

**GRC-ITAG joint conference on Earth's Interior Dynamics:
Mineral Physics, Seismology, and Tectonics**

**Peking University, Beijing, China
September 8-11, 2004.**

TITLE: GRC-ITAG joint conference on Earth's Interior Dynamics: Mineral Physics,
Seismology, and Tectonics

TIME: 8-11 (Wed.-Sat.) September 2004

PLACE: Peking University, Beijing, China

ORGANIZING COMMITTEE

Prof. Y. John Chen, ITAG, Peking University, Beijing, China;

johnyc@pku.edu.cn;

Prof. Xiaofei Chen, ITAG, Peking University, Beijing, China;

xfchen@pku.edu.cn;

Prof. Tetsuo Irifune, GRC, Ehime University, Matsuyama, Japan;

irifune@dpc.ehime-u.ac.jp;

Prof. Dapeng Zhao, GRC, Ehime University, Matsuyama, Japan;

zhao@sci.ehime-u.ac.jp;

OBJECTIVES:

1. To promote active collaborations between Geodynamics Research Center (GRC), Ehime University, Japan and the Institute of Theoretical and Applied Geophysics (ITAG), Peking University;
2. To provide scientists and students of the two institutions and as well from other institutions in China a forum for exchange of ideas and research results on a variety of subjects including global and regional tectonics and deep Earth dynamics; and
3. More importantly, to provide the Chinese and Japanese students an opportunity to present and discuss their research work in English at the setting of an international conference in order to enhance their scientific motivation.

BACKGROUND:

By the summer of 2004, there will be three faculty members from ITAG, Peking University, who would have visited the GRC, Ehime University for an accumulated about 10 months. During Dr. John Chen's visit in November 2003, who is the director of ITAG, Peking University, both sides of GRC and ITAG have expressed an interest to continue and enhance the collaboration between the two institutions across the East China Sea and the Japan Sea. A consensus was emerged from a number of discussions between Prof. Chen and Profs. Irifune and Zhao that a GRC-ITAG joint workshop will serve the purpose of formal inauguration of a collaborative relationship between the two institutions, which can be expanded later to establish a formal relationship at

higher levels between the two universities. It will also serve as an opportunity to bring most of the faculty and students from GRC, Ehime University to visit Peking University and this will be the first trip to Beijing, China for many of them.

ANTICIPATED PARTICIPANTS: 80 scientists, post-doc researchers, and graduate students, including 40 from ITAG, Peking University, 21 from GRC, Ehime University, and 15 from institutions in China.

WORKSHOP FORMAT: The four days will include three days of lectures and one day of field excursion of both geology and the Great Wall. There will be 8 invited keynote lectures (40 minutes), 8 invited lectures (20 minutes), and 19 contributed talks (15 minutes). Among the invited lectures, 7 are from ITAG, 9 from GRC, and 3 from other institutions in China.

WORKSHOP EXPENSES: The Institute of Theoretical and Applied Geophysics (ITAG) at Peking University will arrange meals and hotels and will provide partial support of the accommodation expenses for GRC, Ehime University participants and the invited speakers from CAS and CSB during the conference. The GRC participants will be responsible for the rest of the accommodation expenses during the conference.

HOTEL AND TRANSPORTATION: The GRC participants will stay at the Guest Hotel of Peking University Zhengda International Center, which is on the campus near the western gate. The meeting will take place at the Seminar Room of ITAG at the east side of the campus, which is about 10 minutes walk from the hotel. A bus is arranged to pick up (or to send) the GRC participants at (or to) the Beijing International Airport on Sept. 7 (or on Sept. 12). One could take a taxi from the airport to the hotel, which takes about 40 minutes without traffic and costs about 120 RMB plus 10 RMB for the highway fee.

Contact person in Beijing:

Prof. Y. John Chen

“Chang Jiang” Professor and Director

Institute of Theoretical and Applied Geophysics (ITAG)

School of Earth and Space Sciences

Peking University

Beijing, 100871, China

011-86-10-6275-8277

johnyc@pku.edu.cn

Notes:

ITAG: Institute of Theoretical and Applied Geophysics

GRC: Geodynamics Research Center

CAS: Chinese Academy of Science

CSB: Chinese Seismological Bureau

WORKSHOP AGENDA

DAY ONE: September 8 (Wednesday)

8:00 AM "Welcome, an introduction of ITAG and Beijing"
(Prof. John Chen, ITAG, Peking University, China)

8:15 AM "An introduction of GRC and Matsuyama"
(Prof. Tetsuo Irifune, GRC, Ehime University, Japan)

Morning Session on Seismology and Tectonics I

Chair: Prof. John Chen

8:30 AM "New advances of GRC seismic tomography"
(Prof. Dapeng Zhao, GRC, Ehime University, Japan)

9:10 AM "Seismic waveform observation and modeling: Implication
of complex physical properties associated with stagnant slab"
(Prof. Fumiko Tajima, Hiroshima University, Japan)

9:50 AM "Seismological imaging of the Earth's deep discontinuities
under the Japan Islands"
(Dr. Akira Yamada, GRC, Ehime University, Japan)

10:10 AM COFFEE & TEA BREAK

10:30 AM "Seismology at Peking University"
(Prof. Xiaofei Chen, ITAG, Peking University, China)

11:10 AM "Modeling seismic wave propagation in lateral heterogeneous
whole earth model"
(Prof. Yanbin Wang, ITAG, Peking University, China)

11:30 AM "Spontaneous rupture process of a seismic fault in elastic half-space"
(Dr. Haiming Zhang, ITAG, Peking University, China)

11:50 AM "Finite difference simulation of seismic waves in 3D earth media"
(Mr. Wei Zhang, ITAG, Peking University, China)

12:05 PM "Shear-wave splitting in the upper crust of Northeast Japan"
(Mr. Long Hu, ITAG, Peking University, China)

12:20 PM WORKING LUNCH

Afternoon Session on Regional Tectonics

Chair: Prof. Qinghua Huang

- 1:30 PM “Continued deformation of Tibetan plateau: Constraints from GPS observations”
(Prof. Peizhen Zhang, Institute of Geology, CSB, China)
- 2:10 PM “Generation mechanism of co-seismic electric signals”
(Prof. Qinghua Huang, ITAG, Peking University, China)
- 2:30 PM “Deep structure and origin of the Changbai intraplate volcano”
(Dr. Jianshe Lei, GRC, Ehime University, Japan)
- 2:50 AM "Stress release model and its implication to earthquake prediction"
(Dr. Shoubiao Zhu, ITAG, Peking University, China)
- 3:10 PM COFFEE & TEA BREAK
- 3:30 PM "Tectonics of Asia and geodynamics at Peking University"
(Prof. John Chen, ITAG, Peking University, China)
- 4:10 PM “Pn and Sn tomography in China”
(Dr. Shunping Pei, ITAG, Peking University, China)
- 4:30 PM “Columb stress changes of the 1976 Tangshan Earthquake Sequence”
(Mr. Zhuqi Zhang, ITAG, Peking University, China)
- 4:45 PM “Waveform modeling for the structure of western Japan”
(Mr. Mohamed Farouk, GRC, Ehime University, Japan)
- 5:00 PM “Structure of the mantle transition zone beneath the Tonga and Vanuatu regions inferred from short-period seismic waves”
(Mr. Yoshiyuki Imato, GRC, Ehime University, Japan)
- 5:15 PM “Global tomographic images of the Earth deep structure”
(Mr. Yuhei Ohta, GRC, Ehime University, Japan)
- 5:30 PM “Short-wavelength heterogeneity in the lowermost mantle using core-reflected phases”
(Mr. Koki Idehara, GRC, Ehime University, Japan)
- 5:45 PM “Beamforming with the generalized sidelobe canceller for coherent noise attenuation in seismic data processing”
(Ms. Fei Hong, ITAG, Peking University, China)

6:00 PM "Element-free method and its applications to seismic modeling and imaging"
(Mr. Xiaofeng Jia, ITAG, Peking University, China)

6:30 PM FORMAL DINNER

DAY TWO September 9 (Thursday)

Morning Session on Mineral Physics and Deep Earth dynamics I;

Chair: Prof. Yonghong Zha

8:00 AM "Phase transitions and density changes in the Earth's mantle and subducting slabs"
(Prof. Tetsuo Irifune, GRC, Ehime University, Japan)

8:40 AM "Water in the Earth's mantle"
(Prof. Toru Inoue, GRC, Ehime University, Japan)

9:00 AM "Strength of frictional sliding and rate dependence of gabbro gouge under elevated temperatures"
(Prof. Changrong He, Institute of Geology, CSB, China)

9:40 AM "Looking into the deep Earth through mantle-derived materials"
(Prof. Hiroyuki Kagi, University of Tokyo, Japan)

10:00 AM COFFEE & TEA BREAK

Morning Session on Mineral Physics and Deep Earth dynamics II;

Chair: Dr. Daisuke Yamazaki

10:20 PM "Effect of water and Fe content on the rheological property of olivine"
(Prof. Yonghong Zhao, ITAG, Peking University, China)

11:00 PM "Ultrasonic measurements under gas high pressure"
(Prof. Yoichi Hanayama, GRC, Ehime University, Japan)

11:40 PM "Grain growth of ringwoodite: implication for rheology of subducting slabs"
(Dr. Daisuke Yamazaki, GRC, Ehime University, Japan)

12:00 PM " Al_2O_3 in stishovite and phase transition of Al_2SiO_5 "
(Dr. Xi Liu, GRC, Ehime University, Japan)

12:20 PM LUNCH

FREE TIME IN AFTERNOON. (Suggested tour to the Tian An Men Square and the Forbidden City)

DAY THREE: September 10 (Friday)

Morning Session on Subduction Tectonics

Chair: Prof. Shiyong Zho

8:00 AM "Structure of 660 km discontinuity and discontinuities in lower mantle"
(Prof. Shaoxian Zang, ITAG, Peking University, China)

8:40 AM "Metastable phase transformation and deep earthquakes"
(Prof. Jerry Ning, ITAG, Peking University, China)

9:00 AM "Synthetic seismicity simulation and tests on AMR for New Zealand"
(Prof. Shiyong Zhou, ITAG, Peking University, China)

9:40 AM "Tomographic imaging of the surrounding oceanic regions
off the Japan Islands"
(Mr. Zhi Wang, GRC, Ehime University, Japan)

9:55 AM "SV-component receiver function and its application in mapping the
crustal structure"
(Mr. Yi He, ITAG, Peking University, China)

10:10 AM COFFEE & TEA BREAK

10:30 AM "Equation of state for NaMgAl₃SiO₈ hexagonal phase"
(Dr. Toru Sinmei, GRC, Ehime University, Japan)

10:50 AM "Elastic wave velocity measurement of ringwoodite at
high pressure and high temperature using ultrasonic method"
(Dr. Yuji Higo, GRC, Ehime University, Japan)

11:10 AM "The application of Digital Speckle Correlation Method (DSCM)
in rock mechanics"
(Dr. Shaopeng Ma, ITAG, Peking University, China)

11:30 AM "Observation of micro-structures of some minerals synthesized
under very high pressure"

(Dr. Shizue Sakamoto, GRC, Ehime University, Japan)

11:50 AM “A new high-pressure form of KAISi_3O_8 under lower mantle conditions”

(Mr. Yuchiro Sueda, GRC, Ehime University, Japan)

12:05 PM “In-situ experiment on hydrous silicate melt under high temperature and high pressure”

(Mr. Akihiro Yamada, GRC, Ehime University, Japan)

12:20 PM “Direct density measurements of pyrolite by in-situ X-ray experiments at around 660 km seismic discontinuity”

(Mr. Takeshi Sanehira, GRC, Ehime University, Japan)

12:35 PM LUNCH

FREE TIME IN AFTERNOON. (Suggested tour to the Summer Palace)

DAY FOUR September 11 (Saturday)

Field trip of both geology and the Great Wall.

Bus leaves the campus at 8 am and returns to Beijing at 7 pm to have a feast of “Peking Duck”, which concludes the joint conference between the GRC, Ehime University, Japan and the ITAG, Peking University, China.

Notes:

ITAG: Institute of Theoretical and Applied Geophysics

GRC: Geodynamics Research Center

CAS: Chinese Academy of Science

CSB: Chinese Seismological Bureau