

Canadian Mineral Processors 42nd Annual Operators Conference

The Canadian Mineral Processors 42nd Annual Operators Conference was held in Ottawa, January 19-21, 2010 at the Westin Ottawa. Chairman Robert Henderson from Kinross welcomed 432 delegates from 17 countries. The conference, recognized worldwide as one of the best in its field, included technical papers on process mineralogy, operations, new ideas, hydrometallurgy, modeling and control and comminution.

Technical Program:

An outstanding technical program, organized by Vice Chair, Dominic Fragomeni from Xstrata Process Support featured 35 presentations including CIM Distinguished Lecturer Don Thompson's Plenary Lecture: Setting the Record Straight. A brief summary of the technical program including the short course is given below.



Chairman Robert Henderson opens the 42nd Annual Conference

Short Course: Thirty-six delegates participated in a one-day short course on National Instrument 43-101 Standards of Disclosure for Mineral Projects given by AMEC instructors Greg Gossan and Tony Lipiec.

This course went through each of the disclosure requirements under NI 43-101 that are pertinent to metallurgists, and other Qualified Persons that prepare technical disclosure on the metallurgy of a mineral project. The instructors reviewed the requirements to be considered a Qualified Person for metallurgy and process engineering, and the obligations of those individuals under NI 43-101 and other securities law. As well they briefly outlined new civil liabilities legislation in Canada that increases the possible consequences for not complying with the disclosure standards.



National Instrument 43-101 Standards of Disclosure for Mineral Projects short course given by AMEC instructors Greg Gossan and Tony Lipiec.

Technical Sessions

Operation: Papers included the Development and Commissioning of Ontario's First Diamond Mine – The Victor Diamond Mine, Mohawk Garnet, Frother and Collector Effects on Flotation Cell Hydrodynamics and their Implication on Circuit Performance Advancements in Coarse and Fine Particle Flotation, Operational Characteristics of the TankCell® 300 at Codelco's Chuquicamata Concentrator, and Development of a Thiosalt Treatment System at Xstrata Copper Kidd Metallurgical Site.

Process Mineralogy: Papers included Process Diagnosis Using Quantitative Mineralogy, ToF-SIMS Surface Analyses as a Diagnostic and Predictive Tool for Mineral Processing: New Developments and Applications, Process Mineralogy of Silver Ores and Applications in Flowsheet Design and Plant Optimization, Stratified Sampling, Advances in Precious Metal Trace Element Analyses for Department Using LAM-ICP-MS and Vision for a Risk Adverse Integrated Geometallurgy Framework.

New Ideas and Technology: Papers in this session included the Right Tools in the Right Place: How Xstrata Nickel Australasia Increased Ni throughput at its Cosmos Plant, Innovative Mineral Processing Technologies – A first decade of R&D at COREM, Laboratory Testwork for Mixed Xanthates for Raglan Ore, Use of the Latest Technology to Overcome the Demands of Mill Operation, National Instrument 43-101 Standards of Disclosure For Mineral Projects – What Metallurgists Should Know and Improving Mine/Mill Water Network Design by Reducing Water and Energy Requirements.

Hydrometallurgy: Papers included the Re-emergence of Resin in Pulp with Strong Base Resins as a Low Cost, Technically Viable Process for the Recovery of Uranium, Kupol Mill Leach Operation in 2008-09, Commissioning of the Intensive Cyanidation Plant to treat Concentrate from the Selene Mine at the Ares Mill, An Economic and Environmental Case for Re-processing Gold Tailings in South Africa and Engineered Membrane Separation® (EMS®) Systems for Hydrometallurgical Applications.

Modeling and Control: Papers in this session included Combining Dynamic Logistics Simulation with Process Modeling to Support Capacity Expansion Studies: Experience at ArcelorMittal Mines Canada Pellet Plant, Asset Optimization through Process Control at Xstrata Alloys - Eland Platinum - "Optimal Doesn't Always Rhyme with Capital", Kairos Mining, A Comprehensive Approach to Sustained Long-Term Benefits in Copper Processing Plant Automation, Design and Implementation of Advanced Automatic Control Strategy Based on Dynamic Models for High Capacity SAG Mill and the Application of Crushers and Screens in the Mining Industry: More Art than Science

Comminution: The final session of the conference presented papers on SAG or HPGR? – The Current Dilemma, Successful Design of the NICO Grinding Circuit for Unusually Hard Ore, The South American Experience in Adopting Twin Machine Grinding Mill Relining Technologies, A Comparison of Energy Requirements of an HPGR/Stirred Mill Circuit and Conventional Grinding Circuits for the Comminution of Mesaba Ore, Detection of Hydrocyclone Malfunction and the Benefits and Challenges of “Split Milling” at the Williams Mill

10th East/West Hockey Challenge

The 10th anniversary CMP East/West Hockey Challenge was played at Carleton University and proved to be another exciting game in which for the second year in a row the West took sweet revenge over the East with a score of 7-3. Following the game, CMP Hockey Coordinator, Ken Roberts unveiled a new trophy “The Ray MacDonald Player of the Game Award” and this year it was presented to Ken Major from the Western Team.



10th East/West Hockey Challenge Players and Coaches



Ray MacDonald, Ken Roberts, 2010 Player of the Game Ken Major

Chairman's Reception

Robert Henderson hosted the Chairman's reception on the Tuesday evening. This always lively reception provided delegates with an opportunity to network and get re-acquainted. This year all students attending the CMP had an opportunity to participate in the Student Scavenger Event. The CMP Student Scavenger Hunt is a networking-type game in which the students are asked find CMP delegates matching the twenty-five questions on the scavenger hunt BINGO page. Some of this year's questions included who worked at high altitudes (over 4000 m) and who played hockey for the winning team at the CMP Tournament. Gabriel Gagnon from McGill University won the 2010 Student Scavenger Hunt and was awarded \$250 for his efforts while runner-up Adam Jordens from University of Alberta received \$150.



Gabriel Gagnon from McGill University receiving his first place prize from Donald Leroux for winning the Student Scavenger Hunt.

Annual CMP Business Meeting

The Annual CMP Business Meeting was held on the Wednesday morning and included report on activities from the executive, presentation of the 2008-2009 audit report as well as other business from the floor. In addition, the following nominees for executive officers of the CMP for 2010/11 were presented and accepted:

Chair	Dominic Fragomeni
1st Vice-Chair	Donald Leroux
2nd Vice-Chair	Erin Legault-Seguin
Past Chair	Robert Henderson
Secretary	Janice Zinck
Treasurer	Ray MacDonald

The 2010/2011 CMP Regional Representatives are as follows:

Maritime	Vacant	NFLD/Labrador	Vacant
Toronto	Robert Raponi	Central Ontario	Marta Bailey
N.W. Quebec	Marie-Pier Bédard	N.E. Ontario	Vacant
Manitoba	Cassandra Spence	Montreal	Colin Hardie
Saskatchewan	Lorne Schwartz	Superior	Erin Legault-Seguin
Alberta/N.W.T/ Nunavut	Jeremy Smith	B.C./Yukon	Tad Crowie



CMP Board of Directors 2010/2011

(L to R – Seated: Donald Leroux, Dominic Fragomeni, Robert Henderson, Lucky Amaratunga. Standing: John Starkey, Tad Crowie, Erin Legault-Seguin, Janice Zinck, Stuart McTavish, Ray MacDonald, Cassandra Spence. Absent: Robert Raponi, Marta Bailey, Marie-Pier Bédard, Colin Hardie, Lorne Schwartz, Jeremy Smith

Call for Papers – CMP 2011

Donald Leroux, Technical Program Chairman for CMP 2011 issued the 1st Call for Papers for the 43rd Annual Canadian Mineral Processors Operators Conference to be held January 18-20, 2011, in Ottawa, Ontario.

CMP Sponsored Students

Each year the CMP brings two students from each university/college that has a mineral processing program to the CMP conference. The CMP 2010 sponsored students are listed below.

Dalhousie University - Will Brown and Morgan Roberts

Université Laval - François Lavoie and Benjamin Marcoux

McGill University - Nalini Singh and Gabriel Gagnon

Queens University - Spencer Reeves and Zeid El Jundi

University of Toronto - Hamza Saleem and Zain Badami

Laurentian University - Mathhigonolo Mooketsana and Labone Ikgopoleng

University of Alberta - Andrea Jeffrey and Adam Jordens

University of British Columbia - Austin Callaghan and Vanessa Roeland

CEGEP de L'Abitibi-Temiscamingue - Keven Gauthier and Stéphane Marcoux Gagne

CEGEP de L'Amiante - Pascal Guimond and Karyne Bourque
Haileybury School of Mines, Northern College - Kory Hodgins and Dennis Mitchell
Cambrian College - Jennifer Christakos and Pierre Gagnon
University College of the North - Leah Berscheid and Sheldon Drodge
British Columbia Institute of Technology - Juho Uuraslahti and Matthew Hercun



2010 CMP Sponsored Students

The student program is funded by sponsorship from various mineral processing companies and related organizations. The CMP executive thanks the following sponsors:

Algosys	Kinross Gold
AMEC	Lochhead Haggerty Eng. & Manufacturing
Ashland Hercules Water Technologies	Magotteaux Canada
Barrick	Metso
BBA	Molycop/Scaw
Brenntag Canada Inc.	Multotec Canada
Canadian Process Technologies Inc.	Nalco
CANMET-MMSL (Natural Resources Canada)	Norcast
CHEMIQA	Outotec
COREM	Quadra
Cytec	SGS Lakefield
Elecmetal	SNC Lavalin
FLSmith	SNF Canada Ltd
G & T Metallurgical services Ltd.	Starkey & Associates Inc.
Genivar	Univar Canada
Hatch	Vale Inco
Heath & Sherwood (1964) Ltd.	The Westin Ottawa
Honeywell Process Solutions	Xstrata Process Support
Kalprotect	Xstrata Technology
Kemix	

Annual Reception and Awards Banquet

On the evening of Wednesday, January 20th Robert Henderson welcomed delegates in the Westin Confederation Ballroom for the annual reception, dinner and presentation of awards. Rob introduced the 28 sponsored students, life member Ray MacDonald, MetSoc Chairman Nathan Stabina and other distinguished guests. Following an excellent banquet dinner Robert Henderson and Ian Orford presented the 2010 CMP awards.

Presentation of the Awards

Each year the Canadian Mineral Processor's recognizes the best of the best in the mineral processing community at its annual awards banquet. Ian Orford as CMP Past Chair coordinated the selection of the 2010 award winners and along with Chair, Robert Henderson presented the awards to the recipients.

SAG Scholarship Award Winners

Prior to presenting the CMP Awards Ian Orford announced the winners of the SAG Scholarships. CMP is one of the three SAG sponsoring organizations. This year SAG awarded three scholarships, one post-graduate scholarship of \$10,000 to Reem Roufail of UBC and two undergraduate scholarships of \$5,000 to Nalini Singh of McGill University and Vanessa Roeland of UBC.

CMP Student Essay Contest

Dr. Lucky Amaratunga, Chair of the CMP Education Committee coordinated the 2009 CMP Student Essay competition. On the closing date of October 1st, 2009 eight essays were received (2-Queens, 1-UBC, 2-McGill, 2-Laval and 1-Laurentian). A judging team of five members from Laurentian, Vale INCO, and Xstrata in Sudbury evaluated the essays to pick three winners. The winners of the CMP student Essay contest are listed below. The first place winner, Lauren Flett, received an all expenses paid trip to the CMP to receive her financial award and certificate. Lauren also presented her work at the Student Mixer on the Monday night.



**Lauren Flett, second from right,
winner of the 2010 Student Essay Award,
with Rob Henderson, Lucky Amaratunga and Ian Orford.**

CMP Student Essay competition winner for 2009

Name	University	Title	Rank
Lauren Flett	Laurentian University	Effects of Fine Grinding in the Copper-Lead Flotation Circuit and Alternative Reagent Study for Zinc Rougher Flotation	1 st \$2000 + Free 2010 CMP
Sarah Jung	McGill University	Mitigation of Sulphide Self-Heating: Moisture Control	2 nd \$1000
David Cataford	Laval University	Comportement d'un matériau malléable dans un broyeur à boulets	3 rd \$750

André Laplante Memorial Scholarship Award

This scholarship is given out once per year to an undergraduate student in a metallurgy-mineral processing course at an accredited Canadian university or college. It was established in memory of Dr. André Laplante who, prior to his passing in 2006, was a widely respected professor at McGill University and a regular contributor at the annual CMP conference. The value of the scholarship is \$5,000. This year's recipient of the André Laplante Memorial Scholarship Award is Eric McIntyre from the University of Alberta.



Robert Henderson (left) and Ian Orford awarding the André Laplante Memorial Scholarship to Eric McIntyre from University of Alberta

Best Presentation Award (41st Annual Meeting)

This award is given to the best presentation from the previous year Canadian Mineral Processor Conference. The main attributes of each presentation that will be evaluated by the Selection Committee are: contribution to mineral processing; quality of visual aids; quality of audio - speaking manner; good use of allotted time; (penalty for over-runs); as the formal paper read or was it used as a reference; did the presentation have a logical structure; and overall impact of the presentation. The award for the best presentation at CMP 2009 was awarded to Eduardo Nunez for his presentation on "*Self-optimizing Grinding Control for Maximizing Throughput while Maintaining Cyclone Overflow Specifications*"



Eduardo Nunez accepting the Best Presentation Award from Robert Henderson, CMP Chairman and Ian Orford, Past Chair (right)

Art MacPherson Comminution Award

Comminution is the cornerstone of most processes to achieve separation of valuable minerals from the gangue minerals. As well it is the main regulator for throughput and a major consumer of energy. As such improving efficiency is critical for the future. The Art MacPherson award is not awarded every year. However, we are fortunate this year to present the award to Robert McIvor of Metcom Technologies.

Rob has published numerous papers on topics of comminution and has been an active participant in assisting with mineral processing conferences and contributing to the discussion of the presentations. He has demonstrated leadership and has an in-depth understanding of comminution theory and the MacPherson SAG technology. Rob has developed training for industry with Metcom's Engineering and Management System for Plant Grinding Operations and he is the creator of the Functional Performance Equation for the analysis and improvement of operating ball mill circuits.

Robert McIvor winner of the 2010 Art MacPherson Comminution Award



The Bill Moore Special Achiever Award

This award is presented in memory of Bill Moore, a very active CMP member for many years, to recognize special achievement to our industry and organization. The award will be made from time to time as circumstances warrant in recognition of meritorious service to the division or an outstanding technical contribution to the industry. The recipient will normally be a member of the Canadian Mineral Processors Division but non-members with exceptional qualifications may be considered for the award. This award is specifically intended to honour a younger member of the industry under the age of 35. This year's winner of the Bill Moore Special Achiever Award is Peter Langlois, Vale Inco.

Peter is recognized for his contributions to start-up and operation of two remote nickel Canadian concentrators in Raglan and Voisey's Bay along with leadership in project management of the Nickel Rim South metallurgical development project.

Peter's unselfish efforts in support of these two projects in challenging locations and equally challenging work schedules have demonstrated his commitment to his peers and co-workers along with the companies he has worked for. His current position as Mill Superintendent, at 36 years of age, still early in his career, is a testament to his technical competence and leadership qualities.



Ian Orford, 1st Vice Chair Dominic Fragomeni and Robert Henderson present Peter Langlois (second from left) with the 2010 Bill Moore Special Achiever Award.

Mineral Processor of the Year Award

CMP's highest and most prestigious award is the Mineral Processor of the Year Award. This award is presented annually to recognize meritorious service or an outstanding contribution to CMP or industry.

This year's winner of the Mineral Processor of the Year Award is Chris Fleming in recognition of significant and extensive contribution to global mineral processing and hydrometallurgical extraction of metals, particularly in the fields of cyanide chemistry, carbon in leach and resin in pulp as well as 35 years of applied research and development of new ideas, giving supportive service to the mining and metals industry with great expertise, humility and grace.

Chris Fleming is Vice President of SGS Minerals. He graduated with a Ph.D. in Chemistry from Cape Town University in 1973 and worked for 16 years at Mintek in South Africa, where he developed much of his knowledge of gold technology and hydrometallurgy.

He emigrated with his family to Canada in 1990 to join Lakefield Research, and has been intimately associated with the rapid growth in that company over the last 18 years. He became General Manager of Lakefield in 1992 and then led a management buyout of the company from Lakefield's former owners, Falconbridge Ltd in 1996. As Chief Operating Officer of the new management-owned private company, Lakefield Research Limited, Chris and his team opened up new labs in Chile, Brazil, South Africa and Australia in the late 1990's, and grew the company almost 10 fold in 6 years, into the largest, integrated global metallurgical and analytical service business in the world. The company was sold to Swiss multi-national SGS in 2002, and Chris has continued in a management and operational role for the new owners, as they have expanded their global metallurgical lab footprint further into Russia, England and Mexico.

He has spent much of his 35 year career in research and research management. He has authored or co-authored about 80 technical publications in journals and conference proceedings, been awarded 16 patents, and contributed to several technical books on various aspects of extractive metallurgy. Chris has directed research teams and consulted to industry for a great many hydrometallurgical projects and operations, particularly relating to gold leaching and recovery. Many industrial flowsheets and gold operations have benefited from his R&D work.

Chris retired from his responsibilities as manager of SGS's global metallurgical lab business at the end of 2006, and retired as manager of their flagship metallurgical and mineralogical operations at the Lakefield site in Ontario, Canada at the end of 2008, to focus for the remainder of his career on what he enjoys most in our businesstechnical consulting and leadership.



Ian Orford, Nominator Kevan Ford (second from left) and Robert Henderson present Chris Fleming with the Mineral Processor of the Year Award.

Past Chairs' Award

The CMP Past Chair's award is presented in recognition of service to the CMP, the past chair each year is given a plaque to commemorate the four year period involved in serving on the CMP Executive. The four year sequence involves the following positions on the Executive:

- Year 1 - 2nd Vice Chair- Oversee sponsorship program
- Year 2 - 1st Vice Chair- Technical Program Chair
- Year 3 - Chairman – A bit of everything
- Year 4 – Organize the CMP awards and short course

This year the past chair plaque is presented to Ian Orford for four years of outstanding dedication and leadership.



Ian Orford accepting Past Chair's Award from Robert Henderson.

2010 CMP Conference Organizing Committee



Front row (L to R) - Al Kuiper (Photography), Gilles Tremblay (Hospitality) Janice Zinck (Planner/ CMP Secretary), John Chaulk (Audio Visual), Dave Hardy (Students), Wesley Griffith (Registrar and publications Absent - Louise Madaire (Asst. Registrar), Ray MacDonald (Treasurer).

Conference Information and Proceedings

The proceedings (CD + text) are available for \$85 Cdn. (S&H incl.) from Wesley Griffith, Registrar (wesgriff@nrcan.gc.ca, 613-996-8985) or through our secure site at <https://www.elbowspace.com/servlets/cfdC?xr4=&formts=2006-11-4%2011:55:10.312000>.

For further information on the CMP please contact Janice Zinck (jzinck@nrcan.gc.ca, 613-995-4221).

Conference Photos

Conference photos can be found in the CMP 2010 Photo Gallery on our website at <http://www.cmpsoc.ca/photo-galleries.cfm?CAT=8>. For high resolution images please contact Janice Zinck (jzinck@nrcan.gc.ca, 613-995-4221).