9th International Conference on Gas Geochemistry
Taiwan, October 1-8, 2007

September 30, 2007 (Sunday)

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<td>17:00-20:30</td>
<td>Registration</td>
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<td>18:00-20:30</td>
<td>Ice Breaker</td>
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08:30-09:00  Registration

09:00-09:20  Opening

Keynote address-1
Chairperson: Jahn, B. M.

09:20-10:00: ICGG9A038
Ozima, M., Yin, Q. Z., Podosek, F. A. and Miura, Y.
*Earth Evolution Recorded in Noble Gases and Volatiles in the Moon*

10:00-10:40  Group photo-1 and break

Keynote address-2
Chairperson: Chen, C. H.

10:40-11:10: ICGG9A083
Marty, B., Coltice, N. and Meibom, A.
*Noble Gas Sources and Fluxes in the Hadean*

11:10-11:40: ICGG9A082
Kurz, M. D. and Curtice, J.
*Residence Sites of Noble Gases in Basalt Glasses and Peridotites: Implications for Partitioning and Gas Migration*

11:40-12:10: ICGG9A101
Huang, W. L.
*Oil and Gas Generation and Expulsion: Seeing is Believing*

12:10-13:20  Lunch
Oral session-1
Chairperson: Italiano, F.

Lee, J. K. W.
Using Argon as a Temporal Tracer of Large-Scale Geologic Processes

13:50-14:10: ICGG9A043
Yang, T. F.
Natural Analogue of Long-term CO₂ Storage in the Sedimentary Formation of Western Taiwan

14:10-14:30: ICGG9A051
Woith, H., Gajewski, C., Steinitz, G., Malik, U. and Piatibratov, O.
Cyclical and Transient Radon Variations at the Tiberias Hot Spring, Israel

14:30-14:50: ICGG9A093
Soil-Gas Monitoring: A Tool for Fault Delineation Studies along Hsinhua Fault (Tainan), Southern Taiwan

14:50-15:10: ICGG9A018
Das, N. K., Bhandari, R. K., Sen, P. and Sinha, B.
Scaling and Crossover Phenomena in Anomalous Helium Sequence

15:10-15:30 Break

Oral session-2
Chairperson: Hilton, D.

15:30-16:00: ICGG9A065 Invited
Taran, Y.
Problems in Interpretation of Nitrogen and Argon Data for Volcanic and Hydrothermal Gases

16:00-16:20: ICGG9A029
Polyak, B.G.
Mantle Helium Traces around Elbrus and Kazbek Volcanoes (Northern Caucasus)

16:20-16:40: ICGG9A041
Ohba, T., Sawa, T., Taira, N., Yang, T. F., Lee, H. F., Lan, T. F., Ohwada, M., Morikawa, N. and Kazahaya, K.
CO₂/H₂O Ratio of Magmatic Gas Estimated from the Analysis of Fumarolic Gas Sampled at Tatun Volcano Group, Taiwan

16:40-17:00: ICGG9A016
Pfanz, H.
Geogenic CO₂-Exhalations and Vegetation – Mofette Plants

18:30-20:00 Welcome Reception
October 2, 2007 (Tuesday)

口述会議-3
主持人： Notsu, K.

08:30-09:00 : ICGG9A012  Invited
Helium Isotope Studies in Regions of Crustal Unrest: the San Andreas Fault Zone, California and
the North Anatolian Fault Zone, Turkey

09:00-09:20 : ICGG9A066
Yuce, G., Streil, T., Nadar, N., Yalcin, T., Yaltirak, C., Oeser, V. and Ugurluoglu, Y. D.
Multi Parameter Hydrogeological Monitoring in Eskisehir Region (Turkey) to Analyze any
Precursors Derived from Earthquakes

09:20-09:40 : ICGG9A074
Balderer, W. and Leuenberger, F.
Detection of Sensitive Compounds in Groundwater with Observed Enhanced Fluorescence
Spectra from Earthquake Prone Areas: First Results

09:40-10:00 : ICGG9A032
Heinicke, J., Martinelli, G. and Telesca, L.
A 1000 m Water Well as a Test Monitoring System for the Detection of Possible Earthquake
Related Anomalies in Fluids

10:00-10:20 : ICGG9A089
Gas Compositions and He-C Isotopic Ratios of Fumarolic Samples from Some Active
Volcanoes in Philippines

10:20-10:40  Break
**Oral session-4**

**Chairperson:** Balderer, W.

10:40-11:00: ICGG9A002  
**Kant, K.** and Chakarvarti, S. K.  
*Alpha Active Pollutants as a Precursor of Seismic Activity: A Review*

11:00-11:20: ICGG9A039  
**Chyi, L. L.,** Quick, T. J., Yang, T. F. and Chen, C. H.  
*Origin and Detection of Spike-Like Anomalies in Soil Gas Radon Time Series*

11:20-11:40: ICGG9A020  
Fan, K. C., **Kuo, M. C. T.,** Lin, C. Y., Han, Y. L. and Tsai, C. L.  
*Anomalous Decreases in Groundwater Radon Precursory to Earthquakes in Eastern Taiwan*

11:40-12:00: ICGG9A003  
**Ramola, R. C.**  
*Subsurface Changes in Radon Concentration Associated with Earthquake Activity in Garhwal Himalaya*

12:00-12:20: ICGG9A037  
**Negarestani, A.**  
*A New Approach Based on Electrical Circuit Model for Using of Time Variation of Radon Concentration in Earth as an Earthquake Precursor*

12:20-13:30  
**Lunch**

**Oral session-5**

**Chairperson:** Zellme, G.

13:30-14:00: ICGG9A071  
**Invited**  
**Notsu, K.** and Mori, T.  
*Chemical Monitoring of Volcanic Gas Using Remote FT-IR Spectroscopy at Several Active Volcanoes in Japan*

14:00-14:20: ICGG9A011  
**Singh, R. P.,** Kumar J, S. and Prasad, A. K.  
*Satellite Detection of Carbon Monoxide Emission Prior to Earthquakes and Volcanoes*

14:20-14:40: ICGG9A080  
**Sano, Y.,** Takahata, N. and Yamamoto, J.  
*High $^3$He Emanation Observed in a Forearc Region of the Kinki district, SW Japan: Revisited*
**14:40-15:00**: ICGG9A004

Koch, U., Heinicke, J., Bräuer, K. and Kämpf, H.

*The Gas Flow at Mineral Springs and Mofettes in the Vogtland/NW Bohemia: An Enduring Long-term Uptrend*

**15:00-15:20**: ICGG9A026

Barragán, R. M., Arellano, V. M., Portugal, E. and Segovia, N.

*Major $^{222}$Rn Anomalies in Fluids of Los Azufres (México) Geothermal Field*

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**Oral session-6**

Chairperson: Chalupnik, S.

**15:40-16:00**: ICGG9A103

Choubey, V. M., Bartarya, S. K. and Ramola, R. C.

*Effect of Hydrogeology and Monsoon on Radon Concentrations in Groundwater of Intermountain Basin of Outer Himalaya*

**16:00-16:20**: ICGG9A013

He, J., Bin, X. and Pin, Y.

*Migration and Accumulation Characteristics and Potential of Multi-Origin Inorganic CO$_2$ in the Ying-Qiong Basin, the South China Sea*

**16:20-16:40**: ICGG9A088

Lan, T. F., Yang, T. F., Lee, H. F., Fu, C. C. and Sano, Y.

*Invasion of Mantle-Derived Fluids into I-Lan Plain, NE Taiwan from Southwest Part of The Okinawa Trough: Evidence of Helium Isotopes In Soil Gases*

**16:40-17:00**: ICGG9A106

Takai, K., Kumagai, H., Suzuki, K., Inagaki, F. and Nakamura, K.

*Extremely $H_2$-rich Hydrothermal Fluids Feed a Possible Successor of the Archean Microbial Ecosystem–Ultra-$H_2$ Hypothesis*
Oral session-7
Chairperson: Heinicke, J.

08:30-09:00: ICGG9A068 Invited
Etiope, G., Feyzullaiev, A. and Baciu, C. L.
Methane Seeps and Mud Volcanoes on Land: A Global Perspective of Gas Origin and Advective Fractionation

09:00-09:20: ICGG9A019
Bräuer, K., Strauch, G. and Kämpf, H.
The Different Degassing Behaviour of Upper Mantle-Derived Fluids in the Western Eger Rift Area (Central Europe)

09:20-09:40: ICGG9A058
Singh, S., Sharma, D. K., Dhar, S. and Kumar, A.
Tectonic Significance of Radon in the Frontal Himalayan Zones of Nurpur Area District Kangra, Himachal Pradesh, India

09:40-10:00: ICGG9A086
Hong, W. L. and Yang, T. F.
Methane Flux from Accretionary Prism through Mud Volcano Area in Taiwan- From Present to the Past

10:00-10:20: ICGG9A063
Geochemistry and Hydrocarbon Potential of Mud Volcanoes in Taiwan

10:20-10:40 Break

Oral session-8
Chairperson: Waseda, A.

10:40-11:10: ICGG9A079 Invited
Italiano, F., Martinelli, G., Pizzullo, S. and Plescia, P.
Greenhouse Gases Released from the Apennine Chain, Italy: Mechanochemical Production Besides Mantle-Derived Contribution
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<td>11:10-11:30</td>
<td>ICGG9A028</td>
<td>Thermodynamic Models of Various Gases and Mixtures Covering a wide Temperature-Pressure-Composition Space</td>
<td>Duan, Z., Zhang, Z., Li, D. and Mao, S.</td>
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<td>11:30-11:50</td>
<td>ICGG9A097</td>
<td>The Optimum Sequestration Depth for CO₂ Geo-sequestration</td>
<td>Lin, C. K.</td>
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<td>11:50-12:10</td>
<td>ICGG9A046</td>
<td>Development and Application of a Gas Membrane Sensor for In-Situ Down Hole Observation of Gases During Geological Storage of Carbon Dioxide</td>
<td>Zimmer, M. and Erzinger, J.</td>
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<td>12:10-13:30</td>
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<td>13:30-13:50</td>
<td>ICGG9A035</td>
<td>Characterization of Natural Gases in Japan Based on Molecular and Carbon Isotope Compositions</td>
<td>Waseda, A. and Iwano, H.</td>
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<td>13:50-14:10</td>
<td>ICGG9A044</td>
<td>Geochemical Characteristics and Genetic Origin of Natural Gas Discovered in Taiwan</td>
<td>Oung, J. N. and Lin, Z. Y.</td>
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<td>ICGG9A055</td>
<td>Origins of Natural Gases from Marine Strata in Northeastern Sichuan Basin (China) by Molecular and Carbon Isotopic Data</td>
<td>Wang, Y., Zhao, C., Wang, Zh., Wang, Ze. and Wang, H.</td>
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<td>14:30-14:50</td>
<td>ICGG9A024</td>
<td>Gases with Abiogenic Signature in Association with Bitumen in Alkaline Rocks of the Ilimaussaq Intrusion, Greenland</td>
<td>Laier, T. and Nytoft, H. P.</td>
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15:30-17:10: Poster session-1
Chairperson: Lin, L. H.

ICGG9A053: Lu, H. and Ripmeester, J. A.
The Factors Affecting Gas Hydrate Formation in Natural Environment

ICGG9A034: Wang, Y., Chen, D. F. and Song, Z.
Detecting Surface Oil Slick Related to Gas Hydrate/Petroleum on the Ocean Bed of South China Sea by ENVI/ASAR Radar Data

ICGG9A014: Song, Z., Zhong, Y. and Wang, C.
Characterizing Organic Matter in the Surface Sediments Associated with Gas Hydrate and Oil Seepage from the Gulf of Mexico

ICGG9A045: Oung, J. N. and Chen, D. C.
Cutting Gas of Exploration Wells in Taiwan- Geochemical Characteristics and Implications in Hydrocarbon Generation

Occurrences and Isotopic Geochemistry of Natural Gases in Western Taiwan

ICGG9A115: Yang, T. F., Yeh, G. H., Chuang, P. C., Hong, W. L., Chen, Y. G. and Chen, J. C.
Evolution of Mud volcanoes in the Accretionary Prism of Southern Taiwan: Constraints of Gas and Fluid Geochemistry

ICGG9A116: Yang, T. F., Fu, C. C., Hong, W. L., Walia, V.
Radioactive Gas Emission from Mud Volcanoes in Taiwan

ICGG9A100: Liu, T. K., Chen, K. Y., Ou, T. K. and Yang, T. F.
Origin of Methane in Aquifers under two Coastal Plains of Taiwan

REE Signature of Redox Variation and Microbiological Process Preserved in Seep Carbonate at Gas Vent Site

ICGG9A022: Feng, D., Chen, D. F. and Roberts, H. H.
Sedimentary Fabrics in Seep Carbonates from Bush Hill: Implications for Biogeochemical and Microbiological Processes

18:00-20:00: Business Meeting of International Committee
08:30-10:30: Young Scientists Poster Presentation-1
Chairpersons: Kies, A., Martinelli, G., Chyi, L. L. and Huang, W. L.

ICGG9A049: Taira, N. and Hirabayashi, J.
The Effusion Mechanism of Onikobe Geyser (Japan) from Chemical and Isotopic Study

ICGG9A088: Lan, T. F., Yang, T. F., Lee, H. F., Fu, C. C. and Sano, Y.
Invasion of Mantle-Derived Fluids into I-Lan Plain, NE Taiwan From Southwest Part of the Okinawa Trough: Evidence of Helium Isotopes in Soil Gases

Gas Compositions and He-C Isotopic Ratios of Fumarolic Samples from Some Active Volcanoes in Philippines

Temporal Variations of Gas Compositions of Fumaroles in the Tatun Volcano Group, Northern Taiwan

ICGG9A059: Kumar, A., Mahajan, S., Bajwa, B. S., Walia, V., Dhar, S., Kochhar, N., Sonkawade R. G. and Singh S.
Geochemical Earthquake Precursor Studies in NW Himalayas, India

Soil Gas Investigation on the Tapingdi Fault in Northern Taiwan and the Continuous Monitoring Results

Evidences Support Nitrogen as Carrier Gas of Helium along Hsinchung Fault, NW Taiwan

ICGG9A048: Tchorz, D. E. and Solecki, A. T.
Seasonal Variation of Radon Activity in Atmospheric Air - Nowa Ruda Area (Sudety Mts. SW Poland)

ICGG9A027: Shen, J. C., Sun, C. H., Kuo, C. L., Su, K. H. and Huang, W. L.
Gas from Neogene Coals in the Northwestern Taiwan Region by Hydropyrolysis
ICGG9A084: Chuang, P.C., Yang, T.F., Hong, W.L., Lin, S., Shyu, C.T., Chen, J.C., and Wang, Y.
Estimation of the Thickness of the Base of Hydrate Stability Zone in Offshore of SW Taiwan Based on Geochemical Data

ICGG9A086: Hong, W. L. and Yang, T. F.
Methane Flux from Accretionary Prism through Mud Volcano Area in Taiwan- From Present to the Past

ICGG9A042: Maity, J. P., Liu, C. C. and Jean, J. S.
Gas Biogeochemical Characterizations of Wu-Shan-Ding and Shiao-Kun-Shui Mud Volcanoes in Taiwan

Evaluating the Potential of Anaerobic Methane Oxidation in Terrestrial Mud Volcanoes of Southern Taiwan

Inventory of Metabolic Energy Deduced from Aqueous and Gas Geochemistry of Hot Springs in Northern Taiwan

ICGG9A031: Czuppon, G., Matsumoto, T. and Matsuda, J.
Helium and Argon Isotopes Measured in Spinel Peridotite Xenoliths from Mt. Quincan, North Queensland, Northeast Australia

$^{40}\text{Ar}/^{39}\text{Ar}$ Dating of the Jiali and Gaoligong Shear Zones and its Tectonic Implications to the Crustal Deformation Around the Eastern Himalaya Syntaxis

3-D Plane-fitting Program in $^{40}\text{Ar}/^{39}\text{Ar}$ Dating

ICGG9A104: Das, J. P. and Murty, S. V. S.
Presence of Insoluble Organic Matter in Chondrule Precursors

10:30-10:50: Break

10:50-12:10: Poster Presentation-2
Chairperson: Baciu, C.

ICGG9A015: Jimsheladze, T., Machaidze, Z., Melikadze, G., Kobzev, G., Martinelli, G., Cenni, N. and Albarello, D.
Multi-Parametrical Monitoring of Deep Seated Fluids for the Characterization of Medium-Short Term Transients in the Crustal Strain Field

ICGG9A054: Laskar, I., Goswami, A. K., Phukon, P., Chetry, G. and Roy, U. C.
Correlation between Radon Anomaly with Meteorological Parameters and Earthquake

ICGG9A052: Negarestani, A., Nasari, F., Hashemi, M. S. and Kohestani, A.
Continuous Radon Monitoring in the Hot Spring of Sirch as an Earthquake Precursor
Submarine Gas Flow Monitoring at Panarea Volcano, Italy

Plant Based Detection of Dry Mofettes – an Example from the Volcanic Laacher See District, Germany

Experimental Investigation of Mechanism of Hydrogen Generation in Hydrothermal Serpentinization of Ultramafic Rocks

ICGG9A040: Matsumoto, T., Matsuda, J., Pinti, D. L. and Genty, D.
Noble Gases in Stalagmite Inclusion Fluids: Preliminary results

Experimental Study for Noble Gas Release and Exchange under High-speed Frictional Melting

ICGG9A050: Flechsig, C., Schütze, C., Bussert, R. and Kämpf, H.
Geoelectrical Investigation of Magmatic Degassing Zones in the Eger-Rift (Central Europe): A case study of the Hartousov Mofette field

ICGG9A075: Caprai, A., Calvi, E., Doveri, M., Leone, G. and Mussi, M.
Geochemical Surveillance of Reactive Gas from Pozzuoli Solfatara (Naples, Italy): Chronological Evolution and Local Ground Displacement

ICGG9A070: Solecki, A.T. and Tchorz, D. E.
Radon Emanation from Coal Ashes

ICGG9A073: Wysocka, M.
Radon in some Jurassic Caves in Southern Poland

ICGG9A057: Mehra, R., Singh, S. and Singh, K.
Assessment of the Average Effective Dose from the Analysis of $^{226}$Ra, $^{232}$Th and $^{40}$K in Soil Samples from Punjab, India

ICGG9A008: Bartarya, S. K., Choubey, V.M., Deshpande, R. D. and Ramola, R. C.
Radon and Helium in Thermal and Natural Water Springs of Upper Bhagirathi, Mandakini and Yamuna Valley, Garhwal Himalaya

ICGG9A060: Mahajan, S., Walia, V., Kumar, A., Yang, T. F., Singh, S., Randhawa, S. S. and Bajwa, B. S.
Soil Gas Survey in Mandi- Sundernagar Area, NW Himalaya, India: Prospecting in Fault Delineation

Continuous Gas Monitoring at Three Volcanoes

XII
ICGG9A061 : Obenholzner, J. H., Parks, J. and Edwards, M.
Arsenic Eaters, Arsenic Drinkers and Arsenic Breathers – Are We Prepared for the Next Big Volcanic Eruption?

ICGG9A009 : Reiter, E.
GIS : A New Tool for Volcanic Gases’ Survey – A Case Study at Vulcano Island, Southern Italy

ICGG9A010 : Reiter, E.
VolcanoGasML: A New Format for Geochemical Volcanic Gases Data

ICGG9A025 : Liu, J. and Song, Z.
Chemical Changes in Rainwater in a Time of Extremely Rapid Urban Development of Guangzhou, China

ICGG9A078 : Bayon, F. E. B. and Magro, G.
Differences in Noble Gas Signatures in two Active Geothermal Systems in the Philippines

Tritium as Vapour-Phase Tracer in Leyte Geothermal Production Field: Initial Results

ICGG9A007 : Akper, F.
Hydrocarbon Migration and Gas Survey Efficiency in Different Tectonic Settings

ICGG9A001 : Ramanathan, Al., Chauhan, R. and Adhya, T. K.
Dynamics of CH₄ and N₂O Emission Flux from Bhitaranika Mangrove Sediments of Eastern Orissa, India

12:10-13:30 Lunch

13:30-14:00 Introduction of Field Excursion

14:00-14:20 Group Photo-2

14:20-17:00 General Assembly

18:30-21:00 Banquet Party
### Oral session-10
**Chairperson:** Solecki, A. T.

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| 08:30-09:00 | ICGG9A081    | **Invited**
*Diffuse CO₂ Emission and Volcanic Activity* |
| 09:00-09:20 | ICGG9A062    | **Vaselli, O.** Tassi, F., Nisi, B., Tedesco, D., Capaccioni, B. and Mapendamo, M. Y.<br>
*Gas Discharges from the Nyiragongo Volcano (D.R. Congo) and Surrounding Areas: Implications for Environmental Impact and CO₂-related Risks from Dry Vents* |
| 09:20-09:40 | ICGG9A036    | **Streit, T.** Oeser, V. and Ogena, M.<br>
*Continuous Measurement of Geochemical Parameters in Aggressive Environment* |
| 09:40-10:00 | ICGG9A076    | **Caprai, A.**<br>
*Methods and Apparatus for Feeding Samples of Gas at Controlled Pressure into Gas Chromatographs (International Patent US 11/718,896 and IT/12.11.04 ITA P120040083) and its Application in Geochemical Surveillance* |

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### Oral session-11
**Chairperson:** Woith, H.

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| 10:20-10:40 | ICGG9A102    | **Kies, A.** Tosheva, Z. and Nawrot, A.<br>
*Natural Radioactive Isotopes in Glacier Studies* |
| 10:40-11:00 | ICGG9A069    | **Baciu, C.** Spulber, L., Etoipe G. and Cuna, S.<br>
*Methane Seepage Hazard for Urban Development Areas – A Case Study* |
11:00-11:20 : ICGG9A056
**Bajwa, B. S.**, Singh, H., Singh, J. and Singh, S.
*Environmental Radioactivity Monitoring around the Tusham Ring Complex, Haryana: A Case Study*

11:20-11:40 : ICGG9A072
**Chalupnik, S.**
*Method of Simultaneous Measurements of Radon and Radon Progeny in Air*

11:40-12:00 : ICGG9A005
**Shanker, D.**, Singh, H.N., Singh, V. P. and Neelakandan, V. N.
*Geological Evidence of Natural Radioactivity in Southern Tamil Nadu, India - Impact on the Human, Animal Health and Natural Environment*

12:00-13:00     Lunch

13:10-20:00     City Tour
Field Excursion