

# Sibo Lin

## Chemical Project Leader

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### Sibo Lin

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<http://sibo.github.io>

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### 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

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### Experience

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#### Aramco Americas / Project Lead

DEC 2019 - PRESENT, BOSTON RESEARCH CENTER

Led 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.

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## Education

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**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)

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## Awards

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

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## Patents, Publications & Presentations

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22 peer-reviewed papers, 3 US patents, 7 national/international-level conferences  
(see <http://sibo.github.io> for full list)