**The Theory and Practice of Catalysis**

**Organizers:** Horia Metiu (cell 805-895-8355), Eric McFarland (cell 805-403-4304)

**July 25 – 28, 2022**

**TSRC Host:** Mark Kozak 970-708-4426, mark@telluridescience.org

**Location:** Telluride Intermediate School, 725 West Columbia Avenue, Telluride

**Monday July 25**

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| 8:30 am | Breakfast at TSRC meeting location | |
| 9:00 am | welcome and announcements | |
| *morning session chair: Eric W. McFarland* | | |
| 9:15 am | Aditya Bhan | Kinetics with site ensembles, branched networks, and multiple kinetically relevant steps |
| 10:15 am | break | |
| 10:30 am | Charles T. Campbell | Particle size and support effects on the energetics of metal nanoparticles, and correlations between these energetics and catalyst performance |
| 11:30 am | discussion, then lunch on your own | |
| *afternoon session chair: Aditya Bhan* | | |
| 1:30 pm | Vanda Glezakou | Global optimizers, large scale simulations and enhanced sampling for catalysis problems |
| 2:30 pm | break | |
| 2:45 pm | Yong Wang | Earth abundant Fe-based catalysts for hydrodeoxygenation |
| 3:45 pm | discussion, then adjourn | |

**Tuesday July 26**

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| 8:30 am | Breakfast at TSRC meeting location | |
| *morning session chair: Charles T. Campbell* | | |
| 9:00 am | Horia Metiu | Hydrogen production without CO2 |
| 10:00 am | break | |
| 10:15 am | Rajamani Gounder | Altering Zeolite Properties to Influence Rates and Selectivities of Alkene and Aromatics Reactions |
| 11:15 am | discussion, then adjourn | |
| 6:30 pm | Town Talk, The Telluride Depot, 300 S Townsend Street  *Viewpoints Matter: How diverse perspectives bring about scientific progress*  Korana Burke, University of California Davis; Peter Salamon, San Diego State University; Dontarie Stallings, University of California San Diego | |

**Wednesday July 27**

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| 8:30 am | Breakfast at TSRC meeting location | |
| *morning session chair: Phillip Christopher* | | |
| 9:00 am | Eric W. McFarland | Affordable Green"ish" Production of Hydrogen From Fossil Resources |
| 10:00 am | break | |
| 10:15 am | Simon Bare | Identifying The Active Site in Catalysis: What is the future for synchrotron methods? |
| 11:15 am | discussion, followed by lunch on your own and traditional joint hike | |
| 5:30pm | Picnic at The Depot, 300 S. Townsend St. | |

**Thursday July 28**

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| 8:30 am | Breakfast at TSRC meeting location | |
| *morning session chair: Rajmani Gounder* | | |
| 9:00 am | Phillip Christopher | Tuning the reactivity of atomically dispersed metal catalysts: Bifunctional pair sites and UV photolysis |
| 10:00 am | break | |
| 10:15 am | Matteo Cargnello | Understanding and Engineering Catalytic Materials Using Nanocrystal Precursors |
| 11:15 am | discussion, then adjourn | |