



www.ima-mineralogy.org

# International Mineralogical Association

## FROM THE PRESIDENT

### MONEY MATTERS

First of all, some important news about a change in the executive committee of IMA. Cornelis Klein, of the University of New Mexico, who has worked extremely hard as treasurer of IMA since 1995, has decided that the time has come to pass this task to someone else. As well as dispensing the sums of money needed to keep IMA running, for items such as maintenance of the website ([www.ima-mineralogy.org](http://www.ima-mineralogy.org)), the operating costs of groups such as the Commission on New Minerals and Mineral Names, and support for meetings, Kase has worked tirelessly to collect the annual dues of member societies. What should be a routine activity is frustrating and time consuming because many supporting organizations seem to be unable or unwilling to transfer the relatively small sums involved. Based on Kase's experience I put forward below some ideas on how the situation might be improved by changes in the laws of IMA. We all have to be extremely grateful for the amount of work that he has put into this task over the last decade.



Robert T. Downs, incoming treasurer

We welcome as our new treasurer Robert T. Downs of the University of Arizona in Tucson, where he is associate professor of mineralogy and crystallography. Bob is Canadian and obtained his first degree (in mathematics) at the University of British Columbia before undertaking postgraduate work in mineralogy at Virginia Tech and completing a post-doc at the Geophysical Laboratory in Washington. IMA has tax-exempt status in the United States, so it is logical to pass the position of treasurer to someone based there.



Cornelis Klein, outgoing treasurer

For a person with Bob's background, balancing the books should be a piece of cake, but only if we can overcome the problem of non-payment of dues. Should you be the responsible person in one of the several countries that has still not paid its dues for 2005, please send your money now to:

**Dr. Robert T. Downs**  
1040 E 4<sup>th</sup> St., Dept of Geosciences, University of Arizona,  
Tucson Arizona 85721-0077, USA  
E-mail: [downs@geo.arizona.edu](mailto:downs@geo.arizona.edu)

### Modernizing IMA

IMA is living in a new world. It is no longer largely invisible between its four-yearly General Meetings. Now, through *Elements*, every two months, it can reach every mineralogist on Earth who has access to the Internet. If your country's mineralogical organization is not one of those supporting *Elements* directly, you (or your institutional library) may well receive a hard copy because you subscribe to one of the journals of the supporting societies. Even if you have no such access, *anybody*, two months after publication, can download a pdf from [www.elementsmagazine.org](http://www.elementsmagazine.org). I think that this is remarkable, and it is an opportunity the whole international mineralogical community must embrace. In the next paragraphs, I am going to review some of IMA's financial difficulties and make some personal suggestions (the bullet points) for their solution.

Our difficulty with getting some national groups to pay their annual dues is, I think, a symptom of a number of structural problems within IMA. You might imagine, since IMA exists to promote the interests of its supporting organizations, that collecting dues would be a comparatively routine activity. But in 2005 about a quarter of the 37 affiliated organizations had not paid by early December, making them at least one year late. Three organizations were more than two years behind in payment, and one was six years behind. Some of the defaulters are small communities in the less-developed world, and we should be sympathetic with their problems. But two defaulting organizations are located in countries that are among those with the biggest per capita incomes.

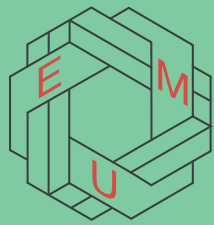
- At present IMA makes contact with societies through their National Representatives. Although many do an excellent job, some do not, and in future we shall also deal directly with society presidents and executive secretaries.
- At Kobe the Business Meeting should follow the rules of the IMA Constitution firmly. Countries in default for two

years or more will not be allowed to vote. Council will then consider whether any defaulting country should be deleted from the list of IMA members. This would, of course, be a matter of last resort, and we will always welcome letters of explanation from organizations who have genuine difficulties in paying.

A related problem concerns the formula used to calculate the subscription of each country. The amount (in US dollars) is calculated as  $60 \times D$ , where D is a number between 10 and 1 that depends upon the membership numbers of the supporting society. Thus the big societies of Germany, Russia and the USA, each with over 1000 members and  $D = 10$ , all pay \$600. At the other extreme, 16 societies have 25 members or less,  $D = 1$ , and they pay \$60. It isn't rocket science to figure out that an individual MSA member, for example, contributes a *maximum* of \$0.60, and a member of one of the little societies pays a *minimum* of \$2.40. This seems to me to be completely opposite to what is desirable.

- Societies should pay a per capita sum based on their exact paid-up membership. It would be up to each national society to decide how the money is collected, but it could form part of their own annual subscription and be identified as the IMA contribution. Of course, some individuals are members of more than one national society, but they have anyway been paying twice (sometimes more) under the present system.
- The exact sum will need careful consideration, but it will be not more than \$2 per member. Members of big societies will pay a little more than they do now, those in small organizations less.

This brings me to a final financial problem. Even if we do not change our funding formula, so that our 16 small societies continue to pay \$60, such is the avarice (defined, in my Oxford dictionary, as 'extreme greed') of the world's banks that the costs of international money transfer are almost as great as the amounts being



www.univie.ac.at/Mineralogie/EMU

## European Mineralogical Union

### EMU AND THE EUROPEAN GEOSCIENCES UNION

One of the largest geoscience events in Europe is the annual General Assembly of the European Geosciences Union (EGU). In 2005, this took place in Vienna (Austria) from April 24 to 29. Traditionally, the European Mineralogical Union meets in conjunction with the EGU (including holding its business meetings).

Contributions to the EGU meeting cover a broad spectrum of topics related to the geosciences, including space and planetary sciences. The mineralogical sciences were strongly represented in the 2005 programme. The programme section 'Volcanology, Geochemistry, Petrology and Mineralogy' (VGPM) included 22 sessions. In particular the EMU was involved in convening the following symposia:

- High-pressure and High-temperature Mineral Physics: Contributions towards the Understanding of Planetary Interiors
- Spectroscopy of Earth's Material: Experiments and Numerical Modelling

During the first of these symposia, the EMU medal ceremony took place. The EMU annually awards a silver medal to a young scientist who makes significant contributions to research and who is active in strengthening European scientific links. The EMU Medal for 2005 was awarded to David Dobson (University College London, UK; see the citation in volume 1, number 5, page 312 of *Elements*).

In addition, Eugen Libowitzky (University of Vienna, Austria), the 2003 EMU medallist, belatedly gave his medallist lecture entitled 'Dynamic disorder in crystal structures: results from diffraction and vibrational spectroscopy.' In this lecture, he noted that hydrogen can be a major, minor or trace constituent of a broad variety of minerals in the Earth's lithosphere. Hydrogen

atoms in crystal structures can be characterised by both diffraction and spectroscopic methods. Whereas the former are suitable for the investigation of stoichiometric phases exhibiting long-range order with atomic sites at least predominantly occupied by hydrogen atoms, IR spectroscopy is an excellent method for the characterisation of traces of hydrogen atoms in a crystal. The advantage of spectroscopy is the high time-resolution as compared to diffraction methods. Furthermore, the interaction between matter and radiation takes place on one site only. Spectroscopy using polarized radiation allows determination of the orientation of a vibrating molecule. As examples of phase transitions involving hydrogen, the minerals lawsonite and hemimorphite were discussed in detail. Both exhibit dynamic disorder-order processes involving hydrogen-bonded H<sub>2</sub>O molecules and OH groups at low temperatures. Furthermore, it has become clear that even anhydrous minerals may contain hydrogen atoms at structural defects in relatively large amounts. Such minerals persist to great depths in subduction zones and may be responsible for recycling water. Because of the enormous volume of the Earth's mantle, nominally anhydrous minerals under high P-T conditions, and which contain hydrogen only as a minor or trace constituent, may play an important role in the water budget of the Earth. Nevertheless, there is still controversy as to whether the mantle is enriched or depleted in hydrogen through the processes associated with subduction zones.

### FORTHCOMING GENERAL ASSEMBLIES OF EGU

The next EGU General Assembly will be held in Vienna from April 2 to 7, 2006. We would like to draw your attention to the following sessions planned for the VGPM section of the EGU meeting:

- Nanoscale Analytical and High-resolution (S)TEM Techniques for the Characterisation of Environmental and Geological Processes
- Accessory Minerals in Metamorphic and Igneous Rocks: Petrogenetic Indicators of Chemical and Physical Processes
- Urban Mineralogy
- Experiments under HP-HT Conditions: Applications in the Geosciences

We encourage you to participate in this conference. Further information is available at <http://meetings.copernicus.org/egu2006>.

Suggestions for sessions in mineral physics, mineralogy, and crystallography at the 2007 EGU General Assembly would be very welcome and should be addressed to Professor Peter Ulmer of ETH Zurich ([peter.ulmer@erdw.ethz.ch](mailto:peter.ulmer@erdw.ethz.ch)) before September 1, 2006.

Peter Ulmer, President  
David Vaughan, Past President  
Herta Effenberger, Secretary

cont'd from p. 60

collected, particularly if electronic transfer is used; thus the originating society might pay \$45 and IMA a further \$10-\$15 on receipt. Banker's drafts sent by post are somewhat cheaper, but most of our members prefer not to use them. I can see two possible solutions:

- Recognize that the dues paid by societies with less than 25 members are almost trivial and allow them free membership. This does rely on high standards of honesty, but then, we are all scientists.
- Agree that payments by smaller societies can be made in cash at IMA business meetings, which now take place every two years.

One thing that the president of IMA rapidly learns is that the societies that support IMA vary enormously in their size and strength. On the one hand are large organizations like the Mineralogical Society of America, which have permanent staff and offices and are substantial publishing businesses. On the other hand there are small groups, sometimes within a national geological society, full of enthusiasm but lacking any formal structure. To members from richer countries \$2 may seem trivial (a litre of gasoline costs \$1.60 in the UK), but to less-well-off countries it may be substantial. Council appreciates all these issues. But making IMA work well is in

everyone's interest. International scientific collaboration should be a major force in the world, and we can all play our part in this.

Wherever you work I welcome your views and fresh ideas as to how we can achieve our aims. Please e-mail: [ian.parsons@ed.ac.uk](mailto:ian.parsons@ed.ac.uk), Bob Downs, or any member of the IMA Council (addresses at [www.ima-mineralogy.org](http://www.ima-mineralogy.org)). Any changes will be discussed fully by Council and by delegates at our business meetings in Kobe in July 2006 ([www.congre.co.jp/ima2006](http://www.congre.co.jp/ima2006)).

Ian Parsons  
President



www.ima-mineralogy.org

## International Mineralogical Association

### COMMISSION ON PHYSICS OF MINERALS



Georg Amthauer

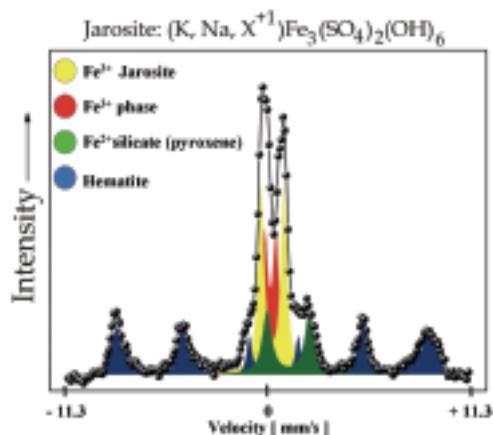
The Commission on Physics of Minerals (CPM) was established by IMA to promote the application of modern solid state physics to minerals and their physical properties as a function of temperature and pressure, even those occurring under the extreme conditions of the deep Earth. Many Earth processes can be understood only on the basis of a profound knowledge of the physical properties of the minerals involved, so research in mineral physics is fundamental in Earth sciences. One recent example is the discovery of the relation between deep earthquakes and the phase transition of olivine minerals under very high pressures

in the upper mantle. In addition, many mineral groups, for example garnets, perovskites, spinels and zeolites, have physical properties that are very important for various technological applications. The development of innovative photovoltaic devices based on natural sulfosalts exemplifies the close relationship between mineral physics and materials science.

In both types of applications of mineral physics, the connection between crystal structure or phase transformations and the related physical properties plays a decisive role in the understanding of phenomena. For the determination of crystal structure (on the subnanometer scale) and its dependence on temperature and pressure, several diffraction methods using X-rays, neutrons, electrons, and synchrotron radiation are available. With these methods, not only the positions of ions on lattice sites, but also electronic distributions around the nuclei may be derived. Transformations of structure (phase transitions) can be detected with high accuracy using special calorimetric methods. The physical properties measured comprise scalar quantities, such as density and specific heat, and tensor quantities, like elasticity/ compressibility, thermal and electrical conductivity, refraction coefficient, magnetic susceptibility, and electric field gradient. Here, classical methods, such as calorimetry, magnetometry and

refractometry can be used, but spectroscopic tools, like infrared, Raman, Mössbauer spectroscopy, ESR and NMR are preferable. The latter have the great advantage of providing direct information at an atomic or even nuclear scale.

To develop a sophisticated interpretation and deep understanding of the physics of minerals, however, we need not only experimental data from structure solution and solid state physics, but also the important contribution of quantitative methods, such as density functional theory based on quantum mechanics. This relatively recent mighty tool connects structural parameters, like ionic distances and symmetries in the crystal structure, with physical properties, such as specific heat, magnetic moment structures, and electric field gradient. Thus, it is possible to create or control physical models for the intrinsic mechanism of the orientation of magnetic moments or electronic conduction in specific minerals. New or revised mineral-like materials with predicted properties can be



Mössbauer spectrum of El Capitan: Meridiani Planum

$^{57}\text{Fe}$  Mössbauer spectrum taken in situ from the Mars surface [Klingelhöfer et al. (2004) *Science* 306: 1740-1745].

“designed,” of eminent importance for materials science.

Recent developments in mineral physics show that the most significant advances are obtained at the “boundary regions” between mineralogy and other disciplines:

- In the field of planetary mineralogy, spectacular identifications and analyses of minerals on the surface of Mars were obtained by the NASA rover using a miniaturized Mössbauer spectrometer (MIMOS II) in combination with in situ X-ray fluorescence analysis (see diagram).
- Innovative photovoltaic devices have been synthesized and produced, based on naturally occurring sulfosalts.
- The use of ferrofluids (mostly a suspension of magnetite nanoparticles) in cancer therapy represents a recent application in medicine.
- The development of the famous perovskite high-temperature superconductors resulted from a close interaction between mineralogy and physics. One of the inventors was Nobel Prize winner in physics J. Georg Bednorz, who has a diploma in mineralogy and crystallography.
- New findings in the field of nanotubes as a tool for ultrahigh-density data storage in computer technology are based on exact knowledge of crystal-growth conditions, obtained from study involving a close collaboration between mineralogy, chemistry, and physics.
- Outstanding progress has been made in the field of ultrahigh-pressure and ultrahigh-temperature mineral physics,

by in situ measurements and experiments, and by computer simulations and calculations of the electronic and magnetic structure of minerals based on quantum mechanical principles.

The next few years may well bring similar progress in mineral physics through development of new analytical and experimental methods, by the improvement of old ones, by making databases more complete and accessible, and through computational mineral physics. However, who can predict where really important progress in science will come? My personal opinion is that, despite all the progress in computer science, it is still very important to perform reliable experiments and make exact measurements, and I want to encourage younger scientists to work in this field.

The main task of CPM is to promote all the different branches of mineral physics. However, there is no sharp boundary between mineral physics on the one hand and crystal chemistry and mineral thermodynamics on the other. CPM will keep promoting better communication between the different groups working in the field. During the last few years, the CPM has organized workshops and symposia during the IMA meeting in Edinburgh, UK (2002) and during the International Geological Congress in Florence, Italy (2004). The IMA meeting in Kobe, Japan, in July 2006 will feature exciting symposia on mineral physics. I hope to meet many mineral physicists there.

**Georg Amthauer**  
University of Salzburg  
Chairman, Commission on  
Physics of Minerals





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## International Mineralogical Association



### FROM THE PRESIDENT

#### NEXT STOP KOBE

This issue of *Elements* will be the last before our 19<sup>th</sup> General Meeting in Kobe. It is a matter of great sadness that one of our longest-serving and most distinguished Councillors, Werner Schreyer, has recently died. A fitting tribute to Werner by Walter Maresch is published on this page.

The Kobe programme will, as usual, include two meetings of the council and two business meetings at which national representatives will be able to make their views known on the performance and future of IMA. Even in the four years since the last general meeting in Edinburgh, enormous changes have occurred in the way communication occurs between the members of scientific organizations. Scientific publishing is in a state of considerable turmoil. For IMA, *Elements* presents an unprecedented opportunity. Council has had preliminary discussions, by e-mail, on a number of initiatives to strengthen IMA in this fast-changing world. Some of these ideas are listed below, and we would welcome the input of IMA members in general.

A new position of Communications Officer should be created in Council, responsible for providing copy to *Elements* and for obtaining news material from member societies, commissions and working groups.

An IMA medal recognizing distinction in mineralogy should be instituted, with the aim of becoming the most prestigious international mineralogical award.

Commissions and working groups have contributed to the mineralogical community mainly by sponsoring sessions at meetings. Currently they are composed solely of individuals nominated by the national societies. We should consider opening membership to all members of IMA and making them in part international, electronically active newsgroups.

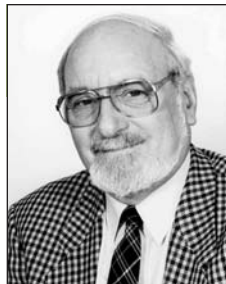
We need to consider co-organization of meetings with other mineralogical and geochemical organizations and to have a long-range meetings plan.

We must solve our problems with setting and collecting membership dues, a topic I discussed at length in *Elements* in February 2006.

In the long term, after our 2010 meeting in Budapest, we need to break the tradition that the chairman of the organizing committee of the general meeting automatically becomes president. The four-year period of presidency is too long. Before the meeting the president-elect is very busy and has little time to learn the ways of IMA. Afterwards, the new president relaxes, exhausted. I speak with personal experience here. The president of IMA should be a distinguished mineralogist, elected by the international community, and the position should not simply be an outcome of the success of a national bid to run a general meeting.

Please let me have your views on any of these topics. If IMA is supported by your national mineralogical organization, *IMA is your society*. I look forward to meeting some familiar faces in Kobe, and I wish the organizers the best of success in what promises to be an outstanding meeting.

**Ian Parsons**  
President



### IN MEMORIAM

#### Werner Schreyer (1930–2006)

IMA councilor Werner Schreyer passed away on February 12, 2006, after battling a particularly virulent type of cancer for a number of months. Werner calmly accepted the reality and the consequences of his illness. He drew solace from the fact that his life had been filled to the brim with the excitement of science, the pleasures of classical music and the company of his family, his friends and his colleagues he enjoyed so much. Werner is survived by his wife, Marianne, and their two sons, Andreas and Christoph.

From the very beginning of his professional career, Werner Schreyer viewed mineralogy from an international perspective. He was the first German fellow to join the Carnegie Institution in Washington after the war. His key role some 20 years later in the establishment of the Bayerisches Geoinstitut in Germany can be viewed as his tribute to this institution and its importance in the geosciences. Werner was a member of the IUGS Commission on Experimental Petrology at High Pressures from 1971 to 1992 and its chairman from 1971 to 1984. He was a member (1972–1984) and chairman (1976–1984) of the German National Committee for IUGS and IMA national representative for Germany (1990–1994). Werner took on the role of IMA councilor in 1994.

Werner Schreyer was an outstanding scientist of international stature. The presentation of the Roebling Medal by Peter J. Wyllie and the acceptance by Werner Schreyer (*American Mineralogist* 88: 936-939, 2003) provide wonderful and eloquent testimony to this. Originally trained in Munich as a hard-rock petrographer in the classical German tradition, Werner became one of the pioneers of experimental petrology in Germany after his fellowship at the Carnegie Institution. Big hammers, big samples and astute observation were his trademarks in the field. He combined his uncanny powers of perception and intimate knowledge of field relationships with precisely planned laboratory experiments to open new avenues of research. His approach must be considered the optimum marriage of field and laboratory work. Werner's impressive list of more than 250 publications spans a wide spectrum, including classical field work in structural geology and petrography, theoretical and experimental aspects of metamorphic petrology, and detailed crystal chemistry and mineral physics of a wide range of minerals and their experimental analogs. Many of these articles are seminal introductions to new directions in these fields. Those who read "Mr. Cordierite's" early papers on this mineral will note concepts of geospeedometry far ahead of their time. His early work in the MASH system later evolved into the foundations of ultrahigh-pressure metamorphism.

Werner Schreyer was a respected, effective and exciting teacher. With determination and energy, he and his team made the Institute of Mineralogy in the newly created Ruhr-University of Bochum one of the world's most distinguished departments. Werner expected hard work from those around him but led the way himself. More than ten of his graduates and co-workers have gone on to professorships elsewhere. Above all, Werner Schreyer was not only an exceptional scientist and teacher, but also a friend and a stimulating colleague.

Over the years, Werner's outstanding work has been recognized by many. He was particularly proud of the Roebling Medal awarded to him in 2002 by the Mineralogical Society of America, and considered this award to be a crowning tribute to his career. Prior to this, the German, Austrian and Belgian mineralogical societies had bestowed their corresponding highest honour on him as well. Honorary doctorates were awarded by the Universities of Hanover and Liège. Werner Schreyer was a member of six scientific, learned academies and Honorary Fellow of five international geoscience societies.

Werner was in the midst of a prolific and successful second career as emeritus professor. We will miss his youthful enthusiasm and his eagerness to learn. Mineralogy has lost one of its most prestigious post-war scientists.

**Walter Maresch**  
IMA National Representative for Germany



IMA president welcoming delegates at the opening ceremony. PHOTO TIM IVANIC



[www.ima-mineralogy.org](http://www.ima-mineralogy.org)

## International Mineralogical Association

### FROM THE PAST PRESIDENT

The excellent 19<sup>th</sup> general meeting of IMA in Kobe is described by the organizers elsewhere in this issue of *Elements*. Everyone I spoke to agreed it was a thoroughly enjoyable event. The scientific standard of the talks was particularly high, reflecting the emphasis placed by universities and government on mineralogy and materials science in Japan. Heartfelt thanks are due to Takamitsu Yamanaka and his team for an extremely smoothly run meeting and some memorable (sometimes deafening!) social events.

Slightly smaller and more mineralogical than competing conferences, it is the emphasis on 'international' that gives IMA meetings their distinctive flavour. IMA has an important role in fostering international collaboration, particularly for the smaller mineralogical societies, and it is always a pleasure to renew old acquaintances. It is, however, disappointing that many members of the larger mineralogical societies do not automatically make IMA meetings their first choice of 'big' meeting. They should. I contend that the international character of science – the set of common rules and practices that all scientists share – is of enormous potential benefit to mankind, well worth the effort of some extra travel or the need to concentrate a little harder on slightly less-than-perfect English.

IMA meetings are complex for the officials of IMA. As president, I had to chair two meetings of the IMA Council and two business meetings (at which supporting organizations are represented, in proportion to their size, by between one and five national representatives), before handing the reins over to Takamitsu Yamanaka, my successor as president, for a final council meeting. All this activity

has to be orchestrated, and papers provided, by our very hard-working Secretary, Maryse Ohnenstetter. Thanks from all of us, Maryse. In addition, the various commissions and working groups of IMA each hold at least one meeting – thanks too to their chairs and secretaries.

### Practical Matters

From this behind-the-scenes activity emerged both formal changes and exciting initiatives for IMA. The Council for 2006–2010, was approved, with some new members (see photo page 318). Missing from the picture is a new communications officer, yet to be appointed, who, together with the president, secretary and treasurer, will be a member of the Executive Committee. New officials were appointed to commissions and working groups. Dogan Paktunc, Katsuo Tsukamoto and Sergey Smirnov become chairmen of the Commission on Applied Mineralogy, the Commission on Mineral Growth and Interface Processes and the Working Group on Inclusions in Minerals, respectively. A full list of officials can be found at [www.ima-mineralogy.org](http://www.ima-mineralogy.org).

The Commission on New Minerals and Mineral Names (CNMNM) has been merged with the Commission on the Classification of Minerals (CCM) to form the new Commission on New Minerals, Nomenclature and Classification (CNMNC). These commissions represent the most widely known activities of IMA. The merger will solve problems encountered in the past at the boundaries of the fields of activity of the former commissions. The CNMNC will operate under the leadership of the hard-working Ernst Burke, who described the activities of CNMNM in *Elements* 1 (3).

Although far in the future, IMA needs to find a venue for the 2014 general meeting. In view of the locations of recent meetings and the 2010 meeting in Budapest, it would be appropriate to meet in North America, and we hope that proposals will come forward. Business meetings take place every two years, and it was decided to hold business and council meetings at the time of the 2008 Goldschmidt Conference in Vancouver, Canada. Council will meet during the combined societies 'Frontiers in Mineralogy' meeting in Cambridge, England, in 2007.

We hope that the problems of collecting membership dues [*Elements* 2 (1)] have been solved. The formula for calculating subscriptions leads to per capita payments that are smallest for the largest societies. Rather than increasing contributions paid by the larger societies, the subscriptions of our fifteen smallest societies, each with less than 25 members, will be reduced from 60 to 30 US\$. The decrease in income will be compensated by an improvement in our annual investment income. The problem of the costs of international bank transfers has been solved by Bob Downs' discovery of a bank that will not charge for accepting cheques in foreign currencies. We can further help societies by

accepting payment up to four years in advance at business meetings.

### Strategic Initiatives

Several initiatives will be developed in the months to come:

- An annual IMA Medal for Excellence has been founded. A Medals Committee will be formed, chaired by Joel Grice. Candidates can be nominated by national societies and by individuals.
- IMA will become the home of the comprehensive Internet mineral database, being built by the RRUFF project, which is led by Bob Downs and George Rossman, with support from Michael Scott, the first president of Apple Computers, who himself is a keen mineral collector. The database will contain X-ray diffraction data, Raman and infrared spectra and microprobe data and analyses. It has spectacular opportunities to be linked to new, miniaturized spectrometers for mineral identification in the field.
- Many councillors feel that some of the commissions and working groups are not fulfilling their role adequately. Suggestions include forming a nucleus of experts in each field to lead developments, making more use of the Internet, and ensuring that chairmen serve no more than four years.
- The presidency of IMA will, in the future, be decoupled from chairmanship of the general meeting, a connection that has developed through custom rather than statute. A democratic system and a shorter term of office for the president would ensure that an increasing number of leaders in the field of mineralogy would become aware of the workings of IMA and contribute fresh ideas.

I will end by wishing my successor, Takamitsu Yamanaka, every success in the next four years.

Ian Parsons  
President of IMA, 2002–2006



# IMA 2006, KOBE, JAPAN

The 19<sup>th</sup> general meeting of the International Mineralogical Association took place on July 23–28, 2006. The National Committee for Mineralogy of the Science Council of Japan (SCJ) has supported IMA since it was established in 1958. At a business meeting during IMA 2002 in Edinburgh, a proposal from the National Committee of SCJ for a meeting in Kobe was accepted. The meeting was run jointly by the Science Council of Japan, the Mineralogical Society of Japan, the Association of Mineralogists, Petrologists and Economic Geologists, and the Society of Resource Geology. The organizing committee would like to express hearty thanks to all participants for their cooperation and contribution to this conference. A total of 975 participants registered (including accompanying persons), from 50 countries. A total of 874 papers (488 oral presentations, 386 poster presentations) were contributed during the six days. Six hundred delegates attended the receptions and banquets, maintaining old friendships and making new ones, and discussing recent and future progress in science.

Mineral science has expanded widely, not only in geosciences but also in planetary science, bioscience, and materials sciences. Mineral scientists contribute strongly in interdisciplinary fields. Consequently we decided that the catch phrase of the conference would be “Expansion to Nano, Bio and Planetary Worlds.” After considering many significant suggestions and comments from our international program committee and from IMA commissions and working groups, the local program committee prepared a timetable of 37 sessions. We express our gratitude to the Science Council of Japan for their cooperation and large financial contribution. We also extend our appreciation to Kobe City and to many companies for their financial donations or support. Many thanks are due to Dr. K. Korokawa, president of SCJ, and to Mr. T. Yada, mayor of Kobe, for their welcoming speeches during the opening ceremony. We greatly appreciated the message from Mr. S. Koizumi, prime minister of Japan.

Kobe City is one of the most beautiful port cities in Japan. Unfortunately, eleven years ago, an enormous tragedy struck Kobe. More than 6000 lives were lost during a big earthquake. But the city was completely rebuilt. I personally believe many of the participants enjoyed the night view of Kobe, and I hope they took pleasure in the Japanese culture during the meeting. Finally, we hope the Kobe conference will be fondly remembered by all participants.

**Takamitsu Yamanaka**  
President of IMA 2006–2010

## *Impressions from the out-going President*

From the standpoint of a participant, without the considerable responsibilities of actually running the meeting, Kobe 2006 was thoroughly enjoyable. Takamitsu and his team did a magnificent job, and the organization was

relaxed and flawless. The scientific programme was intense, based on 37 sessions with up to 7 oral sessions running simultaneously. The organizers had assembled a galaxy of international plenary lecturers (Catherine McCammon, Bayreuth; Christoph Heinrich, ETH Zurich; Eiji Ito, Okayama; Jillian Banfield, Berkeley; Lindsay Keller, NASA Houston; Lukas Baumgartner, Lausanne; Yoshiyuki Tatsumi, JAMSTEC Yokosuka; Michael Carpenter, Cambridge; Sumio Iijima, Meijo) whose excellent early afternoon talks were very well attended. The overall scientific standard of the oral presentations was extremely high, reflecting, I think, the quality of the science done in Japan and the resources that its government puts into our field of science.

Session topics covered all of mineralogy, with experimental and theoretical work at the very high pressures of the deep Earth well represented, as one would expect in Japan. Crystal and glass structure and properties, of both natural and synthetic materials, and modern applications of spectroscopy, synchrotron radiation and neutron science figured strongly, together with crystal growth and texture formation; the big word ‘nano-’ appeared in two contexts. Petrological sessions had a distinctly active margin emphasis: sea-floor hydrothermal systems; metal deposits in magmatic arcs; extreme P–T metamorphism; subduction factory; ocean crust and mantle. Fluid- and bio-mineral interactions, environmental mineralogy, clays and zeolites were all covered, as was the role of minerals in the emergence of life. Solar system evolution, lunar and martian rocks and several up-to-the minute accounts of interplanetary dust returned by the Stardust mission from the comet Wild-2 contributed to strong sessions on matter extraterrestrial. The very distinctively mineralogical topics of new minerals and mineral classification, and of museums, were well supported. IMA Kobe more than lived up to the reputation of these meetings as the flagship international conference of the mineralogical world.

Kobe is a dramatic place, and the one-hour drive through the extraordinary close-packed industrial landscape from Osaka airport, with steep, densely forested hills rising immediately

### *Organizing Committee of IMA 2006, Kobe:*

- General Chairman – T. Yamanaka
- Secretary – E. Ohtani
- Science Program – K. Fujino
- Scientific Excursions – S. Matsubara
- Treasurer – T. Murakami
- Donations – H. Kaneda
- Publicity Chair – R. Miyawaki
- Local Arrangements – M. Matsui



Kobe near the conference centre



Drumming during the banquet – less inhibited delegates were invited to ‘have-a-go’. PHOTO TIM IVANIC



Dragon dancer

behind the coastal lowlands, leaves an indelible impression. As little driver-less trains shuttle faultlessly about, it is hard to believe that such a complex, high-tech urban area could have been devastated by a great earthquake so recently. Only a strangely deformed block pavement, preserved near the conference centre, provided a reminder of the displacements and mighty forces involved.

Japanese society is renowned not just for its energy and efficiency but also for its calm and devotion to good manners. All these were very visible at the meeting. But when they let go, our Japanese friends clearly like brilliant colours, violent movement, and a great deal of noise. We were treated to dragon dancers, lion dancers and ear-splitting drumming as well as more restrained, and very beautiful, Japanese traditional music. Kobe more than fulfilled the ‘international’ in IMA and it was good to see mineralogists from 50 countries so obviously enjoying themselves. I’m already looking forward to Budapest in 2010.

**Ian Parsons**



www.ima-mineralogy.org

## International Mineralogical Association

### THE END OF CNMMN AND CCM —LONG LIVE THE CNMNC!

Two commissions of the International Mineralogical Association (IMA), the Commission on New Minerals and Mineral Names (CNMMN) and the Commission on Classification of Minerals (CCM), jointly proposed to the IMA Council in 2005 to merge their activities into a single, new commission to be named the Commission on New Minerals, Nomenclature and Classification (CNMNC). The main reason for this proposal was the conflicting control over certain tasks in the field of mineralogical nomenclature.

In the early 1990s, the then-chairman of the CCM embarked on a plan for the CCM to develop an overall classification system for minerals, probably the scheme currently in use by the International Centre for Diffraction Data. This proposal sparked an immediate response from the then-chairman of the CNMMN who forcefully expressed the view that the proposal was in conflict with the jurisdiction of the CNMMN

over all matters affecting mineralogical nomenclature. Following some acrimonious debate, which culminated during the 1994 IMA general meeting in Pisa (Italy), the issue was ultimately resolved by the IMA deposing the then-chairman of the CCM.

In another area of possible conflict, the CCM has never played, surprisingly, an active part in developing or revising classification

schemes for specific mineral groups. This role has, instead, been assumed from the start of the IMA by the CNMMN, which established special subcommittees to review the classification and nomenclature of large mineral groups, such as amphiboles, micas, pyroxenes and zeolites.

In the early 2000s, some officers and members of CCM and CNMMN renewed efforts to arrive at a necessary standardisation of mineral groups and their nomenclature. A joint working paper was drafted for this purpose and submitted to both commissions. During the 2004 Paris (France) meetings of the two commissions (on the occasion of the 5<sup>th</sup> Conference on Mineralogy and Museums), it again became clear that classification of minerals is inseparable from mineral nomenclature and that CCM and CNMMN cannot function independently on this issue. Ernest H. Nickel, vice-chairman of the CCM and former vice-chairman of the CNMMN, then came up with the logical proposal to amalgamate the two commissions.

The proposal to merge the two commissions into a new commission was voted on in 2005 and was approved with overwhelming majorities by the members of both commissions. There were many suggestions for the name of the new commission. The name that was chosen – Commission on New Minerals, Nomenclature

and Classification – was proposed by Gheorghe Udubasa, who represented Romania in both commissions. This name encompasses all fields of interest and activities of the new commission. And moreover, as pointed out Gheorghe, the acronym CNMNC is symmetric, as befits a mineralogical name.

The IMA council members expressed their agreement with the proposed merger in May 2006, and the final decision was made during the business meeting of the IMA in Kobe (Japan) in July 2006. A play on words was necessary to obtain this result because the IMA Statutes and By-Laws do not consider the possibility of a merger of two commissions, only 'termination' and 'initiation'. Closing down both commissions would have had a serious drawback: a new commission must be initiated as a working group, which does not have the same status as a commission. It was therefore decided to terminate one commission and to rename the other commission as the CNMNC.

In order to avoid a heavier workload for the officers of the new commission with its expanded duties, the CNMNC has decided to add an additional officer – a second vice-chairman who will specifically be responsible for classification matters.

**Ernst A.J. Burke**  
Chairman CNMNC



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