27th Hubbert Quorum - December 8, 2019

11:00 Brunch

12:30 **Bekins, Ingebritsen & Hurwitz** – Welcome

12:40 **Craig Manning (UCLA) –** *Fluids of the lower crust and upper mantle: Deep is different*
1:10 **Barbara Sherwood Lollar (U. Toronto)** – *Exploration of the deep hydrogeosphere in crystalline rocks: Implications for resources and for life*
1:40 **Alexander Gysi (Colorado School of Mines)** – *Hydrothermal partitioning of rare earth elements (REE): from fluids to ore deposits*

2:00 **Posters:**

1. **Priyanka Bose (Virginia Tech)** – *Quantifying heat flow in Yellowstone's magma-hydrothermal system*
2. **Steve Breen (UC Berkeley)** – *Shaking water out of sands: An experimental study*
3. **Anran Cheng (Oxford U.)** - *Quantifying helium flux from the crystalline basement and determining the processes controlling its transport in the Williston Basin*
4. **Dakota Churchill (UC Berkeley/USGS)** – *The chemistry and mineralogy of sinter deposits from two large geysers in the Upper Geyser Basin, Yellowstone National Park*
5. **Yi Fang (U. Texas)** – *Petrophysical properties of hydrate reservoir at Green Canyon block 955 (GC 955) in the northern Gulf of Mexico*
6. **Grant Ferguson (U. Saskatchewan)** – *Emplacement and preservation mechanisms for the world's oldest groundwaters and associated life*
7. **Stephanie Flude (Oxford U.)** – *Deep crustal source for hydrogen and helium gases in the São Francisco Basin, Minas Gerais, Brazil*
8. **Alexander Gysi (Colorado School of Mines)** – *Rare earth element (REE) metasomatism in iron-oxide-apatite mineral deposits: Stability of hydrothermal monazite and xenotime*
9. **Rob Harris (Oregon State U.) –** *Assessing the thermal regime of the Stevenson Island Vent Field, Yellowstone Lake, Yellowstone National Park, Wyoming*
10. **Jörg Hasenclever (U. Hamburg)** – *Brine formation and mobilization in submarine hydrothermal systems*
11. **Peter Kang (U. Minnesota)** – *Roughness, inertia, and diffusion effects on anomalous transport and reaction in rough fractures*
12. **Rūta Karolytė (Oxford U.)** – *Using noble gases to trace the migration of hydrocarbons into shallow aquifers: Separating signal from noise with inverse modelling techniques*
13. **Jiaqi Liu (U. Tokyo)** –*Dimensionless number analysis of variable-density flow and subsurface contaminant transport based on numerical simulations*
14. **Mileva Radonjic (Oklahoma State U.)** – *Shale-fluid interactions*
15. **Lars Rüpke (GEOMAR)** – *Progress in transport-reaction coupling in hydrothermal system modeling*
16. **Jacek Scibek (McGill U.)** – P*ermeability, porosity, and hydrothermal alteration within a fault zone at 600m depth in metapelitic gneiss, below the Athabasca Basin, Canada*
17. **Oliver Warr (U. Toronto)** – *Subsurface He, Ar, and H_2 production*

2:30 **Break**

3:00 **Barbara Kleine (U. Iceland)** – *Hydrogen isotope and water contents of the Icelandic crust: Implications for the hydration of the oceanic crust and the subducted water flux*
3:20 **Marina Rosas-Carbajal (IPGP)** – *Hydrothermal system of La Soufrière de Guadeloupe Volcano (West Indies, France)*
3:40 **Ruby Fu (UC Berkeley)** – *Instabilities and phase transitions in subsurface multiphase flow*

4:00 **Juan Pablo Daza (Stanford)** – *Simulating diagenesis: Using level set methods to compute temporal pore structure and physical property changes due to dissolution/precipitation under stress and reactive fluid flow*

4:20 **Break**

5:00 **Rob Sohn (WHOI)** – *Signal from noise: Exploiting natural processes to understand subsurface flow*

5:30 **Andy Fisher (UCSC)** – *Some recent advances and future prospects in studies of subseafloor hydrothermal processes*

6:00 Adjourn and dinner at a local restaurant