



**IMA 2010
BUDAPEST**

BONDS AND BRIDGES

**THE 20TH GENERAL MEETING OF THE
INTERNATIONAL MINERALOGICAL ASSOCIATION**

**21-27 August 2010
Budapest, Hungary**



IMA2010 CONFERENCE NEWS

The daily newspaper of the 20th General Meeting of the International Mineralogical Association

TUESDAY

Today's Elements 5 talk

Nigel Kelly: Zircon - more than just a chronometer

The use of zircon for U-Pb dating has become almost routine in Earth sciences, but its ability to record the conditions for its formation or alteration with the help of trace elements makes it so useful. No other mineral can give information from such long time ago, as thanks to its robust nature it can survive the ravages of time.

Zircon has the ability to directly link geochemical signatures with absolute time, which makes this tiny mineral an excellent tool for solving a range of geological problems. Magmatic, hydrothermal and even some tectonic events can be traced with the help of microscale isotopic and trace element studies.

In today's Elements 5 talk Nigel Kelly (Colorado School of Mines, USA) will show, how research is helping to improve the meaning of zircon ages, and also will give an overview about what kind of geologic processes can be traced with the help of an individual zircon grain.



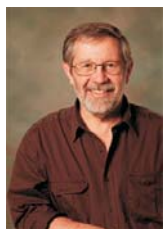
Today's plenary talk

William Griffin: Composition and evolution of the subcontinental lithospheric mantle and origin of its diamonds

Nearly all diamonds are derived from kimberlites (a volcanic rock) that penetrated the Archean subcontinental lithospheric mantle (A-SCLM), the deep roots of the oldest parts of the continents.

A recent re-evaluation of the original composition and present extent of the A-SCLM, combined with detailed geochemical studies of diamonds, has led to a model of diamond formation. The primitive A-SCLM probably was a highly depleted, moderately oxidised dunite-harzburgite, formed by high-degree melting at high T and P. Kimberlite and other magmatic rocks usually have intruded along weak zones, surrounding blocks of primitive A-SCLM, and sample mantle rocks with a long history of fluid interaction (metasomatism). Diamonds represent an early stage of this metasomatism, and have crystallised from a variety of fluids in the in the spectrum from kimberlite to carbonatite and very dense brines.

The talk by William Griffin (Macquarie University, Sydney) will show not only the latest results concerning the A-SCLM, but it will also focus on models of diamond formation.



Methods & Applications and Applied mineralogy

Related programme in the Northern Building:

8.30-12.20: Mineral spectroscopy (N-A hall)

Keynote talk:

Rossmann, G.R. Mineral spectroscopy: from gamma rays to microwaves

12.20-13.00: ELEMENTS 5 talk by Nigel Kelly (Plenary hall)

16.50-18.50: Neutron techniques (N-A hall)

Keynote talk:

Parise, J.B. & Tulk, C.A. Selected advances in neutron techniques for studies of Earth Materials

Related programme in the Southern Building:

8.30-12.00; 16.50-18.30: Applied mineralogy / Material science (general session) (S-A hall)

8.30-11.40: Gas storage in minerals (S-D hall)

Keynote talk:

Stanjek, H. Mineral reactions, development of porosity and their implications for CCS

Official communications

Chair persons amendments

In session MA91 (Advanced TEM), Prof. Michael CZANK is also a CHAIR, and he did a lot for the success of this particular session and regrettably his name did not appear in the printed programme.

In session EM62 (Contaminated land) Prof. Laurent CHARLET's name appeared as L. CORMIER in the printed programme. We do apologise for the inconvenience.

Changes in the oral programme

Please note that Ghorbani's talk (5SC07) in session GP87C3 (Friday, 27th of August, from 11:00) is cancelled, his contribution can be seen as a poster in EG54 on Tuesday (24th of August) afternoon.

Informal meeting

There will be an informal meeting in the room nr 00-524 following the DE43 (Water in nominally anhydrous minerals) session. The meeting starts at 14:00 and the gathering point is the Info Desk in the Southern Building from where we proceed to the venue (projector and computer is provided). Please bring your own challenge!



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Filatov et al.:

Mineral-forming volcanic gases: the Tolbachik factory

Lecture from yesterday

The keynote lecturer of *Volcanoes: The mineral factory* session on Monday was Professor Filatov (St. Petersburg State University), who showed the audience a very thrilling performance about more than 200 minerals related to exhalative gases of Tolbachik volcano.



He started his lecture with showing a picture of the founder of Russian Volcanologic Institute sitting on the main "means of transport" at that time, a horse. Besides specifying the structural and chemical features of the studied minerals, he showed pictures of his co-workers, the field and lab works. He pointed out the "similarity between the symbol of IMA 2010

Conference and the chain structure of kamchatkite", typical mineral of Tolbachic volcano. He ended his lecture with a magnificent video about the research on Tolbachik volcano with amazing music in the background.

Yesterday's Elements 5 talk

The lecturer of Monday's Elements 5 talk was Rodney Ewing, who showed the importance of wise treatment of nuclear waste. He pointed out the role of mineralogy and geochemistry in dealing with nuclear matters.

The audience of the Plenary Halls welcomed Rodney Ewing with a hard applause and appreciative whistle, and he answered them with an enthusiastic and energetic performance.



At the end of his lecture, he has drawn the conclusion, that significance of mineralogy lies not only in the nuclear waste management, but also in understanding the processes better, and using this to improve our technology.



"It was a brilliant performance, this Elements 5 lecture has no match, and nobody could talk better about these issues than Rodney Ewing. Dealing with nuclear waste is more important than most of us think." (Richard Goed)

Pacella et al.

Detailed crystal chemistry and iron topochemistry of naturally occurring asbestos (NOA): a first step to understanding their chemical reactivity

Lecture from yesterday

The professor gave us a lecture on a topic related to yesterday's *Theme of the day*, about the environmental problems concerning asbestos.

The point of the presentation was to find the way how to decrease the chemical reactivity of asbestos. As a conclusion, he found that an increasing amount of iron (Fe²⁺) increases the chemical reactivity of this mineral, as iron catalyses the slow biochemical reactions.

Yesterday's plenary talk

"I have 40 minutes for 40 years. I'll see what I can do", started Peter Buseck, Monday's plenary lecturer, who talked about nanomineralogy.

He showed the audience an impressive series of high resolution TEM pictures, demonstrating the variability and beauty of crystal structures and the development of TEM in the last decades. He explained, he had started to work in this field because he had been interested in beautiful minerals, but through the 40 years of research he got to less than 1 nm resolution. As a closing he presented these



Ultrahigh Resolution Images and some stunning 3D movies of nanometer-sized magnetic bacteria.

"Chrysotile-like structures can be found in meteorites too. That's pretty cool."



"It is a very good thing that we can get direct high resolution images of crystals. Peter Buseck is a real pioneer in this field and the lecture was really interesting." (Nobuyoshi Miyajima, Japan)

"In my opinion the most intensively developing part of Transmission Electron Microscopy nowadays is Electron Crystallography. Getting to know the accurate structure of solid phases is necessary and of common interest. There is a possibility, through direct TEM imaging, to make quick, complex and routine analyses." (István Dódon, Hungary)



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Sunday evening and Monday at IMA2010 - in pictures

Icebreaker Party on Sunday evening



Music at IMA2010



Science and free time at IMA2010



GeoRock - a Hungarian amateur band

Leisure and pleasure at IMA2010



Dear (ever)young Participants! You are invited to attend the GeoRock concert in the Eötvös Collegium (at Ménesi str. 11-13, about 20 minutes walk from the campus) on Thursday, from 20:00. Before the concert the students of the Eötvös Collegium, a special student hostel for outstanding university students, will welcome you in the Collegium and briefly introduce the 'alma mater' to you. Beer and beverages can be purchased and the concert will last for a maximum of two hours. Due to the limited size of the venue, only 80 people can sign up for the event, so be quick, and secure your place at the IMA2010 Info Desks for a truly great experience. The band 'GeoRock' is an amateur Hungarian band playing rock 'n roll as well as blues music. Three members out of the five are geologists, who are also the participants of IMA2010. The repertoire includes covers of Hungarian and international bands such as Hobo Blues Band, Gary Moore, The Police, ACDC and ZZ Top. Screaming guitars, chunky basses, groovy drums and vocals want you feel the rock 'n roll! Join us!



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Leisure and pleasure at IMA2010

Social, music and sport events (Tuesday, 24 August)

- 10.30-11.00: Oriolus Choir (classical music in the Southern Building)
- 13.00-14.00: IMA2010 Mini Duathlon
- 13.00-19.00: IMA2010 Basketball Shooting Challenge (at the northern entrance of the Northern Building)
- 13.00-20.00: IMA2010 Table Tennis (in the Southern Building)
- 13.00-20.00: IMA2010 Tennis
- 13.15-13.45: Hungarian Folk Music (in the Northern Building)
- 14.45-15.45: Sándor Molnár Trio (jazz music in the Southern Building)
- 19.00: IMA2010 Running Race

Information about the sport events, and registration for all of them will be at the Sport Help Desk, connected to the IMA2010 Information Desks.

Music at IMA2010

Musical surprise during IMA2010

While sport games refreshed participants' bodies during the breaks among the lectures, the souls were pampered by music. Music is the "common language", which brings people together.



Zsuzsanna Weiszburg, the organiser of the IMA2010 music programs:

"For a long time I wanted to be a geologist, but finally I decided to be a musician. The idea, to prepare a "musical surprise" for the IMA2010 participants came about a year ago. You can still join us in IMA2010 Choir, register today at the Info Desk!"



Dominique Lattard (Germany), while drinking her coffee and listening to the violin duos of Béla Bartók:

"It is a really good idea, that there's some cultural programme between the lectures. I like classical music."

2nd screening tomorrow

Giant Crystals Movie

IMArt Exhibition

THE MYSTERY OF THE GIANT CRYSTALS is a 50 minutes movie directed by Javier Trueba, and was screened on Monday. It is a fascinating journey into the depths of the Earth in search of the most beautiful treasures of the mineral world, to explain one of its great mysteries: the formation of giant gypsum crystals.

From the Roman mines of Segóbrica described by Pliny the Elder, to Europe's biggest geode, found in Almería, Spain; from the volcanic depths of the Andes, to the grandiose "Cueva de los Cristales de Naica", an authentic crystal palace hidden beneath the Mexican desert of Chihuahua, we shall discover the wonderful world of crystals, their science and their beauty, through the guiding hand of Professor Juan Manuel García-Ruiz (Spanish National Research Council).



Due to its good turnout, a second screening of the film is planned on Wednesday, at 14.00 in N-E hall.

Exhibitors' seminar

XploRA - Smart Raman Microscopy

On Tuesday at 14:00 in the Exhibitor's seminar room (Northern Building), Mr. Jeremy Brites (HORIBA Scientific) will talk about the latest innovation from the world leader in Raman spectroscopy Jobin Yvon.











The XploRA is the newest Raman Analyser of Jobin Yvon range of products, featuring confocal microscope, high sensitivity spectrometer and fully automated lasers and gratings. It combines extreme ease-of-use, portability for field analysis, auto-calibration and fast-imaging capabilities, and is particularly useful for art conservation and other geology and mineralogy studies such as fluid inclusions. A working XploRA is available on the HORIBA Scientific stand for analysis of your samples.



Voices of the IMA2010

Voices of the IMA2010

How is I love you written in...

 German: ich liebe dich	Arabic: أحبك
 Croatian: volim te	Finnish: minä rakastan sinua
 Czech: miluji tě	Greek: Σ'αγαπώ
 Hungarian: szeretlek	Hindi: mein tumse pyaar kartha hun
 Polish: kocham cię	Icelandic: ég elska þig
 Romanian: te iubesc	Italian: ti amo
 Slovakian: milujem t'a	Japanese: 愛してる (a i shi te ru)
 Slovenian: ljubim te	Portuguese: eu te amo
 Serbian: Волим те	Russian: Я люблю тебя
 Bulgarian: Обичам те	Spanish: te quiero

Daily news

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