, 10 pp.

- Meinert, A., B. Bonsal and E. Wheaton. (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, SRC Publication No. 11602-2E09, 15 pp.
- Meinert, A., B. Bonsal and E. Wheaton. (2009), *Capturing the Dynamics of the 1995-2005 Canadian Prairie Drought using the SPI and PDSI*. Invited Presentation, DRI Precipitation and Drought Indices Workshop, SRC Publication No. 11602-3D09, Toronto, ON, 10 pp.
- Moody, M.J. (2009), *Testing Acidic Soils using Boreal Forest Plants*. Invited Presentation, Society of Environmental Chemistry and Toxicology, New Orleans, LA.
- Muldoon, J. and A. MacDonell. (2009), *Gunnar & Lorado Legacy Sites - Licencing Exemption Extension*. Presentation, Canadian Nuclear Safety Commission (CNSC). Ottawa, ON.
- Muldoon, J. and L.L. Schramm. (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, ICEM(2009)-16102, 12 pp.
- Poppy, S. (2009), *Poplar and Willow Fungicide Screening Trial*. Poster, Poplar Council of Canada, Regina, SK.
- Pretorius P.J. (2009), *Bioprocessing Activities Overview*. Invited Presentation at the Saskatchewan Biorefinery Strategic Planning session, organized by Ag West Bio, Saskatoon, SK.
- Pretorius P.J. (2009), *The Fischer-Tropsch Process*. Invited Lecture, 4th Year students, College of Agriculture, University of Saskatchewan, Saskatoon, SK.
- Sauchyn, D., C. Perez Valdivia, S. Lapp, E. Wheaton and V. Wittrock. (2009), *Future Climate Conditions in the South Saskatchewan River Basin*. Invited Presentation, Stakeholder Workshop on Climate Change in Saskatchewan, SRC Publication No. 11899-3D09, Regina, SK.
- Sauchyn, D., E. Barrow, X. Fang, N. Henderson, M. Johnston, J. Pomeroy, J. Thorpe, E. Wheaton and B. Williams. (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.
- Sayegh, S., P. Luo, Y. Zhang and S. Huang. (2009), *Productivity Improvement in the Viking Reservoirs of West-Central Saskatchewan*. Research Paper, Paper No. 2009-160, Proceedings of the 60th Annual Technical Meeting of the Petroleum Society, The Canadian International Petroleum Conference, Calgary, AB.
- Schramm, L.L. (2009), *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. (2009), *The Future of Innovation in Saskatchewan*. Invited Panel Speaker and Overall Master of Ceremonies, Saskatchewan Innovation Summit, Saskatoon, SK.
- Schramm, L.L. (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., J.W. Kramers and E.E. Isaacs. (2009), *Saskatchewan's Place in the Canadian Oil Sands*. Presentation and Published Conference Proceedings Paper, Canadian International Petroleum Conference, Petroleum Society of CIM, Paper (2009)-116, Calgary, AB, 12 pp.
- Sieber, R. (2009), *Sustainable Energy Alternatives*. Invited Presentation, Sustainable Energy Alternatives Workshop, North Battleford, SK; Prince Albert Development and Diversification Board, Prince Albert, SK.
- Simpson, M. (2009), *Gunnar Uranium Mine Remediation - Northern Saskatchewan*. Presentation, Environmental Quality Committee, La Ronge, SK.
- Stanek, B. (2009), *Saskatchewan's SLOWPOKE*. Magazine Article, Saskatchewan Business Magazine.
- Stanek, B. (2009), *SRC Environmental Analytical Laboratories Products and Services*. Presentation, Canadian Institute of Public Health Inspectors (CIPHI), Saskatchewan Branch Annual Conference.
- Thorpe, J. (2009), *3D Modeling for Vegetation Analysis*. Presentation, Environmental Systems Research Institute (ESRI) User Conference, Regina, SK.
- Thorpe, J. (2009), *Predictive Vegetation Mapping and 3D Visualization*. Presentation, Saskatchewan Ministry of Tourism, Parks and Sport.
- Thorpe, J. (2009), *Predictive Vegetation Mapping at Grasslands National Park*. Invited Presentation, ESRI Users Conference, Regina, SK.
- Tremblay, B. (2009), *Cold Flow: a Multi-Well Cold Production (CHOPS) Model*. Journal Article, Journal of Canadian Petroleum Technology, 48(2) 22-28.
- Wheaton, E. (2009), *Adapting to Climate Impacts in the Canadian Prairies*. Invited Panel Presentation, Climate Change Multidisciplinary Faculty Panel, U of S, Saskatoon, SK.
- Wheaton, E. (2009), *Climate Change: How Will It Affect Saskatchewan?* Invited Presentation, Frances Morrison Library, SRC Publication No. 11178-2D09, Saskatoon, SK, 45 pp.
- Wheaton, E. (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, SRC Publication No. 11225-9D09, Saskatoon, SK, 2 pp.



- Wheaton, E. Agriculture in: Sauchyn, D., E. Barrow, X. Fang, N. Henderson, M. Johnston, J. Pomeroy, J. Thorpe, E. Wheaton, B. Williams. (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, SRC Publication No. 11299-1E09, Regina, SK. 167 pp.
- Wheaton, E. and V. Wittrock. (2009), *Climate Hazard, Impacts and Adaptation Project: Overview and Planning*. Presentation, Climate Hazards Planning Workshop, SRC Publication No. 12624-1D09, Saskatoon, SK, 21 pp.
- Wheaton, E. and V. Wittrock. (2009), *Climate Hazards, Impacts and Adaptation Project: Highlights*. Presentation, Climate Hazards Planning Workshop #2, SRC Publication No. 12624-4D09, Saskatoon, SK, 19 pp.
- Wheaton, E. and V. Wittrock. (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), SRC Publication No. 12624-1D09, 14 pp.
- Wheaton, E., A. Meinert and B. Bonsal. (2009), *Characterizing the 1999-2005 Canadian Prairie Drought Using Drought Indices*. Presentation, Canada Drought Research Initiative (DRI) Annual General Meeting, Regina, SK.
- Wheaton, E., G. Koshida and V. Wittrock. (2009), *Climate Hazards Workshop*. Presentation, Saskatchewan Research Council and University of Saskatchewan, Adaptation and Impacts Research Division, Environment Canada, SRC Publication No. 12829-1D09, 5 pp.
- Wheaton, E., P. Curry and V. Wittrock. (2009), *Role of Climate in Outbreaks of West Nile Virus, Saskatchewan*. Presentation, American Association of Geographers' Annual Meeting, SRC Publication No. 12624-6D09, Las Vegas, NV, 24 pp.
- Wheaton, E., V. Wittrock and G. Koshida. (2009), *Confronting Climate Hazards: Implications for Vulnerability*. Invited Presentation, Research for Disaster-reduction from Extremes Workshop (REDE), SRC Publication No. 11178-1D09, Winnipeg, MB, 29 pp.
- Williamson, T. and M. Johnston. (2009), *Climate Change Adaptation: Initiatives and Issues in Canada's Forest Sector*. Journal Article, Forest Policy and Climate Change, L. Paoloni, Ed. Tellus Editore, p. 151-184, Rome.
- Winder, K. (2009), *Energy Efficient Building Products*. Invited Presentation, Saskatchewan Home Builders Association (SHBA), Builders and Renovators Industry Trade Forum, Saskatoon, SK.
- Winder, K. (2009), *Energy Saving Opportunities in Recreational Facilities*. Invited Presentation, SIAST, Saskatoon, SK.
- Winder, K. (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.
- Wismer, M. (2009), *Carbon Credits*. Presentation, Saskatchewan Environmental Industry and Manager's Association (SEIMA).
- Wittrock, V. and E. Wheaton. (2009), *Climate Hazards, Impacts and Adaptation Research Planning Workshop*. Research Report, Prepared for Adaptation and Impacts Research Division, Environment Canada, SRC Publication No. 12624-3E09, 70 pp.
- Wittrock, V. and E. Wheaton. (2009), *Prairie Climates are Hazardous!! An Overview*. Presentation, Hazards Planning Workshop, SRC Publication No. 12624-2D09, Saskatoon, SK, 29 pp.
- 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. (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, SRC Publication No. 12624-4E09, 48 pp.
- Wittrock, V., P. Curry and E. Wheaton. (2009), *West Nile Virus Outbreaks: The Climate Factor*. Invited Presentation, Climate Hazards Workshop, SRC Publication No. 12829-10D09, Saskatoon, SK.
- Wittrock, V., S. Kulshreshtha and E. Wheaton. (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), Session #3043, Paper #2783, SRC Publication No. 11899-1D09, Halifax, NS, 29 pp.
- Zhang, Y., S. Huang, and P. Luo. (2009), *Coupling Immiscible CO2 Technology and Polymer Injection to Maximize EOR Performance for Heavy Oils*. Research Paper, Paper No. 2009-008 p.1-13, Proceedings of the 60th Annual Technical Meeting of the Petroleum Society, The Canadian International Petroleum Conference, Calgary, AB.
- Zimmer, C. (2009), *Better Bioprocessing*. Magazine Article, Biotechnology Focus, p.12-15.
- Zimmer, J. and W. Yuen. (2009), *From Sampling to Report - How to get the Most from Your Test Results*. Presentation, Northern Waterworks Annual Workshop, La Ronge, SK.

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