

## Curriculum Vitae

### DOHYUNG KIM

Towne 353, 222 S. 33rd Street, Philadelphia, PA 19104

Phone: 215-746-8611 | Email: [dohyungk@seas.upenn.edu](mailto:dohyungk@seas.upenn.edu) | Lab Website: [kimlab.seas.upenn.edu](http://kimlab.seas.upenn.edu)

ORCID: <https://orcid.org/0000-0003-0201-9082>

Google Scholar: <https://scholar.google.com/citations?hl=en&user=8K3x8szoF1gC>

## Academic Positions

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### Assistant Professor

Aug 2022 – Present

Department of Chemical and Biomolecular Engineering

Member of Vagelos Institute of Energy Science and Technology (VIEST)

Member of The Laboratory for Research on the Structure of Matter (LRSM)

University of Pennsylvania

### Postdoctoral Scholar

Oct 2018 – Apr 2022

Department of Chemical Engineering, Stanford University

Supervisor: Prof. Matteo Cargnello

## Education

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### Ph.D. in Materials Science and Engineering

Aug 2012 – May 2018

University of California, Berkeley

Advisor: Prof. Peidong Yang, Department of Chemistry

GPA: 4.0/4.0 | Dissertation: Nanoparticle Catalysts for Chemical Valorization of Carbon Dioxide

### B.S. in Materials Science and Engineering

Mar 2006 – Jun 2012  
(2 yrs of military service)

Seoul National University

Advisor: Prof. Chong Rae Park, Department of Materials Science & Eng.

GPA: 4.18/4.3 (Rank 1/103 in dept.)

Graduate with honors (*summa cum laude*)

## Awards/Honors

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Packard Fellow / 2025

Unilever Award (ACS Colloid and Surface Chemistry) / 2024

KSEA Young Investigator Award / 2024

Nanoscale Emerging Investigators / 2024

ACS PRF DNI Award / 2023

Scialog Fellow – Negative Emissions Science / 2023

Hanwha Non-tenured Faculty Award / 2023

Kavli Energy NanoScience Institute Best Thesis Prize / 2018

Schmidt Science Fellow Finalist (Inaugural cohort) / 2018

**MRS Graduate Student Award - Silver / 2018**

**Gareth Thomas Materials Excellence Award / 2017**

**Samsung Scholar / 2012 – 2017**

**National scholarship for natural sciences and engineering / 2006 – 2012**

**MSE Best Poster Award (SNU) / 2011**

## Research Areas

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Nanomaterials, Electrochemistry, Surface and Interface Science, Defect-engineered Carbons, Catalysis, Energy Conversion and Storage

## Publications (\*equal contribution, #corresponding author)

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35. Ohri, N., Buch, A., Van, L. A., Xie, F., Li, J. & **Kim, D.**<sup>#</sup> Precision Engineering of Nitrogen-doped Carbon Materials via Adsorptive Patterning. *Under Review* (2025).
34. Ohri, N., Baidoun, R., Van, L. A., Shen, K., Xie, F., Vohs, J. M. & **Kim, D.**<sup>#</sup> Pyrolytic Transformations and Kinetic Stabilization of Heteroatom Configurations in Nitrogen-doped Carbon Electrocatalysts. *Under Review* (2025).
33. Baidoun, R.\* , Hua, Y.\* , Nicolas, J. & **Kim, D.**<sup>#</sup> CO<sub>2</sub> Conversion Enhancement by Hydrophobic Cation Additives is Nearly Exclusive at the Undercoordinated Sites of Metal Surfaces. *J. Am. Chem. Soc.*, **147**, 20967-20977 (2025).
32. Nicolas, J., Baidoun, R. & **Kim, D.**<sup>#</sup> Unveiling the interfacial liquid in electrochemical reactions. *National Science Review* **11**, nwae318 (2024).
31. **Kim, D.**<sup>#</sup> Obtaining clean hydrogen from waste plastics. *Chem* **10**, 1968-1970 (2024).
30. Baidoun, R., Liu, G. & **Kim, D.**<sup>#</sup> Recent Advances on the Role of Interfacial Liquids in Electrochemical Reactions. *Nanoscale* **16**, 5903-5925 (2024).
29. Ohri, N., Hua, Y., Baidoun, R. & **Kim, D.**<sup>#</sup> Pyrolytic synthesis of carbon-supported single-atom catalysts. *Chem Catalysis*, 100837 (2023).
28. Baidoun, R. & **Kim, D.**<sup>#</sup> Doubling up on supports: Stabilizing iridium for oxygen evolution. *Chem Catalysis* **3**, 100696 (2023).
27. Sun, E.\* , Zhai, S.\* , **Kim, D.\*** , Gigantino, M., Haribal, V., Dewey, O. S., Williams, S. M., Wan, G., Nelson, A., Marin-Quiros, S., Martis, J., Zhou, C., Oh, J., Randall, R., Kessler, M., Kong, D., Rojas, J., Tong, A., Xu, X., Huff, C., Pasquali, M., Gupta, R., Cargnello, M. & Majumdar, A. A semi-continuous process for co-production of CO<sub>2</sub>-free hydrogen and carbon nanotubes via methane pyrolysis. *Cell Reports Physical Science* **4** (2023).
26. Louisia, S.\* , **Kim, D.\*** , Li, Y., Gao, M., Yu, S., Roh, I. & Yang, P. The presence and role of the intermediary CO reservoir in heterogeneous electroreduction of CO<sub>2</sub>. *Proc. Natl. Acad. Sci. U. S. A.* **119**, e2201922119 (2022).  
(highlighted in *Nature Energy*, doi: 10.1038/s41560-022-01049-y)

25. Yu, S.\*, **Kim, D.\***, Qi, Z., Louisia, S., Li, Y., Somorjai, G.A., & Yang, P. Nanoparticle Assembly Induced Ligand Interactions for Enhanced Electrocatalytic CO<sub>2</sub> Conversion. *J. Am. Chem. Soc.*, **143**, 19919–19927 (2021).
24. **Kim, D.**, Zhou, C., Zhang, M. & Cargnello, M. Voltage cycling process for the electroconversion of biomass-derived polyols. *Proc. Natl. Acad. Sci.* **118**, e2113382118 (2021).
23. **Kim, D.\***, Yu, S.\*, Zheng, F., Roh, I., Li, Y., Louisia, S., Qi, Z., Somorjai, G.A., Frei, H., Wang, L.W. & Yang, P. Selective CO<sub>2</sub> electrocatalysis at the pseudocapacitive nanoparticle/ordered-ligand interlayer. *Nat. Energy* **5**, 1032-1042 (2020).
22. Li, Y.\*, **Kim, D.\***, Louisia, S., Xie, C., Kong, Q., Yu, S., Lin, T., Aloni, S., Fakra, S. C. & Yang, P. Electrochemically scrambled nanocrystals are catalytically active for CO<sub>2</sub>-to-multicarbon. *Proc. Natl. Acad. Sci.* **117**, 9194-9201 (2020).
21. **Kim, D.** & Cargnello, M. Formic acid oxidation boosted by Rh single atoms. *Nat. Nanotechnol.* 1–2 (2020).
20. Xie, C.\*, Niu, Z.\*, **Kim, D.\***, Li, M. & Yang, P. Surface and Interface Control in Nanoparticle Catalysis. *Chem. Rev.* **120**, 1184–1249 (2020).
19. Ross, M. B., De Luna, P., Li, Y., Dinh, C. T., **Kim, D.**, Yang, P. & Sargent, E. H. Designing materials for electrochemical carbon dioxide recycling. *Nat. Catal.* **2**, 648–658 (2019).
18. Ross, M. B., Li, Y., De Luna, P., **Kim, D.**, Sargent, E. H. & Yang, P. Electrocatalytic Rate Alignment Enhances Syngas Generation. *Joule* **3**, 257–264 (2019).
17. Wong, A. B.\*, Bekenstein, Y.\*, Kang, J., Kley, C. S., **Kim, D.**, Gibson, N. A., Zhang, D., Yu, Y., Leone, S. R., Wang, L., Alivisatos, A. P. & Yang, P. Strongly Quantum Confined Colloidal Cesium Tin Iodide Perovskite Nanoplates: Lessons for Reducing Defect Density and Improving Stability. *Nano Lett.* **18**, 2060–2066 (2018).
16. Becknell, N.\*, Son, Y.\*, **Kim, D.**, Li, D., Yu, Y., Niu, Z., Lei, T., Sneed, B. T., More, K. L., Markovic, N. M., Stamenkovic, V. R. & Yang, P. Control of Architecture in Rhombic Dodecahedral Pt–Ni Nanoframe Electrocatalysts. *J. Am. Chem. Soc.* **139**, 11678-11681 (2017).
15. **Kim, D.**, Kley, C. S., Li, Y., & Yang, P. Copper Nanoparticle Ensembles for Selective Electroreduction of CO<sub>2</sub> to C<sub>2</sub>-C<sub>3</sub> products. *Proc. Natl. Acad. Sci.* **114**, 10560-10565 (2017).  
(highlighted in 17 news outlets including LBNL news, C&EN, and etc.)
14. Ross, M. B., Dinh, C. T., Li, Y., **Kim, D.**, De Luna, P., Sargent, E. H. & Yang, P. Tunable Cu Enrichment Enables Designer Syngas Electrosynthesis from CO<sub>2</sub>. *J. Am. Chem. Soc.* **139**, 9359–9363 (2017).
13. **Kim, D.\***, Xie, C.\*, Becknell, N., Yu, Y., Karamad, M., Chan, K., Crumlin, E. J., Norskov, J. K. & Yang, P. Electrochemical Activation of CO<sub>2</sub> through Atomic Ordering Transformations of AuCu Nanoparticles. *J. Am. Chem. Soc.* **139**, 8329–8336 (2017).
12. Niu, Z.\*, Cui, F.\*, Yu, Y., Becknell, N., Sun, Y., Khanarian, G., **Kim, D.**, Dou, L., Dehestani, A., Schierle-Arndt, K. & Yang, P. Ultrathin Epitaxial Cu@Au Core–Shell Nanowires for Stable Transparent Conductors. *J. Am. Chem. Soc.* **139**, 7348–7354 (2017).

11. **Kim, D.**, Becknell, N., Yu, Y. & Yang, P. Room-Temperature Dynamics of Vanishing Copper Nanoparticles Supported on Silica. *Nano Lett.* **17**, 2732–2737 (2017).
10. Li, Y.\*, Cui, F.\*, Ross, M. B., **Kim, D.**, Sun, Y. & Yang, P. Structure-Sensitive CO<sub>2</sub> Electroreduction to Hydrocarbons on Ultrathin 5-fold Twinned Copper Nanowires. *Nano Lett.* **17**, 1312–1317 (2017).
9. Choi, K. M.\*, **Kim, D.**\*, Rungtaweeworavit, B., Trickett, C. A., Barmanbek, J. T. D., Alshammari, A. S., Yang, P. & Yaghi, O. M. Plasmon-Enhanced Photocatalytic CO<sub>2</sub> Conversion within Metal–Organic Frameworks under Visible Light. *J. Am. Chem. Soc.* **139**, 356–362 (2017).
8. Kong, Q.\*, **Kim, D.**\*, Liu, C., Yu, Y., Su, Y., Li, Y. & Yang, P. Directed Assembly of Nanoparticle Catalysts on Nanowire Photoelectrodes for Photoelectrochemical CO<sub>2</sub> Reduction. *Nano Lett.* **16**, 5675–5680 (2016).
7. Niu, Z.\*, Becknell, N.\*, Yu, Y., **Kim, D.**, Chen, C., Kornienko, N., Somorjai, G. A. & Yang, P. Anisotropic phase segregation and migration of Pt in nanocrystals en route to nanoframe catalysts. *Nat. Mater.* **15**, 1188–1194 (2016).
6. Cao, Z.\*, **Kim, D.**\*, Hong, D., Yu, Y., Xu, J., Lin, S., Wen, X., Nichols, E. M., Jeong, K., Reimer, J. A., Yang, P. & Chang, C. J. A Molecular Surface Functionalization Approach to Tuning Nanoparticle Electrocatalysts for Carbon Dioxide Reduction. *J. Am. Chem. Soc.* **138**, 8120–8125 (2016).
5. Kornienko, N.\*, Zhao, Y.\*, Kley, C. S., Zhu, C., **Kim, D.**, Lin, S., Chang, C. J., Yaghi, O. M. & Yang, P. Metal–Organic Frameworks for Electrocatalytic Reduction of Carbon Dioxide. *J. Am. Chem. Soc.* **137**, 14129–14135 (2015).
4. Lin, S.\*, Diercks, C. S.\*, Zhang, Y. B.\*, Kornienko, N., Nichols, E. M., Zhao, Y., Paris, A. R., **Kim, D.**, Yang, P., Yaghi, O. M. & Chang, C. J. Covalent organic frameworks comprising cobalt porphyrins for catalytic CO<sub>2</sub> reduction in water. *Science* **349**, 1208–1213 (2015).  
(highlighted in 14 news outlets including *Materials Today*, *Phys.org*, *Nanowerk* and etc.)
3. **Kim, D.**, Sakimoto, K. K., Hong, D. & Yang, P. Artificial Photosynthesis for Sustainable Fuel and Chemical Production. *Angew. Chemie Int. Ed.* **54**, 3259–3266 (2015).
2. **Kim, D.**, Resasco, J., Yu, Y., Asiri, A. M. & Yang, P. Synergistic geometric and electronic effects for electrochemical reduction of carbon dioxide using gold–copper bimetallic nanoparticles. *Nat. Commun.* **5**, 4948 (2014).  
(highlighted in 15 news outlets including *LBNL news*, *Phys.org*, *ScienceDaily* and etc.)
1. **Kim, D.**, Yang, S. J., Kim, Y. S., Jung, H. & Park, C. R. Simple and cost-effective reduction of graphite oxide by sulfuric acid. *Carbon* **50**, 3229–3232 (2012).

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## Invited Presentations / Seminars / Lectures / Panel Discussions

37. *Heterogeneities in Chemical Activation and Catalytic Transformations*  
Department of Chemical and Biological Engineering, The University of Alabama (Sep 2025)
36. *The Role of the Interfacial Liquid in the Electrochemical Conversion of Renewable Carbons*  
ACS Spring 2025 (Mar 2025 / San Diego, CA)

35. *Interfacial Liquids in the Electrochemical Conversion of Renewable Carbons*  
US-Korea Conference (UKC) 2024 (Aug 2024)
34. *Beyond Surface and Complexity of Interfacial Liquids for Electrochemical Transformations*  
Unilever Award Talk, 98th ACS Colloid & Surface Science Symposium (Jun 2024)
33. *BEYOND SURFACE Facilitates Electrocatalytic Reactions of Renewable Carbons*  
Emerging Junior Investigator Open Innovation Forum, AIChE 2023 Annual Meeting
32. *Colloidal Nanomaterials for Electrochemical Reactions of CO<sub>2</sub>*  
Penn Summer Science Initiative, LRSM (Aug 2023)
31. *Colloidal Nanomaterials for Electrochemical Reactions of CO<sub>2</sub>*  
Engineering Summer Academy at Penn (Jul 2023)
30. *BEYOND SURFACE Facilitates Electrocatalytic Reactions of Renewable Carbons*  
2023 Colloid and Interface Symposium (Jun 2023)
29. *Design of Active Electrodes for CO<sub>2</sub> Electrolysis: Atomic to Macroscopic*  
2023 SK Global Forum (Jun 2023)
28. *Electrocatalytic Reactions of Renewable Carbons: Surface and Beyond*  
2023 Hanwha Non-tenured Faculty Award Ceremony (Jun 2023)
27. *My Path to Becoming a Researcher*  
Road2Research (R2R) at Penn (Feb 2023)
26. *BEYOND SURFACE Facilitates Electrocatalytic Reactions of Renewable Carbons*  
KU BK21 Mini-symposium (Jan 2023)
25. Faculty Perspectives on the Academic Job Search, Panel discussion  
Penn Engineering (Dec 2022)
24. 2022 Stanford Chemical Engineering Academic Job Seekers Panel  
PRAC, Department of Chemical Engineering, Stanford University (Jul 2022)
23. *BEYOND SURFACE Facilitates Electrocatalytic Reactions of Renewable Carbons*  
Department of Chemical and Biomolecular Engineering, The Ohio State University (Mar 2022)
22. *BEYOND SURFACE Facilitates Electrocatalytic Reactions of Renewable Carbons*  
Department of Chemistry, University of Georgia (Mar 2022)
21. *BEYOND SURFACE Facilitates Electrocatalytic Reactions of Renewable Carbons*  
Department of Chemical Engineering, University of South Carolina (Mar 2022)
20. *BEYOND SURFACE Facilitates Electrocatalytic Reactions of Renewable Carbons*  
Department of Chemical Engineering, University of Washington (Mar 2022)
19. *BEYOND SURFACE Facilitates Electrocatalytic Reactions of Renewable Carbons*  
Department of Chemical and Biomolecular Engineering, NC State University (Feb 2022)
18. *BEYOND SURFACE Facilitates Electrocatalytic Reactions of Renewable Carbons*  
Department of Chemical and Biomolecular Engineering, University of Pennsylvania (Feb 2022)

17. *BEYOND SURFACE Facilitates Electrocatalytic Reactions of Renewable Carbons*  
Department of Chemical Engineering and Materials Science, University of Minnesota (Feb 2022)
16. *BEYOND SURFACE Facilitates Electrocatalytic Reactions of Renewable Carbons*  
Department of Chemical & Biomolecular Engineering, University of Delaware (Jan 2022)
15. *The Overlooked Potential of Nanoparticles as Catalysts in Electrochemistry*  
School of Chemical and Biological Engineering, Seoul National University (Dec 2021)
14. *The Overlooked Potential of Nanoparticles as Catalysts in Electrochemistry*  
Department of Chemistry, Seoul National University (Dec 2021)
13. *The Overlooked Potential of Nanoparticles as Catalysts in Electrochemistry*  
Department of Chemistry, The University of Chicago (Jan 2021)
12. *Colloidal Synthesis of Metal Nanoparticles for Electrochemical Transformations of Carbon Dioxide*  
257th ACS National Meeting (Apr 2019 / Orlando, FL)
11. *Nanoparticle Catalysts for Electrochemical Transformation of Carbon Dioxide to Value-added Products*  
2018 MRS Fall Meeting (Nov 2018 / Boston, MA)
10. *Nanoparticle dynamics and its implications for catalysis*  
Gareth Thomas Award Symposium (Nov 2018 / UC San Diego)
9. *Nanoparticle Electrocatalysts for Chemical Valorization of CO<sub>2</sub>*  
256th ACS National Meeting (Aug 2018 / Boston, MA)
8. *Nanoparticle Catalysts for Chemical Valorization of CO<sub>2</sub>*  
Gareth Thomas Award Symposium, Award nominee (Nov 2017 / UC Berkeley)
7. *Interfacing Nanomaterials for Solar-to-fuel Conversion*  
2017 MRS Spring Meeting (Apr 2017 / Phoenix, AZ)
6. *Interfacing Nanomaterials for Solar-to-fuel Conversion*  
253rd ACS National Meeting (Apr 2017 / San Francisco, CA)
5. *Nanostructured Materials for CO<sub>2</sub> Reduction in Artificial Photosynthesis*  
Plenary talk – Global Artificial Photosynthesis : Breakthroughs for the Sustainocene (ANU) (Sep 2016 / Lord Howe Island, AUS)
4. *Materials Interaction of Nanoparticles in Catalysis: from Atomic to Macroscopic*  
ANU College of Engineering and Computer Science (Sep 2016 / Canberra, AUS)
3. *Nanostructured Materials for CO<sub>2</sub> Reduction in Artificial Photosynthesis*  
Plenary talk – Advancing Energy Sustainability by Governance Leadership in Artificial Photosynthesis, Australian National University (ANU) (Sep 2016 / Canberra, AUS)
2. *Materials Interaction of Nanoparticles in Catalysis: from Atomic to Macroscopic*  
2016 MRS Spring Meeting (Mar 2016 / Phoenix, AZ)
1. *Nanoparticle Catalyst Design for Electrochemical Reduction of Carbon Dioxide*  
249th ACS National Meeting (Mar 2015 / Denver, CO)

## Contributed Presentations

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12. *The Interplay and Synergy Between Interfacial Liquids and Catalyst Surfaces in the Electrochemical Conversion of CO<sub>2</sub>*  
ACS Fall 2025 (Aug 2025 / Washington DC)
11. Non-uniform Enhancement in CO<sub>2</sub> Electroreduction by Hydrophobic Additives  
(Poster) Electrocatalysis Rigor & Reproducibility Workshop (Jul 2025 / University of Washington)
10. *Control of Heteroatom Configurations in Carbon Materials for Catalytic Applications*  
The 29th North American Meeting of the North American Catalysis Society (NAM29) (Jun 2025)
9. *Control of Nanoparticle Interfaces for Electrocatalytic Applications*  
2021 AIChE Annual Meeting, Faculty Candidate Session (Nov 2021 / Boston, MA)
8. *The Control of Electrochemical Interfaces in Heterogeneous Catalysis*  
(Poster) The 4th World Laureates Forum (Nov 2021 / Virtual)
7. *Voltage Cycling Process for the Electroconversion of Biomass-derived Polyols*  
(Poster) SUNCAT Summer Institute 2021 (Aug 2021 / Virtual)
6. *Electroconversion of Biomass-Derived Polyols by Voltage Cycling*  
2020 AIChE Annual Meeting (Nov 2020 / Virtual)
5. *Electrochemical Conversion of Biomass-derived Polyols*  
(Poster) SUNCAT Summer Institute 2019 (Aug 2019 / SLAC)
4. *Structural Transformation of Cu NP Ensembles for CO<sub>2</sub> Reduction to Multicarbon Products*  
2018 MRS Spring Meeting (Apr 2018 / Phoenix, AZ)
3. *Nanoparticle Catalysts for Chemical Valorization of CO<sub>2</sub>*  
MRS Graduate Student Award Finalist (Apr 2018 / Phoenix, AZ)
2. *Electrochemical Reduction of Carbon Dioxide*  
(Poster) 2017 Review of DOE/BES Chemical Sciences Research Programs (Sep 2017)
1. *Au-Cu Bimetallic Nanoparticles for Electrochemical Reduction of Carbon Dioxide*  
(Poster) Bio-Inspired Solar Energy Program Meeting, CIFAR (Dec 2015 / San Francisco, CA)

## Patents

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4. **PCT Application No. PCT/US2024/012455** – Semi-Continuous Process for Co-Production of CO<sub>2</sub>-Free Hydrogen and High Value Carbon via Hydrocarbon Pyrolysis
3. **U.S. Patent App. 17498260** – Nanoparticle-Ligand Composite Catalyst Including a Pseudocapacitive Interface for Carbon Dioxide Electrolysis (related publication *Nat. Energy* **5**, 1032-1042 (2020))
2. **U.S. Patent No. 11047055** – Method of depositing nanoparticles on an array of nanowires (related publication *Nano Lett.* **16**, 5675–5680 (2016))
1. **U.S. Patent No. 10704153** – Copper nanoparticle structures for reduction of carbon dioxide to multicarbon products (related publication *PNAS* **114**, 10560-10565 (2017))

## Media coverage / Interviews

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“A New Direction towards Carbon Management” interviewed by *Chemical Today* magazine (Dec 2017, Vol 2, Issue 7, pg. 54-55, <http://www.worldofchemicals.com/chemicaltoday/digitalissue.html>)

## Teaching

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CBE 5300, Electrochemistry Fundamentals, Practices, and Analysis (Spring 2023, UPenn)  
CBE 4510, Chemical Reactor Design (Fall 2022, Fall 2023, Fall 2024, Fall 2025, UPenn)  
(Teaching Assistant) MSE 111, Properties of Electronic Materials (Spring 2017, UC Berkeley)

## Advising/Mentoring

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### Univ. of Pennsylvania

#### *Postdoctoral scholars*

Leobardo Rodriguez (Chem), Seyeon Park (CBE)

#### *Graduate students*

Rani Baidoun (PhD, CBE), Nidhi Ohri (PhD, CBE), Cole Fluker (PhD, CBE), Anuj Buch (PhD, CBE)  
Yidong Hua (MS, CBE), Gexu Liu (MS, MSE), Chirag Khurana (MS, CBE), Joyce Zheng (MS, CBE),  
Rushabh Murali (MS, CBE), Siyuan Yin (MS, CBE)

#### *Undergraduate students*

Hailey Tobin (VIPER), William Meng (CBE), Lauren Van (CBE), Isaac Yang (CBE), Prisha Jain (CBE), Endi Guo (CBE)

#### *Dissertation Committees*

Ivy Dai (CBE, Advisor: Prof. Kate Stebe), Oluwafemi Ligan (CBE, Advisor: Prof. Kate Stebe), Cheng-Yu Chen (MSE, Advisor: Prof. Eric Stach), Amanda Arnoff (Chemistry, Advisor: Prof. Tom Mallouk), Jo Kubota (MSE, Prof. Eric Detsi), Gabriela Gomez-Dopazo (CBE, Advisor: Prof. Kate Stebe/Daeyeon Lee), Zhanyuan Liu (CBE, Advisor: Prof. John Vohs)

### Previously at other institutions

#### *Graduate students*

Inwhan Roh (Chemistry, UC Berkeley)  
Sheena Louisia (Chemistry, UC Berkeley) / Postdoc at Leiden University  
Sunmoon Yu (MSE, UC Berkeley) / Assistant Prof at U of Toronto  
Yifan Li (Chemistry, UC Berkeley) / Senior Research Scientist at Lockheed Martin

#### *Undergraduate students*

Alexander Jisaburo Hamamura Nelson (Chemistry, Stanford)  
Tom Lin (ChemE and MSE, UC Berkeley) / Graduate student at MIT  
Jesika Barmanbek (ChemE, UC Berkeley) / Engineer at Alcon



## Professional Development

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Penn Faculty Pathways (2023-2024)

Penn Engineering Junior Faculty Teaching Program (Fall 2022, CTL, University of Pennsylvania)

Introduction to Teaching at Penn (Summer 2022, CTL, University of Pennsylvania)

Course Design Institute for Graduate Students and Postdoctoral Scholars (Summer 2021, Center for Teaching and Learning (CTL), Stanford)

## Memberships / Certification

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American Chemical Society (ACS), American Institute of Chemical Engineers (AIChE), Materials Research Society (MRS), The Electrochemical Society (ECS)

SUNCAT Summer Institute (2013/2019/2021)

## Service / Outreach

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**Early Career Advisory Board** – ACS Chem & Bio Engineering

**Faculty liaison/advisor** to the AIChE student chapter at Penn

**Faculty advisor** to the Road-to-Research (R2R) student organization

**Admission and fellowship committees**

Penn CBE graduate admissions committee (2023, 2024, 2025)

VIEST Postdoctoral Fellowship evaluation committee (2022)

VIEST Graduate Fellowship evaluation committee (2023)

**Outreach activities**

Guest lecturer for the Korea-Penn Engineers and Scientists Association (K-PENSA) event (2023), Road-to-Research (R2R) student organization (2023-), Vagelos Integrated Program in Energy Research (VIPER) (2023), ESAP Nanotechnology at Penn (2023), Penn Summer Science Institute at LRSM (2023)

Student Representative, Kavli ENSI (2015-17)

**Conference organization:**

1. *Co-chair*, Electrochemical Fundamentals: Faculty Candidate Session I, AIChE 2023
2. *Co-chair*, Catalysis at Solid-Liquid Interfaces, ACS Fall 2024
3. *Co-chair*, Electrocatalysis IV: Organic Electrosynthesis, AIChE 2024
4. *Co-chair*, Catalysis at Solid-Liquid Interfaces, ACS Fall 2025

**Served as a peer reviewer for:**

Nature Nanotechnology, Nature Energy, Nature Communications, JACS, JACS Au, ACS Nano, Joule, ACS Sensors, ACS Catalysis, ACS Applied Energy Materials, ACS Applied Materials & Interfaces, ACS Omega, ACS Sustainable Chemistry & Engineering, Chem Catalysis, Applied Catalysis A, Applied Catalysis B, One Earth, Chemical Engineering Journal, and Nano Energy

**Ad-hoc reviewer for proposals submitted to:**  
NSF, CBET  
DOE, Office of Science, Basic Energy Sciences  
ACS, Petroleum Research Fund