

BAGUS Project News

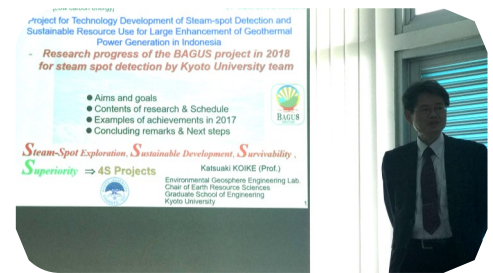
BAGUS Project in the 8th ITB International Geothermal Workshop

Geothermal Master Program of ITB held the 8th ITB International Geothermal Workshop (IIGW2019) from 20th to 21st March 2019.

Similar to the preceding years, BAGUS Project was given the opportunity to disseminate its research progress in a technical session on Thursday afternoon, 21st March 2019.

Beside team members from Kyoto University and ITB, some master students of ITB also collaborate to present their respective research topics below:

Paper title	Author(s)	Paper title	Author(s)
Research Progress of the BAGUS Project in 2018 for Steam Spot Detection (Kyoto University Team)	Katsuki Koike -- Kyoto University	Preliminary Results of Soil Gas 222Rn and Hg Measurement for Permeable Zone Delineation at Patuha Geothermal Field	Putri Aprilia -- ITB
Research Progress of the BAGUS Project in 2018 for Steam Spot Detection (ITB Team)	Sudarto Notosiswoyo -- ITB	Reconstruction of Bandung Local Meteoric Water Line for Recharge Analysis based on Spatial Distribution of Stable Isotopes 18O and 2H	Ranaivo Andrianjafitoanina Hobilalaina -- ITB
Progress of Radon Gas Survey to Specify Steam Spots of Geothermal Resource by Long-Term Periodical Measurement in the BAGUS Project	Taiki Kubo -- Kyoto University	Identifying Up Flow Zones based on Thermal Infrared (TIR) Sensor and Field Gas Measurement at Volcanic Field	Zaki Hilman -- ITB
Surface and Subsurface Fracture Zones Modelling using Automatic Lineament Analysis and Geostatistical Method, with Case Study of Wayang Windu Geothermal Field, West Jawa, Indonesia	Mohamad Nur Heriawan -- ITB	Field Verification of Geological Structures Related to SAR Detected Lineaments	Edo Kharisma Army -- ITB
Mechanism and Source of Ca-Rich Carbonate Scaling in Patuha Geothermal Power Plant: A Deep Look from 13C/12C Isotope Ratio	Mustiati -- ITB	The Application of Geologic Lineament Extracted from SAR Dual Orbit Images for Fluid Flow Path Detection and Simulation in a Geothermal System	Ahmad Brahmanta Aulia -- ITB



2019 Intensive Training Course on Geothermal Science and Technology Interview

As projected in BAGUS Project activity plan, the annual Two-week JICA Intensive Training Course on Geothermal Science and Technology will be held for the last time this year.

Similar to the preceding years, an interview session was organized for the pre-selected fifteen candidates from ITB's Master's program students after BAGUS Project's session in IIGW2019.

Successful candidates are scheduled to participate in the training course along with other participants from BAGUS Project co-partners (Star Energy, Geo Dipa and Center for Mineral, Coal and Geothermal Resources—CMCGR— of Energy and Mineral Resources Ministry).



Research Activities Progress

Continuing the research on the near-surface geophysical exploration at Wayang Windu, in December 2018 Assoc. Prof. Dr. Tada-nori Goto and a master student from Kyoto University, Mr. Yuji Yamada, visited Wayang Windu and conducted audio-frequency magnetotelluric survey (AMT) to elucidate a hypothesis that geothermal anomalies are related to the fracture zones since in Wayang Windu regions high radon anomalies in soil gas were found at the areas close to the hydrothermally altered zones based on the remote sensing and topographical lineament analysis as well. The survey result is still being analyzed at Kyoto University, nevertheless the preliminary analysis in general showed a positive result.

Mr. Taiki Kubo visited Patuha in January 2019 and dug some shallow gas monitoring wells and conducted measurement of mercury and radon gases.

At the four pre-selected locations at Patuha, 2-meter monitoring wells were set up assisted by research assistant and ITB students. There are a total of 10 gas monitoring wells in Patuha and gas monitoring will be continued using these ten wells. Mr. Kubo continued the monitoring activity in March 2019 as well.

Mr. Yohei Tada visited Bandung in January 2019 in order to measure $\delta^{13}\text{C}_{\text{DIC}}$ of dissolved inorganic carbon in the ground water sample collected in August 2018 and $\delta^{15}\text{N}$ fumarolic for the objective to estimate the temperature of geothermal reservoir and the origin of ground water in the periphery of Bandung basin. Through these activities Mr. Tada successfully transferred the operation handling of IR-MS to the Center for Mineral, Coal and Geothermal Resources and ITB researchers.



ISME-XV, Steering Committee Meeting at Kyoto University and 5th International Conference of Scientific Research Tanta University

Kyoto University hosted the 15th International Symposium on Mineral Exploration (ISME-XV) from 26th to 28th November 2018. ISME (International Symposium on Mineral Exploration) is an international activity of the Division of Exploration Technology (DETEC) of Mining and Materials Processing Institute of Japan (MMIJ). The purpose of ISME symposia is to bring together scientists actively working on some diverse fields in order to foster the exchanges of ideas related to the methods for natural resource exploration. BAGUS Project took part as exhibitor during the symposium and some members with master students from ITB and Kyoto University presented outstanding research results, such as:

Geothermal energy development in Indonesia: Potency, beneficiation, and constraints

Sudarto Notosiswoyo, Katsuaki Koike

BAGUS (Beneficial and Advanced Geothermal Use System) project for steam-spot detection and large enhancement of geothermal power generation

Katsuaki Koike, Sudarto Notosiswoyo

Permeable zone estimation based on radon concentration and very high resolution of digital terrain model (DTM) at Wayang Windu area, West Java, Indonesia

Ahmad Ali Syafi'i, Mohamad Nur Heriawan, Asep Saepuloh, Taiki Kubo, Katsuaki Koike



More information: http://www.tanta.edu.eg/en/News_details_archive.aspx?id=cfa5f211-d3f3-467f-8599-fdd3cdd2c755

Prof. Koike presented a part of the BAGUS outcome at the 5th International Conference of Scientific Research organized by Tanta University (Egypt) from 26th to 28th March 2019 in Sharm El-Sheikh. Sharm El-Sheikh, situated near the southern edge of the Sinai Peninsula, is a beautiful city with sunny and rich coastal environments. The main theme of this conference was "Renewable Energy and Water Sustainability." Prof. Koike served as a keynote speech of 45 minutes with title "Geoinformatic technologies for exploration and sustainability of renewable energy and water resources", in which the latest results of steam-spot detection, a core purpose of BAGUS, using remote sensing, gas and water chemistry, and mathematical geology were introduced. This presentation drew many interests of the audience as new idea and method. In the closing ceremony, Prof. Koike was honored by the vice president, Prof. Mustafa Al-Sheikh for his contribution to the success of this conference.

A Joint ITB/JICA/JST SATREPS Project for Technology Development of Steam-spot Detection and Sustainable Resource Use for Large Enhancement of Geothermal Power Generation in Indonesia Beneficial and Advanced Geothermal Use System

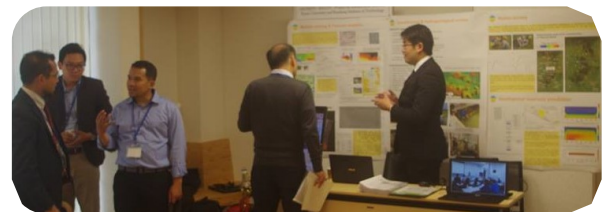
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<https://www.jica.go.jp/oda/project/1400739/index.html> (JICA)
<http://bagus-satreps.ftm.itb.ac.id/> (ITB)
http://www.jst.go.jp/global/kadai/h2601_indonesia.html (JST)
<http://www.geoenv.kumst.kyoto-u.ac.jp/bagus1.html> (Kyoto University)

ISME-XV 15th International Symposium on Mineral Exploration
DETEC-MMIJ
Division of Exploration Technology



More information: <http://www.isme-detec.org/ISMExv/>



Besides, the team also took this occasion to hold a steering committee meeting at Kyoto University.