International Conference on Coupled Processes in Fractured Geological Media: Observation, Modeling, and Application
A Virtual Conference
November 11(Wed) - 13(Fri), 2020, Seoul, Korea
2020 ISRM Specialized Conference

CALL FOR PAPERS
Every subject area of coupled thermal-hydro-mechanical-chemical (THMC) processes in fractured geological media are invited to submit. Extended abstract (2-4 pages) is still open for the one who could not submit the abstract.

VENUE
Held online from Global Education Center for Engineers (GECE) Convention, Seoul National University, Seoul, Korea

IMPORTANT DATES
• Sept. 1, Registration opens
• Oct. 1, Deadline for Extended abstract submission

REGISTRATION FEE
• Registration before Oct. 1, 2020 [ISRM Delegate / Non-ISRM Delegate / Student]: $185 / $245 / $85
• Registration after Oct. 1, 2020 [ISRM Delegate / Non-ISRM Delegate / Student]: $235 / $295 / $115

PUBLICATION
Selected papers will be published in a special issue of ‘Geomechanics for Energy and the Environment’ after a review.

TENTATIVE PROGRAM
• November 11 (Wed) : Keynote lectures, General sessions, Panel discussion
• November 12 (Thu) : Keynote and Chin-Fu Tsang Award lectures, General sessions
• November 13 (Fri) : Plenary Sessions of Emerging Scientists, Keynote lectures, General sessions

CONTACT INFORMATION
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KEYNOTE SPEAKERS
Inga Berre
(U. of Bergen, NORWAY)
Mathematical and numerical modeling of coupled subsurface dynamics due to fluid injection in fractured formations

Emily Brodsky
(U. of California, Santa Cruz, USA)
Permeability that changes over time

Tomasz Hueckel
(Duke U., USA)
Phenomenological versus mechanism modeling of multiphysics coupling in fracturing geomaterials

Chun’an Tang
(Dalian U. of Technology, CHINA)
TOUGH-RFPA: A coupled thermal-hydro-mechanical rock failure process analysis simulator

Takatoshi Ito
(Tohoku U., JAPAN)
A breakthrough in rock stress measurement applicable deep and high temperature environment

Ki-Bok Min
(Seoul National U., KOREA)
Ove Stephansson memorial lecture: Outstanding issues in coupled process for engineering fractured rock mass at depth
FREE PAPER POSTER DISCUSSION

The CHin-fu tsang CouPeD Processes aWarD was established to recognize outstanding contribution of an early career geoscientist to THMC coupled processes in fractured geological media. The winner will be presented a certificate as well as a honorarium to support his/her travel to the Conference. An award lecture by the recipient will be given during the Conference.

SREGULARномERECTED MAP AND AWARD

Prizes will be awarded to the authors of best papers and posters with certificates.

SORTH COURSES

Two days short courses on 9th (Mon) and 10th (Tue)

• CrunchFlow / CrunchClay, Carl I. Steefel (LBNL) & Christophe Tournassat (BRGM)

• Reservoir geomechanics, Maurice B. Dusseault (U. of Waterloo)
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**SPECIAL SESSIONS**

- **Scientific machine learning applications for coupled processes in the subsurface**
  - Conveners: Hongkyu Yoon (SNL), Hoonyoung Jeong (SNU)
- **Development of coupled processes and their validation in nuclear wastes disposal (DECOVALEX)**
  - Conveners: Alexander Bond (Quintessa Ltd), Changsoo Lee (KAERI)
- **Numerical modelling of long term THM coupling in geological CO2 storage:**
  - Conveners: Fengshou Zhang, Li Zhuang, Takuya Ishibashi
- **Coupled seismo-thermo-hydro-mechanical-chemical processes in natural fracture networks: from field observation to numerical simulation**
  - Conveners: Qinghua Lei, Jeoung Seok Yoon
- **Long term behavior of fractured geological media under coupled THMC environment**
  - Conveners: Pengzhi Pan
- **Experimental Studies for Fracture Characterization of Rock across Scales**
  - Conveners: Pania Newell
- **THMC coupling in geological CO2 storage: from lab to the field scale**
  - Conveners: Roman Makhnenko, Victor Vilarrasa, Laura Blanco Martin
- **Numerical modelling of coupled thermo-hydro-mechanical processes in fractured rocks**
  - Convener: Bruno Figueiredo
- **Numerical modelling of coupled thermo-hydro-mechanical processes associated with hydraulically induced fracture propagation**
  - Convener: Bruno Figueiredo
- **Numerical modelling of the interaction of coupled thermo-hydro-mechanical processes and complex geological settings and heterogeneities**
  - Convener: Bruno Figueiredo
- **Understanding Individual and Coupled Processes through Geo-architected Materials across Scales**
  - Convener: Pania Newell
- **Advances in discontinuum-based simulation of coupled processes during rock progressive failure**
  - Convener: Andrea Lisjak
- **THMC coupling in clays**
  - Conveners: Christophe Tournassat, Carl I. Steefel
- **Enhanced Geothermal Systems (EGS)**
  - Conveners: Hannes Hofmann & Günter Zimmermann

**SESSIONS**

- **Coupled Thermo-Hydro-Mechanical (THMC) processes in single fractures**
  - Conveners: Zihong Zhao, Yuedu Chen
- **Advances in computation of coupled processes in fractured media across scales: numerical modeling and machine learning**
  - Conveners: Mengsu Hu, Adriana Paluszny, Pania Newell, Shaojun Li, Laura Blanco Martin
- **Mechanics of induced seismicity: managing complexity from lab to field scale**
  - Conveners: Victor Vilarrasa, Roman Makhnenko, Francesco Parisio, Qi Li
- **Coupled multiphysics during coal gas and shale gas extraction**
  - Convener: Wancheng Zhu
- **Numerical modelling of long term THM coupled processes in fractured hard rock**
  - Convener: Diego Mas Ivars
- **Coupled THM hard rock fracture behaviour – laboratory experiments and numerical modelling**
  - Convener: Diego Mas Ivars
- **Coupled THM field experiments in fractured hard rock**
  - Conveners: Diego Mas Ivars, Shaojun Li, Jeoung Seok Yoon
- **Advances in fluid injection induced shear slips on natural fractures**
  - Conveners: Fengshou Zhang, Li Zhuang, Takuya Ishibashi

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CouFrac2020 GOES VIRTUAL

• CouFrac2020 will be held fully virtually with simultaneous offline event in Seoul.
• All oral and poster presentations will be available online to the registrants.
• Registration fees have been significantly reduced.
• Effective and efficient interactions among participants will be ensured through special virtual platform.
• Detailed instruction will be available later.