

Sohn International Symposium on Advance Processing of Metals and Materials



The Sohn International Symposium on Advanced Processing of Metals and Materials was held in San Diego, California from August 27 to 31, 2006 at the beautiful Catamaran Resort. It was organized to honor the very distinguished work and lifetime achievements of Prof. H.Y. Sohn, renowned for his impact in various fields, processing routes and investigation techniques.

The symposium was based on a new “**Materials Life Capsule**” conceptual philosophy: it was structured around a triangle in which each of its corners represents **principles, technologies and industrial practice**. These equally important pillars that closely interact to each other in both directions serve as the supporting basis for various materials related fields, processing routes and investigation techniques that together would constitute the “Materials Life Capsule” which in itself, closely interacts with the real life.

The symposium was sponsored by TMS and its committees (Aqueous Processing Committee, Copper, Nickel, Cobalt Committee, Materials Characterization Committee, Process Fundamentals Committee, Process Modeling, Analysis and Control Committee, Pyrometallurgy Committee, Recycling Committee, Waste Treatment and Minimization Committee) as well as by SME. The symposium also received a record number of additional co-sponsorships from **104** professional societies, organizations, independent publishers and professional journals from all over the world. They are given in the annex of this article. The symposium was sponsored financially by Ausmelt, Flogen Technologies Inc., Korea Institute of Geoscience and Mineral Resources, Korea Zinc Co. Ltd., LS-Nikko Copper, Outokumpu Technology, Posco, Umicore Precious Metals, Refining, Xstrata Technology. The total financial support received by these **9** corporations from every corner of the world and personally from John Floyd from Australia was a record of **\$47,000**.

The symposium drew an overwhelming response from the international professional community. **530** contributions received from authors and co-authors from more than **80** countries all over the world made this symposium the biggest ever held in its class. Papers by primary authors represented the following **52** countries: USA, Japan, China, Russia, Korea South, Australia, Canada, Turkey, Chile, India, Georgia, Mexico, Brazil, France, South Africa, Finland, Belgium, Germany, Argentina, Austria, Sweden, Great Britain, Norway, Albania, Egypt, Ukraine, Iran, Peru, Poland, Portugal, Czech Republic, England, Israel, Italy, Malaysia, Netherlands, Taiwan, Armenia, Bangladesh, Belarus, Bulgaria, Holland, Hungary, Indonesia, Nigeria, Serbia, Slovakia Republic, Slovenia, Spain, Switzerland, Venezuela, Zambia.

The symposium covered a wide range of topics in depth. Based on the three pillars of the “Materials Life Capsule” triangle, Principles, Technologies and Industrial Practice, the papers were presented in a record of **55** sessions dealing with non-ferrous high temperature extraction and processing; iron and steel making; aqueous, electrochemical processing and molten salts; nano, composite, refractory and polymer materials; recycling, recovery and waste treatment. Of special note was the distinctive symposium on **Legal, Management and Environmental Issues** that contained full sessions of prominent lawyers that covered today’s hot topics on mergers and acquisitions, intellectual property, patent, litigation and arbitration as well as renowned speakers on industrial management that covered management perspectives in today’s new reality of metals and materials world. This was the first time that full sessions on these issues were included in a technical program. Also of special interest was the distinctively incorporated **International Symposium on Sulfide Smelting 2006**.

Papers are published in a record of **9** separate volumes totaling more than **6,000** pages, classified according to the topical areas mentioned above. These volumes are now available for purchase through TMS. The proper information is given in the Annex of this document.

A strong technical program was presented in a natural beauty: Mission Bay and Catamaran Resort of San Diego...After a hard day at work at the symposium the attendees enjoyed numerous social functions in the beach loan in front of the hotel and several entertaining activities in the beautiful bay or in greater San Diego. One of the highlights of the symposium was the banquet held on the other side of the Mission bay at the stylish hall of Bahia Hotel that offered nice atmosphere and excellent views. All the attendees were transported there on the board of William D. Evans ship where they also held the banquet reception. There they were surrounded by its magnificent historical and yet romantic ornaments inside in the 1st and 2nd deck and by the breathtaking views of Mission bay on the third open deck. The special events complemented the “Materials Life Capsule” and brought it closer to the real life.

As the chair and organizer of the symposium I would like to express my appreciation to TMS and SME and all numerous co-sponsors of the symposium.

I would also like to thank the Directors and staff of FLOGEN Technologies Inc. that not only sponsored financially the symposium but did the majority of the work and my wife Me. Migen Dibra for organizing a very interesting legal session and for graciously supporting him at a time when she was herself extremely busy working as a lawyer for a judge of the Quebec Court of Appeal. I also want to thank my 6-year old son, Davis for forgiving the time that daddy was not staying with him as usual and his grand mother Madam Dibra for the help given during the extra hours of work dedicated to this symposium and proceedings.

I wanted to thank the co-chairs, members of the organizing committees, session chairs and above all authors and co-authors from 80+ countries that make this symposium the biggest ever in its class in the world.

I have received hundreds and hundreds of excellent congratulation messages but I will highlight a couple of them that capture the entire spirit of the event: “It was about life, quality, communication, interaction, knowledge, feeling, location and people bonded together in excellence. Absolutely top...” and “...so many excellent papers to attend, so many things to do and so many beautiful places to explore...3 days felt like one month...” So probably the relativism theory has a subjective “proof” here and this symposium was probably not only a “Materials Life Capsule” but also a real “Life Capsule” concentrated in 3 and a half days...

Dr. Florian Kongoli
CEO
FLOGEN Technologies Inc., Canada/USA

Chair and Organizer
Sohn International Symposium
San Diego California, USA
August 27-31, 2006
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ANNEX:

1. Symposium co-sponsors:

Organizations

1. Academis Mexicana de Ciencia de Materiales
2. American Foundry Society
3. American Institute of Chemical Engineers
4. APMI International
5. ASM International
6. Asociacion Argentina de Materiales
7. Association for Iron & Steel Technology
8. Associazione Italiana di Metallurgia
9. Australasian Institute of Mining and Metallurgy
10. Austrian Society for Metallurgy and Materials
11. Beijing General Research Institute of Mining & Metallurgy
12. Benelux Metallurgie
13. Brazilian Association for Materials and Metallurgy
14. Brunei Darussalam Institute of Chemistry
15. Ceramic Society of Japan
16. Chemical Society of Japan
17. Chemical Society of Pakistan

18. Chemical Society of Peru
19. Chilean Chemical Society
20. Chinese Society for Metals
21. Cobalt Development Institute
22. Colegio de Ingenieros de Chile
23. CSIRO, Australia
24. Czech Society for New Materials and Technologies
25. Danish Ceramic Society
26. Danish Chemical Society
27. Danish Metallurgical Society
28. Electrochemical Society
29. Electrochemical Society of Japan
30. Engineering Conferences International
31. Eurometaux
32. European Ceramic Society (includes 23 societies)
33. Federation of European Materials Societies (includes 21 societies)
34. Georgian Ceramic Society
35. German Society for Mining, Metallurgy, Resource and Environmental Technology
36. Gintsvetmet Institute
37. GiproNickel Institute, JS
38. Hellenic Ceramic Society
39. Indian Institute of Metals
40. Institute for Nonferrous and Rare Metals
41. Institute of Materials Engineering Australasia
42. Institute of Materials, Minerals and Mining
43. Institute of Metals and Technology
44. Institute of Non-Ferrous Metals
45. Instituto Argentino de Siderurgia
46. Integrated Chemists of the Philippines
47. International Aluminium Institute
48. International Energy Foundation
49. International Lead Zinc Research Organization, Inc.
50. Iron and Steel Institute of Japan
51. Israel Chemical Society
52. Japan Institute of Metals
53. Jordanian Chemical Society
54. Korean Academy of Science and Technology
55. Korean Chemical Society
56. Korean Institute of Chemical Engineers
57. Korean Institute of Metals and Materials
58. Malaysian Institute of Chemistry
59. Materials Research Society
60. Materials Society of Portugal
61. Metallurgical Society of CIM
62. Minerals Engineering International

63. Mining and Materials Processing Institute of Japan
64. Nonferrous Metals Society of China
65. North American Thermal Analysis Society
66. Polish Association of Metallurgical Engineers and Technicians
67. Portuguese Chemical Society
68. Slovak Metallurgical Society
69. Slovenian Ceramics Society
70. Slovenian Society of Materials
71. Société Française de Chimie
72. Société Française de Métallurgie et de Matériaux
73. Societe Royale de Chimie
74. Society for Mining, Metallurgy, and Exploration
75. Society of Chemical Engineering Japan
76. South African Institute of Mining and Metallurgy
77. Swedish Society for Materials Technology
78. Swedish Steel Producers Association
79. Technologisch Instituut VZW
80. The American Ceramic Society
81. The Chemical Society of Thailand
82. The Finnish Association of Mining and Metallurgical Engineers

Independent Journals and Publishers

1. Canadian Mining Journal
2. Ferrous Metals Journal
3. Industrial Minerals
4. Journal of Technical Electronic Materials
5. Magnesium Monthly Review
6. Materials Engineering News
7. Mineral and Metallurgical Processing
8. Mineral Processing Journal
9. Mining Journal
10. Nonferrous Metals Journal
11. Ore and Metals Publishing House
12. The European Journal of Mineral Processing and Environmental Protection

In addition this symposium was sponsored financially by

Corporations

1. Ausmelt
2. Flogen Technologies Inc.
3. Korea Institute of Geoscience and Mineral Resources
4. Korea Zinc Co. Ltd.
5. LS-Nikko Copper

6. Outokumpu Technology
7. Posco
8. Umicore Precious Metals Refining
9. Xstrata Technology

Personal Sponsor

John Floyd, Australia

2. Symposium Publications:

- Sohn International Symposium on Advanced Processing of Metals and Materials, Volume 1: Thermo and Physicochemical Principles: Non-Ferrous High-Temperature Processing, Edited by Florian Kongoli and Ramana G. Reddy, TMS, Warrendale, PA, USA, 2006, 848 pages, ISBN: 978-0-87339-634-9
- Sohn International Symposium on Advanced Processing of Metals and Materials, Volume 2: Thermo and Physicochemical Principles: Iron and Steel Making, Edited by Florian Kongoli and Ramana G. Reddy, TMS, Warrendale, PA, USA, 2006, 665 pages, ISBN: 978-0-87339-635-6
- Sohn International Symposium on Advanced Processing of Metals and Materials, Volume 3: Thermo and Physicochemical Principles: Special Materials; Aqueous and Electrochemical Processing, Edited by Florian Kongoli and Ramana G. Reddy, TMS, Warrendale, PA, USA, 2006, 726 pages, ISBN: 978-0-87339-636-3
- Sohn International Symposium on Advanced Processing of Metals and Materials, Volume 4: New, Improved and Existing Technologies: Non-Ferrous Materials Extraction and Processing, Edited by Florian Kongoli and Ramana G. Reddy, TMS, Warrendale, PA, USA, 2006, 642 pages, ISBN: 978-0-87339-637-0
- Sohn International Symposium on Advanced Processing of Metals and Materials, Volume 5: New, Improved and Existing Technologies: Iron and Steel; Recycling and Waste Treatment, Edited by Florian Kongoli and Ramana G. Reddy, TMS, Warrendale, PA, USA, 2006, 624 pages, ISBN: 978-0-87339-638-7
- Sohn International Symposium on Advanced Processing of Metals and Materials, Volume 6: New, Improved and Existing Technologies: Aqueous and Electrochemical Processing, Edited by Florian Kongoli and Ramana G. Reddy, TMS, Warrendale, PA, USA, 2006, 657 pages, ISBN: 978-0-87339-639-4
- Sohn International Symposium on Advanced Processing of Metals and Materials, Volume 7: Industrial Practice, Edited by Florian Kongoli and Ramana G. Reddy, TMS, Warrendale, PA, USA, 2006, 573 pages, ISBN: 978-0-87339-640-0

- Sohn International Symposium on Advanced Processing of Metals and Materials, Volume 8: Industrial Practice, Edited by Florian Kongoli and Ramana G. Reddy, TMS, Warrendale, PA, USA, 2006, 763 pages, ISBN: 978-0-87339-641-7
- Sohn International Symposium on Advanced Processing of Metals and Materials, Volume 9: Industrial Practice, Edited by Florian Kongoli and Ramana G. Reddy, TMS, Warrendale, PA, USA, 2006, 489 pages, ISBN: 978-0-87339-642-4
- Sohn International Symposium on Advanced Processing of Metals and Materials, Volumes 1-9: Thermo and Physicochemical Principles: Non-Ferrous High-Temperature Processing, Edited by Florian Kongoli and Ramana G. Reddy, TMS, Warrendale, PA, USA, 2006, 848 pages, ISBN: 978-0-87339-641-7