

PROGRAM

Saturday 14th September 2024

Pre-conference field trip

8:00-17:00 *Pre-conference field trip to Mulan Mountain*

13:30-19:30 Early Registration

Sunday 15th September 2024

Workshops

9:00-20:00 Registration

Posters set up

The Qingchuan Hall in the East Lake Hotel's International Conference Center

14:00-15:30 Workshop I - How reliable is your geochemical data? How do we know?

Thomas C. Meisel (Montanuniversität Leoben, Austria)

Followed by interactive practice in Shennongjia hall

15:30-15:45 Tea Break

15:45-17:15 Workshop II - Secondary ion mass spectrometry

Michael Wiedenbeck (Helmholtz-Centre Potsdam, Germany)

18:00-20:00 Ice-breaker (Cafeteria)

Scientific Sessions

The Qingchuan Hall in the East Lake Hotel's International Conference Center

Session 1 - Reference material preparation and application

Conveners: Thomas C. Meisel, Xiandeng Hou 侯贤灯

Session 2 - Instrument developments and field analysis

Conveners: Wei Hang 杭纬, Honglin Yuan 袁洪林

Session 3 - Sample preparation and bulk analysis

Conveners: Jacinta Enzweiler, Olga Okina, Zhaochu Hu 胡兆初

Session 4 - Microanalysis, mapping and imaging

Conveners: Qiuli Li 李秋立, Michael Wiedenbeck, Wen Zhang 张文

Session 5 - Characterizing planet, earth and environmental materials

Conveners: Jifeng Xu 许继峰, Wei Chen 陈唯

Monday 16th September 2024

Session 1 - Reference material preparation and application

Conveners: Thomas C. Meisel, Xiandeng Hou 侯贤灯

Chairpersons: Yongsheng Liu 刘勇胜, Thomas C. Meisel

8:30-8:45 Opening Ceremony

8:45-9:00 *Photo/Tea Break*

9:00-9:30 **Keynote Presentation-1**

Towards correlated geochemistry

Dorrit Jacob

Australian National University, Australia

9:30-10:00 **Keynote Presentation-2**

Identifying old cce and water with single-atom counting

Zhengtian Lu 卢征天

University of Science and Technology of China, China

10:00-10:20 **Invited Presentation:**

High-precision stable isotope measurements of W and Mo in single sample aliquots using mixed double spikes

Teruhiko Kashiwabara

Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Japan

10:20-10:40 *Morning Tea Break*

10:40-11:00 **Invited Presentation:**

In situ Sm-Nd geochronology of xenotime by LA-MC-ICP-MS

Yueheng Yang 杨岳衡

Institute of Geology and Geophysics, Chinese Academy of Sciences, China

11:00-11:15 **Qingshan sanidine (QSs): A new Mesozoic $^{40}\text{Ar}/^{39}\text{Ar}$ dating standard tied to the M0r (Barremian–Aptian boundary)**

Yinzhi Wang 王银之

Institute of Geology and Geophysics, Chinese Academy of Sciences, China

11:15-11:30 **Tourmaline megacryst reference materials for high precision in situ boron isotopic and elemental analysis by LA-(MC-)ICP-MS**

Xiuhong Liao 廖秀红, Zhaochu Hu 胡兆初, Tao Luo 罗涛, Yue Cai 蔡悦

China University of Geosciences (Wuhan), China

12:00-13:30 *Lunch Break (Cafeteria)*

Monday 16th September 2024

Chairpersons: Honglin Yuan 袁洪林, Wei Hang 杭纬

14:00-14:20 **Invited Presentation:**

Laser ablation & ionization mass spectrometry for ore mineral mapping

Wei Hang 杭纬

Xiamen University, China

14:20-14:40 **Invited Presentation:**

Characterization of new candidate reference materials for U-Pb, sulfur and boron isotope analysis of apatite

Alicja Wudarska, Michael Wiedenbeck, David Chew, Cyril Chelle-Michou, André Navin Paul, Mark Schmitz, Dawid Szymanowski,

Institute of Geological Sciences, Polish Academy of Sciences, Poland

14:40-14:55 **Nickel isotope fractionation in laterite profiles of bavanat area, Fars Province, Iran**

Soqra Rasti, Mohammad Ali Rajabzadeh, Cecile Quantin

Shiraz University, Iran

14:55-15:10 **Production and certification process of certified reference materials for isotopic carbon measurements from organic shales**

Anderson José Maraschin

Pontificia Universidade Católica do Rio Grande do Sul (PUCRS), Brazil

15:10-15:25 **Development of reference materials for in situ carbon and magnesium isotope measurements of dolomite**

Jue Lu 陆珏, Wei Chen 陈唯, Hongyun Jin 靳洪允, Jiao Jiang 姜娇

China University of Geosciences (Wuhan), China

15:25-16:10 *Afternoon Tea Break and Posters*

16:10-16:30 **Invited Presentation:**

Mineralogical proficiency testing parallel with a GeoPT round. Methodology, sample preparation and challenges to the reporting scheme

Axel D. Renno, R. Möckel, P.C. Webb, C.J.B. Gowing, D. Ebert, P.J. Potts

Helmholtz Institute Freiberg for Resource Technology (HIF), Helmholtz-Zentrum Dresden - Rossendorf (HZDR), Germany

16:30-16:45 **Synthesized molybdenite reference materials for in situ molybdenum and sulfur isotope measurement**

Jing Tian 田静

State Key Laboratory of Continental Dynamics, Northwest University, China

16:45-17:00 **The analytical methods of columbite U-Pb geochronology and reference material development by LA-ICP-MS**

Liyuan Qing 卿丽媛, Tao Luo 罗涛

China University of Geosciences (Wuhan), China

17:00-17:15 **High-temperature and high-pressure sintered rutile doped with hafnium: A reference material for *in situ* titanium and hafnium isotopes analysis**

Xiaojuan Nie 聂晓娟

Northwest University, China

17:15-17:30 **An improved method of Cr separation for high precision Cr isotopic analysis using double-spike**

Yvqiu Wei 魏雨秋, Lian Zhou 周炼, Lanping Feng 冯兰平

China University of Geosciences (Wuhan), China

17:30-17:45 **Sponsor Talk:**

New Developments And Application Cases Sharing of China-Made New Concept Femtosecond Laser Ablation System

Yonggang Hu 胡勇刚

Shanghai Chemlab Instrument Co., Ltd.

18:00-20:30 *Geoanalysis Conference dinner (Table Banquet)*

Tuesday 17th September 2024

Session 2 - Instrument developments and field analysis

Conveners: Wei Hang 杭纬, Honglin Yuan 袁洪林

Chairpersons: Qiuli Li 李秋立, Xiandeng Hou 侯贤灯

8:30-9:00 **Keynote Presentation-3**

Highlights from 36 years of geoanalytical work: what can be learnt for the advancement of geoanalysis

Thomas C. Meisel

Montanuniversität Leoben, Austria

9:00-9:20 **Invited Presentation:**

Atomic spectrometric techniques for field analytical chemistry

Xiandeng Hou 侯贤灯

Sichuan University, China

9:20-9:35 **Sensitive determination of arsenic by photochemical vapor generation with inductively coupled plasma mass spectrometry**

Ying Gao 高英

Chengdu University of Technology, China

9:35-9:50 **Accurate determination of rare earth element contents in cassiterite by LA-ICP-MS/MS**

Ming Yang 杨明, Wu Wei 韦武, Yueheng Yang 杨岳衡

Hainan Institute of Zhejiang University, China

9:50-10:05 **In situ Lu–Hf geochronology of REE-rich minerals**

Shitou Wu 吴石头

Institute of Geology and Geophysics, Chinese Academy of Sciences, China

10:05-10:40 *Morning Tea Break and Posters*

10:40-11:00 **Invited Presentation:**

The life of the Moon

Qiuli Li 李秋立

Institute of Geology and Geophysics, Chinese Academy of Sciences, China

11:00-11:15 **Advancements in SIMS oxygen isotope calibration of marine biogenic aragonite**

Laura M. Otter, Oliver M. Medd, Ian Williams, Richard Stern, Forster Michael W., Laura Rodrigues-Sanz, Miaohong He, Nerilie Abram

Australian National University, Australia

11:15-11:30 **Testing the use of ²³⁵U in correcting detector nonlinearity on accuracy and precision of U-Pb isotopic dating**

Huiqing Huang

James Cook University, Australia

11:30-11:45 **Development of pyrohydrolysis equipment and analytical method for halogen**

Dingshuai Xue 薛丁帅

Institute of Geology and Geophysics, Chinese Academy of Sciences, China

11:45-12:00 **Lead isotope analysis of individual ore nanoparticles by multi-collector ICP-MS using "event-triggered signal capture" with a high-speed oscilloscope**

Pengju Xing 邢鹏举

China University of Geosciences (Wuhan), China

12:00-13:30 *Lunch Break (Cafeteria)*

Lab tour

14:00-17:30 Lab tour

17:30-19:30 *Dinner (Cafeteria)*

19:30-21:00 *Han Show*

Wednesday 18th September 2024

Session 3 - Sample preparation and bulk analysis
Conveners: Jacinta Enzweiler, Olga Okina, Zhaochu Hu 胡兆初

Chairpersons: Jacinta Enzweiler, Yueheng Yang 杨岳衡, Zhaochu Hu 胡兆初

8:30-9:00 **Keynote Presentation-4**

The technical limits of U-Th-Pb geochronology

Michael Wiedenbeck

Helmholtz-Centre Potsdam, Germany

9:00-9:20 **Invited Presentation:**

Investigation of accurate boron determination in tourmaline by ICP-MS using boron–mannitol complex-based wet acid digestion method

Xijuan Tan 谭细娟, Yonggang Feng, Ruili Zhou, Denghong Wang, Ting Liang, Yan Wang

Chang'an University, China

9:20-9:35 **Borate fusion of high sulfide samples with XRF finish for remote mine site operation of a cobalt mine in Idaho, USA**

Alexander Seyfarth, Cemil Arkula, Joshua Garber, Teng Ee Yap, Francois L.H. Tissot

University of Maine, United States

9:35-9:50 **From King Croesus to Chrysos, the evolution of gold assaying**

Hugh De Souza

Geochemical consultant, Canada

9:50-10:05 **Rapid determination of V isotopes with MC-ICP-MS: new developments in sample purification**

Zhen Zeng 曾振

China University of Geosciences (Wuhan), China

10:05-10:40 *Morning Tea Break and Posters*

10:40-10:55 **Determination of major and trace elements in silicate rock by Laser Ablation-Inductively Coupled Plasma-Mass Spectrometry**

Xiaoyun Qiu 邱晓云

China University of Geosciences (Wuhan), China

10:55-11:10 **Rapid and complete digestion of refractory geological samples using ultrafine powder for accurate analyses of trace elements**

Yanhong Liu 刘艳红

Institute of Geology and Geophysics, Chinese Academy of Sciences, China

11:10-11:30 **Invited Presentation:**

Metal isotopes analyses of sulfide using LA-MC-ICPMS

Honglin Yuan 袁洪林

Northwest University, China

11:30-11:45 **Towards AI driven proxy spectral surveillance of radioactive mineral prospects in carbonatites**

Hudson Angeyo Kalambuka, Ian Muchai Kaniu

University of Nairobi, Kenya

12:00-13:30 *Lunch Break (Cafeteria)*

Wednesday 18th September 2024

Session 4 - Microanalysis, mapping and imaging
Conveners: Qiuli Li 李秋立, Michael Wiedenbeck, Wen Zhang 张文

Chairpersons: Olga Okina, Wei Chen 陈唯

14:00-14:20 **Invited Presentation:**

Ultralow H₂O content analysis with large-geometry secondary ion mass spectrometer

Xiaoping Xia 夏小平, Zexian Cui 崔泽贤

Yangtze University, China

14:20-14:40 **Invited Presentation:**

In situ interfacial analysis of arsenics with shell isolated nanoparticle enhanced Raman scattering

Lei Ouyang 欧阳磊

China University of Geosciences (Wuhan), China

14:40-14:55 **Molecular chemical imaging at nano length scales: Best practice for sample preparation and control measures for navigating contamination sources**

Michael Forster, Laura Otter, Jochen Brocks, Kushani Jayasoma, Deyanira Cisneros-Lazaro, Derek Nowak, Jaroslaw Stolarski, Brett Knowles

Australian National University, Australia

14:55-15:10 **Parts-per-billion trace element detection in anhydrous minerals by micro-scale quantitative nuclear magnetic resonance spectroscopy**

Yunhua Fu 付云华, Thomas Meier, Lifei Zhang 张立飞, Shijie Li

Center for High-Pressure Science and Technology Advance Research, Peking University, China

15:10-15:25 **Three new potential sulfur reference materials (pyrite, gypsum, and arsenopyrite) for in-situ sulfur isotope analysis by laser ablation MC-ICP-MS**

Deyi Peng 彭德义

Northwest University, China

15:25-15:45 **Invited Presentation, video**

High-sensitivity test for oxygen ion implantation memory in SIMS

Yuri Amelin, Keewook Yi, Jeongmin Kim, Charles Magee

Korea Basic Science Institute, Korea

15:45-16:00 *Afternoon Tea Break*

16:00-17:30 IAG General Meeting (both online and offline)

18:00-20:30 *Dinner (Cafeteria)*

Thursday 19th September 2024

Session 5 - Characterizing planet, earth and environmental materials

Conveners: Jifeng Xu 许继峰, Wei Chen 陈唯

Chairpersons: Michael Wiedenbeck, Wen Zhang 张文

8:30-9:00 **Keynote Presentation-5**

Tandem mass spectrometry for the 21st century

Alicia M. Cruz-Uribe, Cemil Arkula, Joshua Garber, Teng Ee Yap, Francois L.H. Tissot

University of Maine, United States

9:00-9:20 **Invited Presentation:**

Ruthenium isotopic evidence for progressive mixing of late accreted material into the Archean mantle

Mario Fischer-Gödde, Jonas Tusch, Elis Hoffmann, Harry Becker, Carsten Münker, Wolfgang Maier, Martin Van Kranendonk, Hugh Smithies

University of Cologne, Germany

9:20-9:40 **Invited Presentation:**

High precision Re-Os isotopic dating of molybdenites

Jifeng Xu 许继峰

China University of Geosciences (Beijing), China

9:40-9:55 **In-situ analysis and imaging of ultra-low concentrations of platinum-group elements by LA-ICP-MS**

Irina Zhukova, Aleksandr Stepanov, Shaoyong Jiang 蒋少涌, Fedor Zhimulev

China University of Geosciences (Wuhan), China

9:55-10:30 *Morning Tea Break and Posters*

10:30-10:45 **High precision determination of ¹⁸⁶Os/¹⁸⁸Os and ¹⁸⁷Os/¹⁸⁸Os isotope ratios**

Huiyin Bao 鲍惠银

Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, China

10:45-11:00 **High-precision static measurement of ¹⁸⁷Os, ¹⁸⁶Os, and ¹⁸⁴Os by NTIMS**

Guiqin Wang 王桂琴

Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, China

11:00-11:15 **Bitumen in a pre-salt reservoir of the offshore Kwanza Basin, Angola: The formation process induced by mantle CO₂ and Re-Os geochronology**

Junjie Liu 刘俊杰, Bin Cheng 程斌

Sun Yat-sen University, China

11:15-11:30 **¹⁸²W isotope composition of Archean mafic-ultramafic rocks in the North China Craton: implications for early Earth processes**

Ruohan Gao 高若菡, Jingao Liu 刘金高

China University of Geosciences (Beijing), China

12:00-13:30 *Lunch Break (Cafeteria)*

Thursday 19th September 2024

Session 5 - Characterizing planet, earth and environmental materials

Conveners: Jifeng Xu 许继峰, Wei Chen 陈唯

Chairpersons: Jifeng Xu 许继峰, Dorrit Jacob, Yongsheng Liu 刘勇胜

14:00-14:20 **Invited Presentation:**

Re-Os-PGE in Organic-Rich Geological Samples: Analysis Improvements and Geological Case Studies

Zhuyin Chu 储著银, Anping Zou 邹安平, Peng Peng 彭澎

Institute of Geology and Geophysics, Chinese Academy of Sciences, China

14:20-14:40 **Invited Presentation:**

Analytical limits on high precision Os isotope analyses: Implications for Re-Pt-Os geochronology and early Earth's mantle

Pedro Waterton, Simon Hansen Serre, D. Graham Pearson, Sarah Woodland, S. Andrew DuFrane, Tomoaki Morishita, Kristoffer Szilas

University of Copenhagen, Denmark

14:40-14:55 **Building a time-resolved confocal microscopy Raman system and its implication to high-fluoresce geological and high-temperature experimental samples**

Runze Jiang 江润泽, Zhixue Du 杜治学

Center for High Pressure Science and Technology Advanced Research, China

14:55-15:10 **Experimental calibration of transmission electron microscopy (TEM) combined with electron energy**

Yurun Wu 吴玉润, Yongjin Chen, Zhixue Du 杜治学, Daniel Frost

Center for High Pressure Science and Technology Advanced Research, China

15:10-15:25 **Establishment of a stepwise carbonate iodine analysis method and re-study of a Mesoproterozoic oxygenation event**

Dongjie Tang 汤冬杰, Hao Fang, Limin Zhou, Gaoqing Jiang, Xiaoying Shi, Liyuan Liang, Xiqiang Zhou, Longfei Zhou, Baozeng Xie

China University of Geosciences (Beijing), China

15:25-15:40 Geoanalysis 2027

15:40-16:00 Closing Remarks

18:00-20:00 *Closing Dinner (Cafeteria)*

Friday 20th - Sunday 22th September 2024

Post-conference field trip