Invitation

The Conference on Coupled Processes in Fractured Geological Media: Observation, Modeling, and Application (CouFrac2022) invites you to Berkeley, California, November 14-16, 2022. The conference, which succeeds the first one held in Wuhan, China in 2018 and the second held in Seoul, Korea in 2020, will focus on new and exciting advances in all areas of coupled processes associated with fractured geological media, including numerical methods, in-situ tests, lab experiments, machine learning, and applications to different subsurface engineering activities. The conference will be held in person in Berkeley with the possibility of participation through video conferencing. We look forward to your participation!

Conference Chairs
Jonny Rutqvist (LBNL, USA)
Mengsu Hu (LBNL, USA)
Carl I. Steefel (LBNL, USA)
Ki-Bok Min (SNU, Korea)
Antonio Pio Rinaldi (ETH Zürich, Switzerland)
Pengzhi Pan (CAS, China)
Hideaki Yasuhara (Ehime University, Japan)

Conference Administrator
Shelby Bemiss (LBNL, USA)

Student Assistant
Ying Xin (SNU, Korea)

Conference email: coufrac2022@gmail.com
Conference website: http://www.coufrac2022.org

Important Dates
October 1, Deadline for Early Registration
November 1, Deadline for Regular Registration

CouFrac 2022 Awards
Best Oral Presentation and Poster Awards

ISRM THMC Commission Award
Chin-Fu Tsang Coupled Processes Award

Panel Discussion: Carbon Neutrality

Honorary Panel Members:
Derek Elsworth, Ranjith Pathegama Gamage, Dongxiao Zhang,
Maurice B Dusseault, Hajime Yamamoto

Keynote Lectures

Chin-Fu Tsang
Mark D. Zoback
Wenlu Zhu

Patrick Selvadurai
Jishan Liu
Janos Urai

Xuhai Tang
Anna Suzuki
Harrison Lisabeth

Cyprien Soullaine
Luke Frash
Sehyeok Park
### Special Sessions

**SS1:** Machine learning for coupled processes in the earth sciences and engineering  
Conveners: Mengsu Hu, Laura J. Pyrak-Nolte

### Sessions

**S1:** Multi-physics of high-enthalpy and supercritical geothermal systems  
Conveners: Francesco Parisio, Keita Yoshioka

**S2:** Fracture propagation modeling in porous media  
Conveners: Keita Yoshioka, Francesco Parisio

**S3:** THMC coupling in geologic CO2 storage: from lab to field scale  
Conveners: Roman Makhnenko, Víctor Vilarrasa

**S4:** Soft stimulation in enhanced geothermal system  
Conveners: Zhihong Zhao, Bo Li

**S5:** Fostering geological hydrogen storage: Experiments, simulations, field observations  
Conveners: Pania Newell

**S6:** Induced seismicity: from understanding the triggering mechanisms to its forecasting  
Conveners: Víctor Vilarrasa, Roman Makhnenko

**S7:** Fusing data-driven and physics-based modeling in Enhanced Geothermal Systems  
Conveners: Thomas Poulet, Manolis Veveakis

**S8:** Numerical modelling of long term THM coupled processes in fractured hard rock  
Conveners: Diego Mas Ivars

**S9:** Coupled THM hard rock fracture behaviour– laboratory experiments and numerical modelling  
Conveners: Diego Mas Ivars

**S10:** Coupled THM field experiments in fractured hard rock  
Conveners: Diego Mas Ivars

**S11:** Laboratory evaluation of shear behavior of rock fractures from micro to macro scale  
Conveners: Li Zhuang, Fengshou Zhang, Bo Li

**S12:** Exploring the THM processes via geophysical parameters: from laboratory experiments to field tests  
Conveners: Takuya Ishibashi, Yusuke Mukuhira, Sho Ogata

**S13:** Hydraulic fracturing in deep oil/gas reservoirs with complex geologic discontinuities  
Conveners: Xuhai Tang, Haiyan Zhu

**S14:** Controlled enhanced geothermal system (EGS) development  
Conveners: Hannes Hofmann, Günter Zimmermann

**S15:** Hydromechanical interactions and seismic hazards in mineral resources exploitation  
Conveners: Wenzhuo Cao, Qinghua Lei

**S16:** THM processes in thermal and gas storage in geological formations  
Conveners: Hejuan Liu, Pengzhi Pan, Zhaofeng Wang

**S17:** Advances in hydraulic fracture modeling and applications  
Conveners: Fengshou Zhang, Egor Dontsov

**S18:** Multi-scale and multiphysics coupled processes in dynamics of geological discontinuities and application to subsurface energy storage and waste disposal  
Conveners: Kyung Won Chang, Jeoung Seok Yoon

**S19:** Mechanical effects on fluid flow and contaminant transport in rock fractures  
Conveners: Liangchao Zou, Jan-Olof Selroos

**S20:** Numerical modelling of coupled thermo-hydro-mechanical processes in fractured rocks  
Conveners: Bruno Figueiredo, Jeffrey Hyman

**S21:** Numerical modelling of the interaction of coupled thermo-hydro-mechanical processes and complex geological settings and heterogeneities  
Conveners: Bruno Figueiredo, Jeffrey Hyman

**S22:** Coupled thermal, hydrological, mechanical and chemical (THMC) in engineered barrier system and the host rock for high-level radioactive waste repositories  
Conveners: LianGe Zheng, Jonny Rutqvist

**S23:** Coupled processes in the Earth’s critical zone  
Conveners: Qinghua Lei, Carl Steefel

**S24:** The role of fracture evolution in fluid and solute migration and leakage  
Conveners: Sergi Molins

**S25:** Understanding flow paths and coupled processes in rock salt  
Conveners: Laura Blanco-Martin

**S26:** Fluid and solute transfers in clay-rich fractured media  
Conveners: Christophe Tournassat, Roman Makhnenko, Thomas Gimmi
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