RARE EARTHS

The rare earth elements (REEs) are found today in catalytic convertors, plasma TVs, wind turbines, smartphones, and other high-tech applications from electronics to medicine. They have unique properties that make them indispensible for a plethora technological applications.

REEs are not traditional commodities, rather they are speciality chemical products which need to be developed for specific end uses. Metallurgy, therefore, is critical to the business of rare earths. The recovery of the individual rare earth oxides and conversion into saleable products is where the challenge lies. This symposium will address:

- REE geology and geochemistry
- Ore dressing and separation technology
- Hydrometallurgical processing of rare earths
- Physical metallurgy of rare earths
- Preparation of metals, alloys and high purity metals
- Thorium management
- Rare earth economics.

Sponsored by the Environment Section of MetSoc & Avalon Rare Metals Inc.

CALL FOR ABSTRACTS

COM 2012 will be a unique opportunity to update participants on new technological, scientific, economic and strategic trends in the industry and academia. Among the numerous attendees, there will be industry executives, representatives of universities and research institutes, students, design engineers, plant operators, policy makers, as well as metallurgical, materials, environmental and health experts from all over the world!
All papers will be reviewed and edited by a technical committee prior to their final publication. Please visit our website to submit an abstract: www.metsoc.org

IMPORTANT DATES

- REVISED DATE: January 31, 2012: Deadline for submission of abstracts.
- REVISED DATE: February 15: Authors will receive notification of acceptance or regret.
- REVISED DATE: April 1, 2012: Deadline for submitting papers for final editing.
- June 1, 2012: Author registration deadline.

METALS 2012 TRADE SHOW

A Metals Trade Show will be held in conjunction with COM 2012. To reserve your booth, please contact Show Management at metsoc@cim.org.

SPONSORSHIP OPPORTUNITIES

There are several sponsorship opportunities currently available, at the Corporate and Event levels. By directly supporting this major international conference, your company will be prominently featured at the event as well as in the program handbook.

For more information, contact Brigitte Farah, bfarah@cim.org

VENUE & HOTEL

COM will take place at the beautiful Sheraton on the Falls Hotel in the spectacular city of Niagara Falls. The Sheraton is the only hotel overlooking both the US and Canadian falls and is located steps away from the main street with its many restaurants and activities. Niagara is a destination unlike any other. From the top of Skylon Tower (775 feet up) to the base of Horseshoe Falls (188 feet down), Niagara Falls is an awe-inspiring vacation destination. The Falls give off a round-the-clock roar, a refreshing - and surprisingly far-reaching - mist, and a reminder of just how wondrous our natural world is. With its 30-plus golf courses, adreline fuel water sports and award-winning wineries, Niagara offers an array of attractions for all ages making it the ideal vacation and host city for COM.

SHOW MANAGEMENT

COM 2012-Meeting Manager
Brigitte Farah
The Metallurgy and Materials Society of CIM
3500 de Maisonneuve West, Suite 1250
Westmount, Québec, Canada H3Z 3C1
Tel.: (514) 939-2710, ext. 1317 (general information)
Fax: (514) 939-2714, metsoc@cim.org

For further information about the conference or to submit an abstract visit:

www.metsoc.org

51st ANNUAL CONFERENCE OF METALLURGISTS

COM 2012

NIAGARA FALLS

Sept. 30 to Oct. 3, 2012

Organized by:

MET SOC

Held in conjunction with
Pressure Hydrometallurgy 2012
Niagara Falls, ON Canada
Sheraton on the Falls

COM 2012, Conference of Metallurgists

Held in conjunction with Pressure Hydrometallurgy 2012

Metallurgy and Materials Impact on Society

The city Niagara Falls will host the 51st Annual Conference of Metallurgists (COM 2012) held in conjunction with Pressure Hydrometallurgy 2012, the 42nd Annual Hydrometallurgy Meeting.

The theme of the Conference is Metallurgy and Materials Impact on Society; the technology achievements of today that answer society's aspirations for tomorrow. The industrial world of metals and materials keeps changing. The pace of change and intensity of competition increases; society demands sophisticated products and clean technologies for a sustainable future. All metals and materials professionals from their different posts of engagement, in industry, government or academia, work to meet the new challenges. Global partnerships and technological innovation is the assured way by which we can achieve our goals. The technical program will feature papers from all fields of minerals, metals and materials technologies; but the conference focus will be fostered through a number of key international symposia. In addition to the technical program, the conference will offer a Metals Trade Show, Short Courses, and Technical Tours. COM is organized by Metallurgy and Materials Society of CIM and its participating Sections.

Vladimiros Papangelakis, *University of Toronto*
Conference Chair

TECHNICAL PROGRAM

PRESSURE HYDROMETALLURGY 2012

2nd International Symposium on the Use of Pressure Vessels for Metals Extraction and Recovery 42nd Annual Hydrometallurgy Meeting

Following up on the success of the Pressure Hydrometallurgy conference held in Banff, Alberta, Canada in 2004, this symposium will bring together internationally recognized scientists and engineers from metal producing companies, equipment suppliers, engineering firms, test laboratories and academia to discuss the latest developments in the field of pressure hydrometallurgy. Through this interaction, the symposium hopes to record the current state-of-the-art in this field and to promote further development.

The major symposium topics will include:

- Industrial operations
- Pressure leaching of sulphide concentrates and nickel laterites
- Pressure oxidation of refractory gold feeds
- Alumina, rare earths and new materials production by pressure hydrometallurgy
- Platinum group metals and processing of mattes
- Hydrogen reduction
- Recycling, impurity control and stabilization of wastes
- Piloting and new process development
- Design and materials selection of autoclaves and auxiliary equipment
- Measurement and process control
- Chemistry, kinetics, thermodynamics, hydrodynamics and modeling of autoclave processes.

A short course and technical tours to major operations in Canada are planned.

Sponsored by the Hydrometallurgy Section of MetSoc

TOWARDS CLEAN METALLURGICAL PROCESSING FOR PROFIT, SOCIAL AND ENVIRONMENTAL STEWARDSHIP

Metallurgical operations have come a long way in reducing their environmental footprint, thanks to technological advancements and better understanding of processes. This symposium will focus on the practical and fundamental aspects of cleaner metallurgical processing with a view on both historical and future trends. The following are some of the planned sessions in this symposium.

- A survey on primary operations and their environmental footprint reduction through technology
- Impacts of upcoming tighter SO2 and particulate regulations
- Improvements in material handling and processing of secondary materials in primary operations
- Enabling technologies for minimization and reprocessing of slag, reverts, dust, and off-gases
- Value recovery from industrial wastes
- Best practices for minimizing health risks in primary operations.

Sponsored by the Non-ferrous Pyrometallurgy Section of MetSoc

CORROSION: RECENT ADVANCES AND SUSTAINABILITY

The focus of this symposium is to gain insights into the recent advances in corrosion science and how the move toward more sustainable design is impacting these advances. Areas of interest to this symposium are:

- Corrosion in the general energy sector including nuclear
- Renewable energy generation and corrosion
- Integrity of gas and oil transportation infrastructure
- Corrosion issues and industrial production
- Corrosion monitoring and detection
- Electrochemical techniques of determination of corrosion rates
- Environmentally friendly corrosion protection methods
- Sustainable designs.

Sponsored by the Material Science Section of MetSoc

WATER, AIR AND LAND: SUSTAINABILITY ISSUES IN MINERAL AND METAL EXTRACTION (WALSIM II)

Mining, mineral and metallurgical industries have seen tremendous growth all over the globe. Extraction of metals applying various technologies, including physical separation, hydrometallurgy, pyrometallurgy, electrometallurgy and new ones from a wide range of complex raw materials generates a variety of tailings, effluents, generally classified as - wastes - and by products. Use of byproducts and processing of wastes are rapidly gaining importance both on environmental concerns as well as for economic benefits.

The Symposium will focus on the following areas of research and development related to mining, mineral, metallurgical and petroleum industries.

- Clean and green metallurgical technologies
- Recycling of metals, and composite engineering materials
- Slag processing and applications.
- Tailings management, treatment, reprocessing and immobilization
- Effluent treatment and resource recovery
- Resource recovery from residues, sludges, dust and other wastes
- Water management - treatment, resource recovery, dewatering and recycle
- Waste gases; Abatement of greenhouse gases
- Biological processes for metallurgical waste treatment
- Novel and alternative technologies
- Application and case studies.

Sponsored by the Environment Section of MetSoc

SUSTAINABILITY THROUGH MINING

Join us to learn how mining projects and their programs have positively shaped entire communities for better quality of life into the 21st Century. These projects have been fertile ground for the development of enterprises which in turn have had an effect on the progress in many fronts: health, quality of life, education, local environment, job creation, infrastructure development.

- Effective engagement with communities
- Improving communication with stakeholders (communities, government, NGOs, etc.)
- Ensuring sustainability of community development initiatives, from exploration to past project closure
- Worker and Population Influx Management
- Incorporating environmental and social priorities into project design
- CSR best practices

Sponsored by the Management Section of MetSoc

www.metsoc.org