Geomathematics and GIS Analysis of Resources, Environment and Hazards

ANNUAL CONFERENCE OF THE INTERNATIONAL ASSOCIATION FOR MATHEMATICAL GEOLOGY

AUGUST 26-31, 2007 BEIJING, CHINA

SECOND ANNOUNCEMENT AND FINAL CALL FOR PAPERS

VISIT OUR WEBSITE http://www.iamg2007.org
CONFERENCE ORGANIZERS

CONFERENCE CHAIRS

Zhao Pengda and Frits Agterberg

CONFERENCE SECRETARY-GENERAL

Qiuming Cheng

ORGANISERS

China University of Geosciences (CUG)

State Key Lab of Geological Processes and Mineral Resources (GPMR)

York University (York U)

Int. Association for Mathematical Geology (IAMG)

China Geological Survey (CGS)

China Association for Mathematical Geology and GeoInformatics (CAMGG)
SCIENTIFIC COMMITTEE

Honorary Committee Members:

Director: Zhao Pengda, China university of Geosciences
Frits Agterberg, Geological Survey of Canada

Vice Director: Meng Xianlai, Geological Survey of China
Chai Yucheng, National Natural Science Foundation of China
Zhang Xian'en, The Ministry of Science and Technology of China
Huang Zongli, Ministry of Land and Resources,
Cheng Qiuming, York University/China University of Geosciences


INTERNATIONAL STEERING COMMITTEE

Frits Agterberg, Geological Survey of Canada, Canada
Graeme Bonham-Carter, Geological Survey of Canada, Canada
Heinz Burger, Freie Universität Berlin, Germany
Antonella Buccianti, University of Florence, Italy
Qiuming Cheng, York University, Canada
Roussos Dimitrakopoulos, McGill University, Canada
Nick Fisher, University of Sydney, Australia
Felix Gradstein, University of Oslo, Norway
Eric Grunsky, Geological Survey of Canada, Canada
Ian Jackson, British Geological Survey, UK
Andre Journel, Stanford University, USA
Sergei Kotov, IPGG, Russian Academy of Sciences, Russia
Ryoichi Kouda, Geological Survey of Japan, Japan
Dan Merriam, Kansas Geological Survey, USA
Ricardo Olea, University of North Carolina, USA
Vera Pawlowsky-Glahn, Universitat de Girona, Spain
Eric Pirard, University of Liège, Belgium
Don Singer, US Geological Survey
Richard Sinding-Larsen, Norwegian University of Science and Technology, Norway
V. I. STAROSTIN, Moscow State University, Russia
Christien Thiart, Cape Town University, South Africa
T. Shoji, Tokyo University, Japan
Don Donald L. Turcotte, University of California-Davis

LOCAL ORGANISING COMMITTEE

Director
Wu Ganguo, Zhang Jingao
Vice Director
Deng Jun, Wang Yanxin, Yao Shuzhen, Wang Cong

Committee Members
Lei Xinhua, Xie Xuewen, Xiang Xiangqin, Ma Changqian, Lai Xulong, Shi Xiaoying, Meng Dahu, Cha Daolin, Wang Lijie, Yu Guang, Zhang Jianguo, Hu Guangdao, Chen Jianping

Secretary-General: Qiuming Cheng
Deputy Secretary-General: Chen Jianping, Hu Guangdao

Secretary Committee
Zhang Shouting, Chen Yongqing, Chen Shouyu, Chen Jianguo, Dong Guochen, Xia Qinglin, Zhao Laishi, Yang Liqing

Academic Group: Zhang Shouting, Xia Qinglin

Conference Logistics group: Chen Yongqing, Chen Jianguo, Wang Lijuan, Chen Zhijun

Field Trip Group: Dong Guochen, Hu Guangdao

Fundraising Group: Chen Jianping, Chen Shouyu

Contact Group: Yang Liqing, Zhao Laishi
CONFERENCE LOCATION
The Academy Exchange Center, China University of Geosciences (Beijing)
29 Xueyuan Road, Haidian District, Beijing 100083

IMPORTANT DATES
• February 15, 2007 Abstracts Due
• March 31, 2007 Author Notification
• May 31, 2007 Early Registration Workshop Registration Short Course Registration
• June 15, 2007 Camera-Ready Paper Due

ABSTRACT SUBMISSION
Abstracts of contributions on geomatics and GIS Analysis including new theories, methods, technologies and applications should include:
• The title of the proposed paper
• Sufficient detail (200-400 words) to allow the Scientific Committee to judge the content of the proposed paper
• The name, affiliation, mailing address, phone number and email address of the author(s)
Abstracts should be sent to the conference secretariat by February 15, 2007. Notification of acceptance will be mailed by March 31, 2007. The final camera-ready paper will be due June 15, 2007.

Only papers of participants registered before May 31, 2007 will be included in the proceedings volume.

ABSTRACT SUBMISSION BY E-MAIL
iamg2007@cug.edu.cn or iamg2007@cugb.edu.cn
(Please select your preferred topical session and presentation style (oral / poster) in your E-mail when submitting your abstract)

The manuscripts of extended abstracts will be published in the conference proceedings. The proceedings will be available to delegates at the start of the conference on a CD-Rom. Hard copy proceedings will be published after the conference. Selected papers may also be published in fully refereed thematic volumes after the conference.

PROGRAMME OVERVIEW

Sunday August 26
Registration and Ice Breaker

Monday August 27
Opening Ceremonies and IAMG Awards Plenary Session Poster Sessions Oral Sessions

Tuesday August 28
Plenary Session Poster Sessions Oral Sessions Banquet

Wednesday August 29
Field Excursions

Thursday August 30
Plenary Session Poster Sessions Oral Sessions Closing Ceremonies

Friday August 31
Workshops
SOCIAL EVENTS

Opening Ice Breaker
Sunday, August 26

Conference Banquet
Tuesday, August 28

Wednesday August 29
Field Excursions

PLENARY SPEAKERS

Five plenary speakers including IAMG Award winners will be invited to deliver lectures at the conference. The names and titles of presentations will be posted on the website at a later date.

TECHNICAL SESSIONS

SN01. 40 Years progress in Mathematical Geology (Invited papers only) (Conveners: Graeme Bonham-Carter, Qiuming Cheng)

SN02. Geomathematics for quantification and modeling of geological bodies and geo-processes (Eric Grunsky, Yongqing Chen)

SN03. Mathematical methods and fundamental geology (Ricardo Olea, Zhenyu Bao, Qidong Xu)

SN04. Mineral resources quantitative prediction and assessment (Gary Raines, K. Koike, Quanming Wang, Qingling Xia)

SN05. Application of geomathematics in environment and hazards assessment (Chang-Jo Chung, Huiming Tang)

SN06. Complex theory and non-linear processes in geosciences (Ute Herzfeld, Changjiang Li, Deyi Xu)

SN07. Geographical information systems and geoinformatics (Ian Jackson, Chunlong Wu, Zuqing Jiang)

SN08. New development and application of geostatistics (Jef Caers, Guangdao Hu, Xianchuan Yu)

SN09. Development and application of data mining and geoinformation extraction methods and techniques in geosciences (Gordon Cooper, Jianguo Chen, Yunchuan Xiang)

SN10. Mineral resources prediction and assessment for closing mines and sustainable development of mine cities (Roussos Dimitrakopoulos, Guangsheng Yan, Shouting Zhang)

SN11. Geomathematics and mine planning and resources, environment and hazards assessment (Guocheng Pan, Keyan Xiao, Shouyu Chen)

SN12. Geoscience data model, geoinformation sharing and international exchange (John Broome, R. Kouda, Yongjie Tan, Yongzhong Zhou)

SN13. Special Session for IAMG Student Chapters and young researchers of mathematical geology (Helmut Schaeben, Jianping Chen, Zhijun Chen)

SN14. New theory, methods and techniques of mathematical geosciences (Danniel F. Merriam, Ping Zhao, Zhenfei Zhang)

SN15. Geomathematics and quantitative remote sensing (Carlos Roberto de Sousa Filho, Jinmin Chen, Zhizhong Li, Hongchao Ma)

SN16. Geostatistics and simulation (Clayton Deutsch, Zhaoheng Chen, Yiheng Yang)

SN17. Geomathematics for energy geosciences (Jerry Jenson, Richard Sinding-Larsen, Huiqun Hou, Shengyuan Zhang)

SN18. New development and application of statistical methods in geosciences (Vera Pawlowsky-Glahn, Antonella Buccianti, Zhou Di, Wei Shen)

SN19. New computer methods and programs in geosciences (Boyan Broderick, Gang Liu)

SN20. Geological anomalies and mineral resources quantitative assessment (Invited papers only) (Conveners: Frederik Agterberg, Zhao Pengda, Qiuming Cheng, Yongqiang Chen)

FORMAT OF PRESENTATIONS

The papers will be presented either as oral presentation or poster presentation. Ordinary oral presentations will be given in 15 minutes plus a few minutes for questions. Poster presentations will be given 2 minutes showing main ideas in a large meeting room and followed by display time. If you wish, the conference will provide service for printing the poster prior the conference time without fee or with a minimum charge. Check the website for further information on preparing posters.
WORKSHOPS

1. Spatial prediction models and their validation for natural hazard and resource potential mapping.
   Instructors: Chang-Jo Chung, Andrea Fabbri, Qiuming Cheng
   chang-jo.chung@nrcan.gc.ca

   A spatial prediction map shows the probable locations of future events. Thus a landslide hazard prediction map forecasts the locations of future landslides, and a mineral potential map shows the probable locations of undiscovered mineral deposits. There are many ways to construct prediction maps, from simple heuristic opinion-based procedures with little data to sophisticated mathematical models supported by complex databases and using advanced software and hardware technologies. From a review of existing mapping techniques, we have identified several common deficiencies in existing models, such as the lack of validation of prediction results. We will discuss systematic procedures that overcome these deficiencies. Although, strictly speaking, the validation of the prediction of future events is not possible, a "wait and see" type of validation is not acceptable. Several simple empirical procedures to measure the validity of the prediction results will be discussed.

   Instructors: Prof. Mikhail Kanevski (Switzerland), Mikhail.Kanevski@unil.ch

3. Recent Developments and Applications in Stratigraphic Data Analysis
   Instructors: Prof. Felix Gradstein and Dr. Oyvind Hammer (Norway), Prof. Peter Sadler (USA), and Frits Agterberg (Canada), felix.gradstein@nhm.uio.no, ohammer@nhm.uio.no, peter.sadler@ucr.edu, agterber@NRCan.gc.ca

   3 days (from 10 through 12 September, 2007) short course for Geoscience and paleobiology students, Geoscience professionals, academics in geology and paleobiology, and Petroleum stratigraphers (no computer or mathematical-statistical experience required)

   Methods
   (1) Introduction to Quantitative Stratigraphy
   Data and file formats, data processing and Program QSCREATOR
   (2) Graphic Correlation and Constrained Optimization with Program CONOP
   (3) Probabilistic Zonation with Program RASC
   Variance and outlier analysis, conversion to biochronology
   (4) Robust concurrent range zone analysis with Program UAGRAPH (Unitary Associations)

   Data Sets (analysed and handed out)
   Lower Paleozoic graptolite composite standard for Ordovician Time Scale
   Cretaceous ammonite composite standard
   Cenozoic microfossils in large datasets, North Sea and Gulf of Mexico petroleum basins
   Mesozoic microfossil assemblages in DSDP and ODP sites, Indian Ocean
   Complex Mesozoic Tethyan radiolarian assemblages

   Special Lecture
   International Geologic Time Scale 2004 - why, how, and where next?

   Software used (and handed out)
   Ranking and Scaling (RASC) version 18
   Constrained Optimization (CONOP) version 9
   Unitary Association (UAGRAPH) and Paleontological Analysis Tools (PAST)

   Literature and course manual
   Course participants will receive a course manual and selected reprints.

4. Statistical Analysis of Compositional Data
   Instructors: Prof. Vera Pawlowsky-Glahn, Prof. Egozcue (Spain)
   vera.pawlowsky@udg.es

   This 2-days short course will cover the following topics:
   (1) Hypothesis underlying statistical data analysis
   (2) The Aitchison geometry of the simplex
   (3) Exploratory analysis (biplot, balances-dendrogram)
(4) Distributions on the simplex
(5) Parameter estimation and hypothesis testing  
  (optional)
(6) Linear models
(7) Geostatistical analysis of compositional data  
  (optional)
(8) Discussion of case studies

FIELD EXCURSIONS

Zhoukoudian, Home of Peking Man. This one-day trip is to visit the fossils of "Peking Man" discovered on Dragon Bone Hill northwest of Zhoukoudian, in the southwest suburbs of Beijing. Fossilized skeletons of "Peking Man" include male, female, old and young. The discovery pushed the history of Beijing's civilization back by some 600,000 years. The cost is about 50$ including $20 for transportation, 20$ entrance and 10$ lunch. Maximum number of participants: 30.

The Great Wall. This one-day trip is to visit the Badaling Great Wall, built by the first emperor of the Qin Dynasty, defensive walls spread about through the Yellow and Yangtze River basins, running in different directions and beginning and ending abruptly. In summer, the peaks here are covered with brilliant stretches of leaves and luxuriant flowers. The outcrops show middle Pt (Proterozoic) carbonic rocks and some Mesozoic volcanic sedimentary rocks. The cost is about 60$ including $20 for transportation, 30$ entrance and 10$ lunch. Maximum number of participants: 30.

BeiDaihe Tour. This two-day trip is to visit the tourist site along the coast of Ocean in Shanhaiguan 200km north of Beijing. During the tour one can see the landscape indicating ocean erosion, weathering processes and modern sediments as well as culture sites including Old Dragon Head (Start of Great Wall). The cost is about 180$ including $30 for transportation, 50$ entrance 40$ guest house and 60$ lunches and dinner. Maximum number of participants: 20-30.

The Three Gorges Tour. This four-day tour will visit the Three Gorges Project which is a vitally important and backbone project in the development and harnessing of the Yangtze River. The dam site is situated at Sandouping of Yichang City, Hubei Province, about 40 km upstream from the existing Gezhouba Project. Three Gorges Project is the largest water conservancy project ever built in China. The cost is about 380$ including $80 for return train transportation, 50$ entrance, 100$ hotel and 150$ meals. Maximum number of participants: 20-30.

Mt. Lushan and Quaternary Glacier Features. This four-day tour will visit Mt. Lushan located in the northern part of Jiangxi Province, Mt. Lushan faces Yangtze River to the north and borders Poyang Lake (the largest fresh water lake in China) on the east. Overlooking southward from top of the mountain, Poyang Lake is like a silver mirror. In the north, the Yangtze River looks like a jade ribbon flying to the east. The mountain consists of 99 peaks. With both natural scenic spots and historical and cultural Sites, Mt. Lushan is listed as one of the 40 best tourist attractions in China. NESCO listed it as one of the World Natural Heritages in 1996. The cost is about 380$ including $80 for return train transportation, 50$ entrance, 100$ hotel and 150$ meals. Maximum number of participants: 20-30.

If you have any other suggestions about field trips, please don’t hesitate to contact us and we will happy to consider your suggestions.

ACCOMMODATION

Beijing has a wide range of hotels available to suit all requirements. A list of nearby hotels is available on the conference website. IAMG has arranged for a reservation service for IAMG Delegates at the Xijiao Hotel, that can provide significant discounts on hotel room costs – link to this reservation service through the conference website.

Xijiao Hotel, is a 3-4-star hotel located about 20 minutes walking distance from the conference centre. The standard room rate will be 300 Chinese Yuan/day, approximately $40 US at the current exchange rate. It has restaurant, recreational center and meeting rooms.

The hotel is situated in a good location and has convenient traffic to downtown. Buses, like Nos. 22, 307, 331, 375, 365-375, as well as Nos. 706, 809, 810 and 951 all pass through here. Distance from the airport: 50 Km; Distance from the Wudaokou subway station: 1 Km.
Contacting information about the hotel is:
18 Wangzhuang Road, Haidian District, Beijing, 10083
Tel: +86-10-62322288
Fax: +86-10-62311142
Website: http://www.xijiao-hotel.com.cn/en/

Other Hotels include:
Mengxi Hotel, 3 star
20 Xueyuan Road, Haidian District, Beijing, 100083
Tel: +86-10-59933000
Fax: +86-10-2092159 +86-10-82371079
Website: http://www.mxbg.com/home/index.aspx

Jinma Hotel, 4 star
Address: Building A Golden Tower, 38 Xueqing Road, Haidian District, Beijing, 100083
Tel: +86-10-82838300, +86-10-62328899
Fax: +86-10-82838298
Website: http://www.zndjm.com/main.htm

More hotel information
http://www.ineedhotel.com/beijing/search.php

REGISTRATION FEES

Registration fees are shown for both IAMG members and non-members. However, as IAMG membership is available for just $10 for a year; it is expected that most people would choose to join before registering. For details on how to join IAMG visit the website at www.iamg.org

On-line Registration will become available from February 15, 2007

<table>
<thead>
<tr>
<th>Registration Fees</th>
<th>Before May 31’05</th>
<th>After May 31’05</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Registration¹</strong>:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAMG Member</td>
<td>$300</td>
<td>$350</td>
</tr>
<tr>
<td>Non-member</td>
<td>$350</td>
<td>$400</td>
</tr>
<tr>
<td>Student/Retired*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAMG Member</td>
<td>$150</td>
<td>$200</td>
</tr>
<tr>
<td>Non-member</td>
<td>$200</td>
<td>$250</td>
</tr>
<tr>
<td><strong>Day Registration²</strong>:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAMG Member</td>
<td>$150</td>
<td>$175</td>
</tr>
<tr>
<td>Non-member</td>
<td>$200</td>
<td>$225</td>
</tr>
<tr>
<td>Student/Retired*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAMG Member</td>
<td>$75</td>
<td>$100</td>
</tr>
<tr>
<td>Non-member</td>
<td>$100</td>
<td>$125</td>
</tr>
<tr>
<td>Accompanying Person³</td>
<td>$100</td>
<td>$125</td>
</tr>
<tr>
<td>Workshop⁴</td>
<td>$200</td>
<td>$250</td>
</tr>
<tr>
<td>Field Excursion⁵</td>
<td>$50-$380</td>
<td></td>
</tr>
</tbody>
</table>

¹Full Registration Fees: Full Registration fee includes attendance at Conference scientific sessions, proceedings CD, Ice-Breaker Reception, Gala Banquet, Refreshment, Breaks.
²One-Day Registration Fees: Only one day can be attended. Registration fee includes attendance at Congress scientific sessions for day registered, Refreshment Breaks for day registered.
³Accompanying Person Registrant Fees: Accompanying Person fee includes attendance at Ice-Breaker Reception and Banquet.
⁴Workshops and Excursions: Workshops and Excursions are subject to minimum numbers. Sessions that do not meet minimum registration numbers by June 15, 2007 will be cancelled.
* Retired: Born before Aug 1, 1942; Student: Proof of student status must be supplied with registration.

Cancellation policy: Cancellations must be received in writing to the Conference Secretariat. Cancellations received on or before July 15, 2007 will receive 75% of the total paid. No refunds after July 15, 2007.
CONTACT

CONFERENCE SECRETARIAT

State Key Lab of Geological Processes and Mineral Resources,
China University of Geosciences,
Dr. Chen Jianping, Dr. Yang Liqiang
29 Xueyuan Road, Haidian District, Beijing, China 100083
Tel: 86-10-82322176 Fax: 86-10-82322176
iamg2007@cugb.edu.cn
Or
Dr. Hu Guangdao, Dr. Zhao Laishi
388 Lumo Road, Hongshan District, Wuhan, Hubei China, 430074
Tel: 86-27-67885096 Fax: 86-27-67885096
iamg2007@cug.edu.cn

VISIT OUR WEBSITE

http://www.iamg2007.org