

# Fray International Symposium

Report by Florian Kongoli

The Fray International Symposium on Metals and Materials Processing in a Clean Environment was held in Cancun, Mexico from November 27<sup>th</sup> to December 1<sup>st</sup>, 2011 at the Fiesta Americana de Condesa Resort and achieved an overall guest satisfaction rate of 96 %. It was organized by FLOGEN Star Outreach™, a non-profitable international organization dedicated to bringing a level of worldwide acknowledgement to various personalities or entities for their achievements related to global sustainable development ([www.flogen.org](http://www.flogen.org)) and co-sponsored by GDMB. The symposium was organized in honor 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. Professor 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.

## 1 Sustainability and the 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 and 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. This is the first time ever when 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 technology and sustainable development without reducing the importance of other aspects. This was followed by a special plenary lecture by Professor Derek 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:

- Honorable Janez Potočnik, Environmental Commissioner of European Union,
- Honorable Reinhard Bütikofer, Member of European Parliament,
- Honorable Stéphane Dion, Member of Parliament, Canada,
- HE Stephan Vavrik, Deputy Head of European Commission in Mexico,
- Manuel E. Ramos, President, Grupo Mexico/Asarco, USA,
- Mark Caffarey, Vice President, Umicore, Belgium/USA,
- Wojciech Kędzia, VP, KGHM on behalf of Herbert Wirth, President, KGHM, Poland,
- Krishna Parameswaran, Environmental Director Grupo Mexico/Asarco,
- Hans-Peter Behrendt, on behalf of Reinhard Püllen-berg, MD, Berzelius Metall, Germany,
- Nobuhiko Takamatsu, Director General Manager Iron-Making, Nippon Steel, Japan,
- Takashi Nakamura, President of MMIJ, Japan,
- Jose Carlos D'Abreu, PCU-Rio, Brazil and Cyro Takano, Sao Paulo University, Brazil,
- Yoshio Waseda, Tohoku University, Japan,
- K.T. Jacob, Indian Institute of Science, India,
- Martin Pech-Canul, CINVESTAV, Mexico,
- Mario Sanchez, University of Concepcion, Chile.

## 2 Fray International Sustainability Award

In honor of the distinguished work and lifetime achievements of Dr. Derek J. Fray, the new periodic 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 sustainable development. During the Gala of the symposium among various personalities/entities from all over the world who were honoured with this Award and



Fig. 1: Recipients of the Fray International Sustainability Award from Dr. Florian Kongoli (left to right): Hon. Reinhard Bütikofer, MP, European Parliament; W. Kedzia, VP on behalf of Herbert Wirth, President KGHM; M. Caffarey and M. Van Camp VP and Director, Umicore, H. Behrendt on behalf of Reinhard Püllenber, MD, Berzelius Metal, Ulrich Kerney, Director, Weser Metall

its respective World Crystal Trophy were also the following European-based politicians and companies (Figure 1):

- Honorable Janez Potočnik, Environmental Commissioner of European Union,
- Honorable Reinhard Bütikofer, Member of European Parliament,
- Herbert Wirth, President KGHM, Poland,
- Reinhard Püllenber, Berzelius Metal, Germany,
- Umicore, Belgium/USA,
- Weser Metall, Germany.

The symposium had a strong technical program dealing with principles, technologies and industrial practice with special emphasis on their effects on the sustainable developments of the 21<sup>st</sup> 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 program covered a wide range of topics in depth and the papers were presented in 72 sessions divided into 12 symposiums.

The symposium was sponsored by a record number of about 240 organizations all over the world, the biggest number ever of sponsors for any symposium held globally. More details about the symposium, awards and proceedings available for sale can be found at the web site: [www.flogen.org](http://www.flogen.org).

## Symposium Publications

- [1] Fray International Symposium On Metals and Materials Processing in a Clean Environment; 7-Volume Package, About 5000 pages, ISBN 978-0-9879974-5-6.
- [2] Volume 1: Sustainable Non-ferrous Smelting in 21st Century; 828 pages; ISBN 978-0-9879917-8-2.
- [3] Volume 2: Advanced Sustainable Iron and Steel Making; 708 pages; ISBN 978-0-9879917-9-9.
- [4] Volume 3: Ionic Liquids 2011; 630 pages; ISBN 978-0-9879974-0-1.
- [5] Volume 4: Material Recycling, Silicon for Photovoltaic Cells, Boron and Borates; 754 pages; ISBN 978-0-9879974-1-8.
- [6] Volume 5: Environmental, Health, Policy, Legal, Management and Social Issues; 646 pages; ISBN 978-0-9879974-2-5.
- [7] Volume 6: Aqueous, Low Temperature and Electrochemical Processing; 764 pages; ISBN: 978-0-9879974-3-2.
- [8] Volume 7: Composites, Ceramics, Nanomaterials and Titanium Processing; 646 pages; ISBN 978-0-9879974-4-9.

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