Sibo Lin

Chemical Project Leader

Sibo Lin
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http://sibo.github.io

Skills

Leading chemistry research projects, design of catalysts and materials, training peers and mentees, air-free chemical synthesis (Schlenck and glovebox), chemical and materials characterization (NMR, FTIR, GC-MS, potentiostat, XRD, TGA, profilometer, electron beam vapor deposition, QCM, GPC, Raman, XPS, UV-Vis-NIR), computational chemistry, programming (Python, Bash script), 3D printing

Experience

Aramco Americas / Project Lead
DEC 2019 - PRESENT, BOSTON RESEARCH CENTER

Leading ethylene oligomerization project through Gate 3 review. Initiated collaborations with High Throughput Experimentation (Heidelberg, Germany) and Worcester Polytechnic Institute's Data Science department (machine learning). Directed and trained researchers in air-free chemical synthesis, chemical characterization, and molecular modelling. Programmed code to model conformationally complex intermediates and transition states. Led ideation of new projects related to cold start emissions reductions and methane utilization. Mentored intern and new hires.

Aramco Americas / Lab Scientist
NOV 2018 - DEC 2019, BOSTON RESEARCH CENTER

Designed, synthesized, and characterized novel ligands and catalysts under air-free conditions. Programmed code to model organic polymer membrane and calculate intrinsic microporosity.

Massachusetts Institute of Technology / NIH Research Fellow
FEB 2014 - NOV 2018, CAMBRIDGE, MA

Leader of Sensing subgroup. Developed carbon nanotube chemical sensors with molecularly designed recognition elements. Fabricated multiplexed device arrays using electron beam metal vapor deposition. Studied electrochemistry and in situ conductivity of thin films of carbon nanotubes, conjugated organic polymers, and metallopolymers. Instructed peers on computational modelling. Drafted research grant proposals. Mentored two Masters and one high school student.

California Institute of Technology / NSF Graduate Research Fellow
AUG 2008- FEB 2014, CAMBRIDGE, MA

Air-free synthesis of organometallic complexes. Variable-temperature NMR study of isotopically labelled compounds. Established and led new research efforts as first graduate student of Prof. Theodor Agapie. Collaborated with industrial funding partner (BP) in biofuels research. Mentored 3 undergraduate researchers. Organized student seminar series.

Indiana University & Oxford University / Undergraduate Researcher
JAN 2005 – AUG 2008, BLOOMINGTON, IN & OXFORD, UK

DFT modelling to understand and predict the activity of organometallic catalysts.

Education

California Institute of Technology / Ph.D. in Inorganic Chemistry
2008 - 2014, PASADENA, CA (3.8 GPA)

Indiana University / B.S. Chemistry, B.S. Mathematics
2004 - 2008, BLOOMINGTON, IN (3.96 GPA)

Awards

NIH Ruth L. Kirschstein Research Fellow (2015-2018); NSF Graduate Research Fellow (2009-2013); Caltech Chemistry Divisional Research Fellow (2008)

Patents, Publications & Presentations

22 peer-reviewed papers, 3 US patents, 7 national/international-level conferences

(see http://sibo.github.io for full list)