JFES NewsLetter	JFES Newsletter e-mail: info@spwla-jfes.org
Japan Formation Evaluation Society – A Chapter of SPWLA	**Feb 2022**

Invitation to the 117th Chapter Meeting

We are pleased to announce that the forthcoming Chapter Meeting will be held as follows. Online lectures will be held due to the unprecedented situation caused by COVID-19 pandemic. Those who are interested in attending this meeting, please register here **by Feb 23 COB, 2022.**

Registration: https://forms.office.com/r/0GEcM4iuuS
Date & Time: March 9 2022, Wednesday, 15:30 - 17:30
Online Seminar: The access link will be informed later.
Contact: info@spwla-jfes.org

Program:
司会進行:山田泰広（Yasuhiro Yamada）（九州大学）

Presentation 1:
菱刈金鉱床の熱水変質帯の鉱物学的検討：古地熱系の熱構造復元へ向けて
Mineralogical Studies on Wall-rock Alteration Zoning in the Hishikari Gold Deposit: Reconstruction of Thermal Structure in the Paleogeothermal System
五ノ井 祐二（Yuji Gonoi）（九州大学）
Language：Japanese
世界的な金品位を誇る菱刈金鉱山は，本鉱床，山神鉱床，山田鉱床の3つの鉱脈群からなる浅熱水鉱床（古地熱系）である。本研究では，山神鉱床中心部の熱水変質帯を対象に，X線粉末回折，EPMAおよびSEM-EDS，流体包有物の均質化温度測定，同位体比測定を手法として，菱刈の熱構造復元を試みた。今回は特に緑泥石地質温度計について，深度，鉱物組み合わせ，および混合層鉱物中の緑泥石の割合との関係を示し，その適用性を検討する。

Presentation 2:
地熱地域における重力・重力偏差法探査から推定される地下構造
Underground structure inferred from gravity and gravity gradiometry survey in the geothermal area
西島 潤（Jun Nishijima）（九州大学）
Language：Japanese
地熱開発における重力・重力偏差法探査は、基盤岩や貫入岩体の形状把握や地熱流体の流路や貯留層となる断層構造を検出することを目的として行われている。近年重力計やGNSS受信機などの測定機器の精度向上に伴ってマイクロガルオーダー（10-8 m/s2）の重力異常差による微小な地下構造の検出が可能になってきている。本発表では重力・重力偏差法探査の概要と地熱地域における適用例を紹介する。

Presentation 3:
圧力・熱拡散のアナロジーによる模擬坑井試験：
スキン・坑井貯留・境界の効果を制御可能な実験教材の開発
Simulating well testing on the analogy between pressure and thermal diffusion: Development of an educational material based on analogue experiments controlling skin, wellbore storage, and boundary effects

松本 光央（Mitsuo Matsumoto）（九州大学）
Language：Japanese
圧力・熱拡散のアナロジーを利用し、坑井試験の測定データを室内実験で再現できる実験教材を開発した。当教材は、温度センサとニクロム線を束ねたプローブを油粘土に挿入して発生させる、熱拡散の放射状流を利用する。種々の条件を与えることでスキン、坑井貯留、境界の効果を変化させた模擬測定データを生成し、タイプカーブとの整合性を確認した。当教材が学生や若手貯留層エンジニアの習熟の一助となることが期待される。

Presentation 4:
Sustainable Development of Geothermal Energy
Saeid JALILINASRABADY (Kyushu University)
Language：English
Geothermal power plant has different stages for its lifetime, from exploration to operation and maintenance. Early stages of geothermal development, including exploration and exploitation, are time-consuming with very high-risk factors. Production drilling will be conducted considering geological, geochemical, and geophysical surveys. Once production starts, the profit will be equal to the cost of exploration, exploitation, and production over the plant's lifetime. Therefore, sustainability is very important for geothermal power plant development. Sustainability is affected by the nature of geothermal energy and its social acceptance, including environmental impacts.
As a consequence of geothermal energy development, we face several environmental impacts that need to be considered. Those environmental impacts include both physical and social. Several parameters need to be considered in the physical aspect, namely air emission, noise emission, water contamination, solid waste, and physical disturbance. Despite the possibility of those physical impacts by geothermal power generation, the impact significance is still much lower than those in fossil-fueled power generation (i.e., oil, gas, and coal). The developed (and developing) technologies nowadays overcome those impacts from geothermal energy development.
Furthermore, suppose we consider each energy source's environmental cost of power generation. In that case, geothermal falls among the cheap energy sources regarding environmental and maintenance costs and still can be considered the best energy source for future generations. Geothermal is more sustainable than wind and photovoltaic for other impact factors such as CO2 emission, efficiency, and land usage. This talk will overview geothermal development from subsurface to surface and discuss essential mitigation and monitoring methods to achieve sustainable geothermal development.

Icebreaker（懇親会）
None.

End of NewsLetter