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COPPER WORLDWIDE

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Fray International Symposium is hailed as great success

The recent Fray International Symposium was organised in honour of the distinguished work and lifetime achievements of Professor Derek J. Fray, a well-known figure for his deep impact in the materials extraction and processing world, especially for developing sustainable new technologies. Symposium Chair Dr Florian Kongoli gives us his special report.

The Fray International Symposium on Metals and Materials Processing in a Clean Environment was held in Cancun, Mexico from 27 November to 1 December 2011 at the Fiesta Americana Condesa Resort, and organised by FLOGEN Star OutreachTM, a non-profitable international organisation dedicated to bring, at the worldwide society level of acknowledgement, various personalities or entities for achievements related to global sustainable development.

The Plenary Hall during the Professor Derek J. Fray address

A poll among the attendees after the symposium showed an overall satisfaction rate of 96 per cent. Prof. Fray is author of almost 400 scientific papers and inventor on approximately 179 patents arising from 62 families of patents. He is Fellow of some of the most prestigious professional societies around the world. Throughout his career his activity has impacted various fields such as non-ferrous, ferrous and nano-scale materials processing; many processing routes including pyrometallurgy, hydrometallurgy, chemical vapour synthesis and processing, recycling; and several investigation techniques such as experimental measurements and physical modelling and simulation.

Sustainability role of science and technology

The major theme of the symposium was the role of science and technology in the sustainable development of the world in the equally important dimensions of environment, economy and society. The symposium was based on a new "Sustainability Triangle" conceptual philosophy for technical conferences developed by the symposium chair. Each corner of the triangle represents Technology, Politics and Education, which should closely interact with each other in order to be effective in terms of sustainability. Consequently the symposium was organised around three plenary sessions as corners of the triangle:

1. Politics with various politicians reflecting the importance of political framework
2. Industrial with CEO/Presidents of several major corporations reflecting the role of technology
3. Academic reflecting the role of education for an engaged society

This is the first time ever where politicians were included in a mostly technical symposium, along with CEOs and Academics, in order to reflect this triangle of sustainability and the importance of close cooperation.

The above issues were reflected in my opening speech as the chair of the symposium, in which I stressed the importance of the technology in sustainable development without reducing the importance of other aspects. This was followed by a special plenary lecture by Prof. Fray with various significant scientific examples from his wide experience on how science and new technologies can help solve the sustainable challenges of the world today.

The VIPs that addressed the plenary sessions of the symposium included:

Plenary I - Political Framework:

Hon. Janez Potocnik, EU Environmental Commissioner

Hon. Reinhard Butikofer, Member of European Parliament

Hon. Stephan Dion, Member of Parliament, Canada

HE Stephan Vavrik, Deputy Head of European Commission in Mexico

Several notable politicians addressed the Fray Symposium (left to right): Hon. Janez Potocnik, EU Environmental Commissioner; Hon. Reinhard Butikofer, MP, European Parliament; Hon. Stephan Dion, MP, Canadian Parliament.

Plenary II – Technology:

Manuel E. Ramos, President, Grupo Mexico/Asarco, USA

Mark Caffarey, Vice President, Umicore, Belgium/USA

Wojciech Kedzia, Vice President, KGHM on behalf of Herbert Wirth, President, KGHM, Poland

Hans-Peter Behrendt, on behalf of Reinhard Pullenberg, MD, Berzelius Metall, Germany

Nobuhiko Takamatsu, Director General Manager Iron-Making, Nippon Steel, Japan

Plenary III – Academia:

Takashi Nakamura, President of MMIJ, Japan

Cyro Takano, Sao Paolo University, Brazil gave a joint lecture with Jose Carlos D'Abreu, PCU-Rio, Brazil

Yoshio Waseda, Tohoku University, Japan

K.T. Jacob, Indian Institute of Science, India

Martin Pech-Canul, CINVESTAV, Mexico

Mario Sanchez, University of Conception, Chile

Plenary Gala:

Fathi Habashi: Laval University, Canada

Technical programme

The symposium had a strong technical programme dealing with principles, technologies and industrial practice, with special emphasis on their effect in sustainable developments of the 21st century. The overwhelming response from the international professional community was reflected in about 500 contributions received from authors and co-authors from 80 countries all over the world, which made this symposium a record in its class. Papers by primary authors represented 56 countries. The biggest contributor countries were China, Japan, Russia, Mexico, USA, UK, Brazil and India.

The programme covered a wide range of topics in depth. The papers were presented in 72 sessions divided into the following symposiums:

- Sustainable Non-ferrous Smelting in the 21st Century
- Advanced Sustainable Iron and Steel Making
- Molten Salts and Ionic Liquids 2011
- Materials Recycling Processes and Products
- Environmental/Health, Energy and Policy Issues Related to Metals, Materials and Mineral Processing.
- Legal, Management, Economical and Social Issues Related to Metals, Materials and Minerals Processing.
- Aqueous and Low Temperature Processing of Minerals, Metals and Materials.
- Electrochemical Processing of Minerals, Metals and Materials.
- Composites, Ceramics and Nanomaterials Processing.
- Titanium: Extraction, Processing and properties for wide applications.
- Silicon Production, Refining & Recycling for Photovoltaic Cells.
- Boron and Borates: Extraction, Processing and Applications.

Fray International Sustainability Awards

In honour of the distinguished work and lifetime achievements of Prof. Fray, a new Fray International Sustainability Award was launched during the symposium with the specific goal to acknowledge the work of various personalities or entities among politicians, corporations and academics for achievements especially related directly or indirectly to science and new

technologies for a sustainable development. During the Gala of the symposium various personalities/entities were honoured with this Award and its respective World Crystal Trophy. They included:

Academics:

"For leadership in developing new technologies that contribute to a global sustainable development in the environment, economy and social points of view"

Prof. Derek J. Fray, University of Cambridge, UK

Politicians:

"For leadership in developing new advanced public policy frameworks related to the efficiency of mineral and metal resources for a global sustainable development"

Hon. Janez Potocnik, Environmental Commissioner of European Union

Hon. Reinhard Butikofer, Member of European Parliament

Hon. Stephan Dion, Member of Parliament, Canada

Hon. Juan Rafael Elvira Quesara, Minister of Environment and National Resources, Mexico

Hon. Jean Charest, Prime Minister of Quebec

Hon. Sali Berisha, Prime Minister of Albania

Corporations:

"For leadership in developing and applying new innovative business plans and operational technologies for a sustainable development of the company from the environment, economy and social points of view"

Asarco/Grupo Mexico, USA
Umicore, Belgium/USA
Herbert Wirth, President KGHM, Poland
Weser Metall, Germany
Industrias Penoles, Mexico
Reinhard Pullenberd, Berzelius Metall, Germany
Nippon Steel Corporation, Japan
Paranapanema, Brazil
Pasar Corporation, Philippines
Aditya Birla Group, India

Recipients of the Fray International Sustainability Award from Dr Florian Kongoli (left to right): M. Ramos, President, Grupo Mexico/Asarco; W. Kedzia, Vice President, KGHM; M. Caffarey and M. Van Camp Vice President and Director, Umicore.

Proceedings

Seven titled volumes of proceedings are in print and will be available soon:

- Sustainable Non-ferrous Smelting in the 21st Century
- Advanced Sustainable Iron and Steel Making
- Molten Salts and Ionic Liquids 2011
- Materials Recycling Processes and Products (Including Silicon and Boron Sessions)
- Environmental/Health, Energy, Policy, Legal, Management, Economical and Social Issues.
- Aqueous, Low Temperature and Electrochemical Processing of Minerals, Metals and Materials.
- Composites, Ceramics and Nanomaterials Processing (Including Titanium Sessions).

The ISBN numbers will be provided along with the books. Those interested in having the proceedings need to contact FraySymposium@flogen.com please.

Supporting events

A rich programme of social events took place during the symposium, including a pool-area Cocktail, Dinner and Caribbean Show, Ballroom Gala with Michael Jackson Show, and Beach Area Cocktail, Dinner and Mexican Dancing Show. Many attendees will not forget the pictures they took with the dancers with colourful costumes at the end of the show.

Attendees also enjoyed various after-symposium tours.

Note of thanks

The symposium was sponsored by a record number of about 240 organisations all over the world. Financial sponsors were Umicore Precious Metal Refining, Berzelius Metall, RHI, Oschatz, Somika, Morgan AM&T, Xstrata Technology, Verde Potash, WMTC, FLOGEN Technologies Inc. As the chair and organiser of the symposium I would like to sincerely thank corporate and organisational sponsors, co-chairs and international committee members, authors and co-authors, FLOGEN Board and colleagues especially Claude and Melania, as well as my wife Megan, son Davis and his grandmother Tina.

Reader Reply No.38

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