

Report on the IMA-Commission on Applied Mineralogy (CAM) for IUGS

1. Title of Commission:

Commission on Applied Mineralogy (CAM)

Current Officers:

Dogan Paktunc, Chairman

Eric Pirard, Vice-Chairman

Henrique Kahn, Secretary

Reporter:

Dogan Paktunc

2. Objectives:

Vision (provisional): To provide leadership in knowledge sharing for the broad range of applied mineralogy fields and to offer means for professional development for applied mineralogists. Mission (provisional): To build and sustain a strong commission that provides value to its members in alignment with the IMA's vision.

CAM's interest areas cover a full spectrum of applied mineralogy activities in extractive metallurgy, mineral exploration and mine development, building materials, ceramics, glasses, preservation of cultural heritage and archaeological materials, disposal of mine and industrial wastes, and development of advanced characterization techniques.

3. Business Meeting held during 2006:

CAM held its regular business meeting on July 25, 2006 at the IMA meeting in Kobe, Japan.

4. Interface with other International organizations:

CAM will continue to work together with ICAM on many issues including the planning of the 9th International Congress on Applied Mineralogy (ICAM 2008) in Brisbane, Australia. CAM is a co-sponsor of the ICAM 2008 meeting.

CAM will be participating in RILEM's (Réunion Internationale des Laboratoires et Experts des Matériaux, Systèmes de Constructions et Ouvrages) technical committee on Alkali-aggregate Reactions in Concrete Structures. This committee deals with the assessment and appraisal of existing alkali-silica reactivity (ASR) in concrete structures.

5. Chief accomplishments in 2006:

Technical Meeting:

CAM organized or co-sponsored the following sessions during the IMA2006 meeting in Kobe: (1) Process Mineralogy, (2) Crystals, ceramics and glasses with advanced physico-chemical properties, (3) Bio-Geo interface in minerals, (4) Mineral-water interactions: From microscopic to macroscopic aspects, (5) Environmental and medical mineralogy, and (6) Clays and zeolites: natural and synthetic materials.

Restructuring and revitalization of the commission:

CAM has developed provisional vision and mission statements and a set of strategic goals to reflect the current needs in applied mineralogy fields. CAM's provisional vision is to provide leadership in knowledge sharing for the broad range of applied mineralogy fields and to offer means for professional development for applied mineralogists. CAM's provisional mission is to build and sustain a strong commission that provides value to its members in alignment with the IMA's vision. This will be achieved by the following strategic goals:

1. Strengthening the linkage between IMA-CAM and ICAM;
2. Organization of sessions and symposia during the ICAM 2008 meeting in Australia and IMA 2010 meeting in Hungary;
3. Investigation of the feasibility of developing and offering modular short courses;
4. Organization of workshops and short courses on applied mineralogy;
5. Establishment of awards recognizing excellence and outstanding achievements and contributions of CAM members;
6. Update of the membership (individual and corporate) and national representatives;
7. Development and maintenance of a membership database;
8. Inquiry of funding from the industry in the form of sponsoring events, awards, competitions and web-page administration;
9. Establishment of sub-commissions on a number of sub-disciplines;
10. Promotion of the applied mineralogy field.

As part of the strategic goals listed above, two new sub-commissions were established in order to make the commission more functional in the diverse sub-disciplines it serves. Dr. Maarten Broekmans, a research scientist with the Geological Survey of Norway's Department of Mineral Characterization in Trondheim, Norway has been appointed as the Chair of the sub-commission on mineralogy applied to building materials. He is an Associate Editor of the Materials Characterization journal. Prof. Isabella Memmi has been appointed as the Chair of the sub-commission on cultural heritage and archaeological materials. Prof. Memmi is currently the Head of the Earth Sciences Department at the University of Siena and serves on the board of directors of the Italian Society of Archaeometry.

As part of the restructuring efforts, a past-chair position has been created in order to maintain continuity with the past activities of the commission. The Past-Chair is expected to provide guidance to the commission in setting policy guidelines and strategic planning.

Current members of IMA-CAM executive board:

Chairman: Dogan Paktunc

Vice-Chairman: Eric Pirard

Secretary: Henrique Kahn

Past-Chair: Richard Hagni

Sub-commission Chair (Building Materials): Maarten Broekmans

Sub-commission Chair (Cultural Heritage and Archaeological Materials): Isabella Memmi

Short Courses/Lectures:

There were no short courses organized by CAM during 2006; however, several CAM executive board members were involved in the following educational activities promoting applied mineralogy and CAM:

- Lectures by Henrique Kahn and his group on mineral characterization techniques at the Universidade de São Paulo (May 2006).
- Lectures by Maarten Broekmans on the characterization of building materials to civil engineers and geologists at the Michigan Technical University (Sept. 2006).
- Lecture by Dogan Paktunc on the advanced mineralogical and materials characterization techniques to metallurgists, process engineers and researchers during the Hydrometallurgy Short Course in Montreal (Oct. 2006).

Web site:

CAM is evaluating its options to overhaul the current website since CAM is aware of the importance of a website that provides comprehensive and up-to-date content as well as offering easy access and navigation.

There is a suggestion to establish a web-based database for managing archaeometric data such as Raman spectra of pigments, organized in different periods from pre-history to modern times.

Database of individuals interested in applied mineralogy:

CAM maintains a database listing individuals interested in applied mineralogy.

Other:

A short article entitled “Applied Mineralogy: Present and Past” by Dick Hagni was published in Elements.

A promotional poster was designed for the commission and displayed during the IMA meeting in Kobe. Flyers based on the poster design were distributed during the IMA meeting.

6. Chief Problem Encountered in 2006:

Unavailability of a secure long-term funding makes it very difficult to consider setting up a functional website for CAM.

7. Workplan for 2007 and beyond:

In collaboration with IMA-COM and IMA-WGEM, discussions are underway regarding the organization of a joint short course/workshop with the provisional title “Metals in the Earth: from vital resource to environmental hazard”. Venues considered include IGC 2008 meeting in Oslo and Goldschmidt 2008 meeting in Vancouver.

A short course with the provisional title “Microscopía Cuantitativa y control de procesos minerales” is being organized by Eric Pirard. It will be held in 2007 at Universidad Catolica del Peru in Lima, Peru and feature an overview of optical and electron microscopy, image analysis and case studies in process mineralogy. The short course will be thought in Spanish.

A short course on quantitative mineralogy will be organized. The short course will feature an in-depth review of the techniques and approaches in the determination of mineral quantities in ores, concentrates, rocks, soil and other materials. It is also hoped that such a short course would act as the spring board for the launch of a round-robin testing of a series of standards for modal and liberation analysis.

Maarten Broekmans will participate in 11th Euroseminar on Microscopy Applied to Building Materials to be held in Porto, Portugal on 5-9 June 2007 and 13th International Conference on Alkali-Aggregate Reaction in Concrete to be held in Trondheim, Norway on 16-19 June 2008.

Isabella Memmi has proposed two future IMA-CAM short courses entitled "Non-conventional analytical techniques in archaeological material characterization" and "Roman and late-antique productive sites in Mediterranean area".

Promotional material such as flyers will be prepared and distributed at various conferences and meetings including Frontiers in Mineral Sciences 2007, Goldschmidt 2007, EMABM 2007, ICAM 2008, IGC 2008 and ICAAR 2008.

Development of a communication plan.

Appointment of sub-commissions chairs for the (1) ceramics, (2) mineral exploration and mine development and (3) medical mineralogy and biomaterials sub-commissions.

8. National Representatives:

Austria - Dr. V. Kahlenberg
Belgium - Prof. Jan Elsen
Bulgaria - Dr. Ivan Dontchev
Canada - Dr. William Petruk
Denmark - Dr. Tonci Balic-Zunic
Egypt - Professor Mohamed A. Mandour
Finland - Dr. Kari Kojonen
France - Dr. Georges Calas
Germany - Prof. Dr. Robert B. Heimann
India - Dr. J. N. Bhadra Chaudhri
Italy - Maria Franca Brigatti
Japan – Prof. Tadato Mizota
Netherlands - Dr. T.G. Nijland
New Zealand - Dr. J. L. Mauk
Romania - Dr. Gheorghe Damian
Russia - Professor V. M. Bzoitko
South Africa - Ms D. Chetty
Spain - Professor E. Galan
Sweden - Prof. Ulf Halenius
Switzerland - Prof. Bernard Grobéty
United Kingdom - Dr. John F. W. Bowles
United States - H. Catherine W. Skinner