Christopher V. H.-H. Chen, Ph.D.

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EDUCATION

Columbia Business School, Columbia University, New York, NY
M.B.A. (Executive Program), Dean's Honors with Distinction 05/2020 – 08/2022

Princeton University, Princeton, NJ
Ph.D. in Chemical and Biological Engineering 09/2011 – 06/2017
Advisors: Prof. Robert K. Prud'homme and Prof. Howard A. Stone
Dissertation: *Synthesis of Amphiphiles for the Investigation of Dispersant Dynamics and NP End-Group Presentation*

Stanford University, Stanford, CA
M.S. in Chemical Engineering 09/2009 – 06/2011

Stanford University, Stanford, CA
B.S. with Honors in Chemical Engineering 09/2007 – 06/2011
Advisor: Prof. Zhenan Bao
Honors Thesis: *PMMA-Ionic Liquid Composites for High Dielectric Applications in Elastic Electronics*

WORK EXPERIENCE

Department of Chemical Engineering, Columbia University, New York, NY
Lecturer in the Discipline of Chemical Engineering 07/2022 – Present
Director of Masters Studies 07/2022 – Present

- Served on the masters committee for the administration, admission, and advising of ~80 MS students in each cohort, focusing on improving the community and departmental-engagement of students to improve graduate student outcomes.
- Developed and taught graduate electives within the Climate Solutions track of our MS program.
- Co-led departmental ABET committee for 2024 ABET review.
- Co-led departmental efforts to develop a departmental peer tutoring program to facilitate both content and learning support.
- Served as a member of the Leadership Team of the CIRTL Network, re-elected by the 40 university members of the network.

Center for Teaching and Learning, Columbia University, New York, NY
Senior Assistant Director, Graduate Student Programs and Services 07/2019 – 06/2022
Assistant Director, Graduate Student Programs and Services 06/2017 – 07/2019

- Administrative Co-leader for Center for the Integration of Research, Teaching, and Learning (CIRTL) Initiative at Columbia, responsible for integrating CIRTL resources into CTL programming, and strategizing and reporting on-campus CIRTL efforts.
- Served as a member of the Leadership Team of the CIRTL Network, elected by the 40 university members of the network.
- Proposed, developed, and facilitated CIRTL Cross-Network events, including the Online Teaching Practicum (semester-long course) and the Future Faculty Teaching Summit (event), along with mentoring the first future faculty-led CIRTL workshops.
- Developed and designed pedagogical programs for the Center for Teaching and Learning (CTL) for graduate students, such as the Evidence-Based Teaching in Science and Engineering (ETSE) seminar, and Innovative Course Design Seminar (ICDS).
- Coordinated and fostered collaborations with STEM departments, Columbia Engineering, Columbia Business School, and schools at the medical center to improve centralized, and departmental graduate student teaching and professional development.
- Managed and mentored graduate fellows and teaching consultants in pedagogical programming and resources at the CTL.
- Developed programs to train graduate students in Teaching-as-Research assessment methods, such as the Teaching Assessment Fellowship (TAF), and the Assessing Teaching and Learning Seminar (ATLS, a 5-week online asynchronous seminar).

Princeton University, Princeton, NJ
Graduate Research Assistant, Prud'homme Research Group and Stone Complex Fluids Group 02/2012 – 06/2017

- Synthesized small molecule dyes, surfactants, functionalized polymers, and NPs for dispersant and drug delivery applications.
- Characterized synthesized products via NMR, FTIR, UV-Vis, GPC, DLS, fluorometry, and confocal and optical microscopy.
- Designed and constructed a pendant drop tensiometer, a light sheet microscope (LSM), and coordinated pumping systems along with any associated operation, video capture, and analysis scripts.
- Developed platforms to dynamically track surfactant-dyes via confocal and LSM, and PEG chain ends via fluorometry.
- Designed and developed PDMS, epoxy, and glass microfluidic devices for droplet generation and fluid flow experiments.
- Mentored 7 undergraduate students to develop projects applying developed platforms in drug delivery and oil spill remediation.
- Led group projects to generate more effective, user-focused SOPs, lab manuals, and training procedures for new researchers (postdoc, graduate student, and undergraduate) as the RKP group's safety officer.

The Warner-Babcock Institute for Green Chemistry, Wilmington, MA
Research Intern, Materials and Life Sciences Divisions 07/2015 – 01/2016

- Developed and led invention of water harvesting, triggered extraction, and photo-osmotic materials from photochromophores.
- Defined go-no go criteria and created strategic plans in each of the selected application areas.
- Developed and demonstrated heuristics to aid in the selection, and creation of these chemicals toward selected application areas.
- Coordinated a team of scientists to execute the synthesis and characterization of targeted molecules.

Stanford University, Stanford, CA
Undergraduate Research Assistant, Zhenan Bao Research Group 06/2009 – 06/2011

- Designed and constructed PDMS devices for highly sensitive, skin-like pressure sensor applications., characterized using optical microscopy and electrometry (capacitance and conductivity).
- Developed and demonstrated composite ionic liquid-PMMA materials for use in elastic electronics.

TEACHING & TEACHING DEVELOPMENT EXPERIENCE

Department of Chemical Engineering, Columbia University, New York, NY
Lecturer in the Discipline of Chemical Engineering, Material & Energy Balances (CHEN E2100), Fall 2022 & 2023 07/2022 – Present
Essentials of Chemical Engineering (CHEN E4001 & E4002), Fall 2022 & 2023
Mechanisms of Transport in Fluids (CHEN E4110), Fall 2022
Green Chemical Engineering & Innovation (CHEN E4380), Spring 2023 & 2024
Master's Colloquium (CHEN E9001), Fall 2023
The Art of Engineering (ENGI E1102), Spring 2023
The Art of Engineering, ChemE Section (ENGI E1102), Fall 2022 – Spring 2024
Adjunct Assistant Professor, Introduction to Chemical Engineering (CHEN E2100), Fall 2019 – 2021 09/2019 – 06/2022
Lecturer, Introduction to Chemical Engineering (CHEN E2100), Fall 2018 09/2018 – 08/2019

- Awarded a Provost Start-Small Teaching & Learning Grant to develop and implement innovative case studies for CHEN E2100.
- Developed and led lectures, learning activities, and assessments and held office hours for CHEN E2100.
- Redesigned CHEN E2100 in Fall 2020 for an online format, flipping the course structure to increase synchronous participation.
- Managed and mentored CHEN E2100 teams working on an open-ended design projects, including the design of an oxygen production process to sustain a moon base (inspired by "Artemis" by A. Weir), the evaluation of Proton Technology's hydrogen generation from spent oil wells, and the analysis of Charm Industrial's pyrolysis processes for carbon sequestration.
- Developed a remote lab for the investigation of the effects of carbohydrate source on sourdough starters for ENGI E1102.

Columbia Business School, Management Division, Columbia University, New York, NY
Teaching Assistant, *Turnaround Management (MGMT B7511), Fall 2021* 09/2021 – 12/2021

- Supported course activities and led the facilitation of student case reflections with Prof. Kathryn Harrigan.

Center for the Integration of Teaching Research and Learning 05/2019 – 08/2019
Instructor, Online Teaching Practicum, Summer 2019 & Spring 2020 02/2020 – 05/2020

- Proposed, developed, and team taught a 10-week online, synchronous course to prepare graduate students to facilitate online teaching development workshops on CIRTL's online platform (Blackboard Collaborate and Blackboard Collaborate Ultra).
- Led and planned student activities to train students to learn through teaching observations on line, plan online lessons, and propose a CIRTL cross-network online workshop.
- Developed an online microteaching protocol for students to practice online teaching using Blackboard Collaborate Ultra.

Mailman School of Public Health, Columbia University, New York, NY 04/2019 – 05/2019
Instructor, Essentials of Teaching and Communication (PUBH P9060), Spring 2019 & 2020 04/2020 – 05/2020

- Bespoke version of the Evidence-based Teaching in Science and Engineering (ETSE) seminar for a half-semester course for DrPH students at Mailman. Developed with Leah Hooper and Dr. Caitlin DeClercq,
- Led and planned in-person sessions around teaching, and facilitated online discussion and peer-grading exercises.

Center for the Integration of Teaching Research and Learning
Instructor, Research Mentor Training & CIRTL Reads, Spring 2018 02/2018 – 05/2018

- Team taught two 12-week online, synchronous courses for the CIRTL network: Research Mentor Training, a course to introduce mentoring methods in the sciences to future and current faculty, and CIRTL Reads, a discussion-based course to introduce discipline-based education research (DBER) and DBER-applications to teaching practice.
- Led and planned student discussions, leveraging tools in Blackboard Collaborate to construct an interactive online classroom.
- Mentored individual students in the preparation of their mentoring resources, such as mentoring compacts and philosophies.

Keller Center for Innovation in Engineering Education, Princeton University, Princeton, NJ
Assistant in Instruction, Venture Capital Enabling Innovation (EGR 395), Spring & Fall 2016, Spring 2017 (3 terms) 02/2016 – 06/2017

- Developed the course and class projects with Dr. Shahram Hejazi to focus students to effectively source and articulate the market, technical, and leadership merits of startups, and to identify realistic milestones and funds to help these startups grow.
- Mentored student teams through the course projects of developing a fund and sourcing appropriate investment opportunities.
- Led and planned student discussions that occurred during class time.
- Integrated online platforms to facilitate and sustain student discussions outside of the physical classroom.
- Provided advising and development support for the Princeton Venture Capital Club, started Fall 2016.

McGraw Center for Teaching and Learning, Princeton University, Princeton, NJ
Graduate Learning Fellow 09/2013 – 06/2017

- Trained, observed, and mentored graduate students as assistants in instruction to develop their pedagogical and mentoring skills
- Developed graduate workshops to support and directly supported STEM undergraduate research and design projects.
- Supported and developed inclusive teaching events with a team of other graduate learning fellows.
- Prepared case study on and helped improve the McGraw Center's use, delivery, and solicitation of feedback and attendance data, which was presented at the 2016 Professional and Organizational Development Network in Higher Education Conference.
- Participated in an interdisciplinary course about teaching and learning in higher education as a TEAGLE seminar participant.

McGraw Center for Teaching and Learning, Princeton University, Princeton, NJ
Undergraduate Learning Fellow, and Graduate Fellow for the School of Engineering and Applied Sciences 02/2013 – 06/2017

- Developed more than 13 new pedagogical workshops for Princeton undergraduate students.
- Trained peer learning consultants and held consultations to help undergraduates reflect on and grow their learning practices.
- Spearheaded archival projects, which included empowering undergraduates to develop pedagogical programming for their peers.
- Collaborated with the School of Engineering and engineering departments to improve senior thesis guides and support.
- Developed alternative delivery methods of pedagogical programming to allow students to access support just-in-time through out-of-house collaborations with residential colleges (dorms) and eating clubs.

Department of Chemical and Biological Engineering, Princeton University, Princeton, NJ
Assistant in Instruction, Chemical Engineering Laboratory (CBE 346), Spring 2013 01/2013 – 06/2013

- Developed experiments and objectives with Prof. Bruce Koel, visitng Prof. Faith Morrison, and Prof. Robert K. Prud'homme.
- Mentored student teams in this inquiry-based course in experimental design and execution, and writing and presentation skills.
- Developed teaching guides for experiments to help future assistants in instruction better engage with their students.

Department of Chemical and Biological Engineering, Princeton University, Princeton, NJ
Assistant in Instruction, Mass, Momentum, and Energy Transport (CBE 341), Fall 2012 09/2012 – 01/2013

- Planned and led weekly precepts, graded and created homework and exams with Assistant Prof. Mark Brynildsen.
- Coordinated students to practice concepts in groups during weekly office hours and exam review sessions.
- Awarded an 'Excellence in Teaching' Award by the Princeton Engineering Council for work in this class.

Department of Chemical Engineering, Stanford University, Stanford, CA 03/2011 – 06/2011
Teaching Assistant, Introduction to Chemical Engineering (E20), Spring 2009 & *2011* 03/2009 – 06/2009

- Created homework and exams, and coordinated grading with Acting Assistant Prof. Lisa Hwang and Prof. Chaitan Khosla.
- Planned and led recitation sections and exam review sessions and worked individually with students during weekly office hours.

Center for Teaching and Learning, Stanford University, Stanford, CA
Residential/Academic Tutor 09/2008 – 06/2011

- Led tutoring sessions of chemistry, math, physics, and engineering courses with a focus on problem solving skills.
- Organized drop-in group tutoring sessions to facilitate discussion and peer teaching amongst tutees.

PUBLICATIONS

Chen CVH-H, *Teaching Green Chemical Engineering Through the Lens of Value Creation: Turning Constraints into Creativity,* in preparation.

Chen CVH-H, *Comparing the Social and Community Engagement of Students in an Introductory Chemical Engineering Course between Remote, Hybrid, and In-Person Formats*, in preparation.

Chen CVH-H, Pfluger C, *Integrating Sustainability Across the Chemical Engineering Curriculum,* in preparation.

Jiang V, Lucia M, Banta S, **Chen CVH-H**, *A Remote, Hands-on, and Low Cost Sourdough Lab for First Year Chemical Engineering Students*, **2023**, *57*(4), 189-199 DOI: 10.18260/2-1-370.660-132194.

Chen CVH-H, Banta S, *Case-based Learning in Material & Energy Balances to Help Students Practice the Transferability of Chemical Engineering Problem Solving*, **2023**, *57*(4), 179-188 DOI: 10.18260/2-1-370.660-132189.

Chen CVH-H, Althouse, I, DeClercq CP, Phillipson M, *Managing Programmatic Trade-offs for Centers of Teaching and Learning: Applying a Segmentation, Targeting, and Positioning Approach to Pedagogical Offerings*, To Improve the Academy, **2023**, *42*(1) DOI: 10.3998/tia.690.

Mirakhur Z, **Chen CVH-H**, Schwartz S, *Teaching Inclusive Teaching: Case Study and Analysis*, To Improve the Academy, **2022**, *41*(2). DOI: 10.3998/tia.386.

Chen CVH-H, Banta S, *Redesigning to Foster Community in an Online Introductory Chemical Engineering Course*, 2022 ASEE Annual Conference & Exhibition, Minneapolix, MN, **2022**. https://peer.asee.org/41889.

Chen CVH-H, Kearns K, Eaton L, Hoffmann DS, Leonard D, Samuels M, *Caring for Our Communities of Practice in Educational Development*, To Improve the Academy, **2022**, *41*(1). DOI: 10.3998/tia.460.

Chen CVH-H, Liu Y, Stone HA, Prud'homme RK, *Visualization of Surfactant Dynamics to and along Oil-Water Interfaces using Solvatochromic Fluorescent Surfactants*, Langmuir, **2018**. *34*(36), 10512-10522. DOI: 10.1021/acs.langmuir.8b01740.

Lu, HD, Yang SS, Wilson BK, McManus SA, **Chen CVH-H**, Prud'homme RK, *Nanoparticle Targeting of Bacteria for Magnetic-based Separations of Gram Positive/Negative Pathogens*, Appl. Nanosci., **2017**, *7*(3-4), 83-93. DOI: 10.1007/s13204-017-0548-0.

Chen CVH-H, Triana BP, Prud'homme RK, *Investigation of the Local Environment of Hydrophobic End Groups on Polyethylene Glycol (PEG) Brushes Using Fluorometry: Relationship to Click Chemistry Conjugation Reactions on PEG-Protected Nanoparticles,* ACS Macro Lett., **2015**, *4*(5), 521-525. DOI: 10.1021/acsmacrolett.5b00119.

Mannsfeld SCB, Tee BC-K, Stoltenberg RM, **Chen CVH-H**, Barman S, Muir BVO, Sokolov AN, Reese C, Bao Z, *Highly sensitive flexible pressure sensors with micro-structured rubber dielectric layers*, Nature Mater., **2010**, *9*, 859-864. DOI: 10.1038/nmat2834.

PRESENTATIONS

Chen CVH-H, *Teaching with the Chemical Engineering Community: Frameworks and Resources that Support Our Discipline's Pedagogical Practice*, **2024**. Invited talk for the Chemical & Biological Engineering Department at Princeton University on February 26, 2024.

AIChE Annual Conference, **Chen CVH-H**, *Teaching with Cases in Chemical Engineering*, **2023**. Oral.

AIChE Annual Conference, **Chen CVH-H**, *Green Chemical Engineering Innovation: From Design Constraint to Source of Creativity*, **2023**. Oral.

Professional and Organizational Development (POD) Network in Higher Education Conference, Foo J, **Chen CVH-H**, Re:Imagining Eduactional Development Opportunities for STEM Lab Instructors, **2022**. Roundtable.

AIChE/ASEE Chemical Engineering Summer School**, Chen CVH-H**, Banta S, *Case-based Learning to Teach Engineering Decision-Making in Intro to Chemical Engineering*, **2022**. Poster.

AIChE/ASEE Chemical Engineering Summer School, Jiang V, Banta S, **Chen CVH-H**, *A Remote, Hands-on, and Low-Cost Sourdough Lab for First-Year Chemical Engineering Students*, **2022**. Poster.

ASEE Annual Conference & Exhibition, **Chen CVH-H**, Banta S, *Redesigning to Foster Community in an Online Introductory Chemical Engineering Course*, **2022**. Oral.

Pandemic Pedagogy Research Symposium, **Chen CVH-H**, Banta S, *Building Community in an Online, Synchronous Introductory Chemical Engineering Course*, **2021.** Oral.

Professional and Organizational Development (POD) Network in Higher Education Conference, Phillipson M, **Chen CVH-H**, Wright MA, *Assessment Fellowships: Empowering Graduate Students, Serving Faculty, Expanding Center Capacity,* **2020**. Interactive Session.

Professional and Organizational Development (POD) Network in Higher Education Conference, **Chen CVH-H**, Greenler, R, *Teaching Online Teaching,* **2019**. Roundtable.

Professional and Organizational Development (POD) Network in Higher Education Conference, Althouse I, **Chen CVH-H**, DeClercq, C, Ruggeri, N, Woods, L, *Organizing Graduate Student Collaborations at Centers: A Framework for Growth,* **2019**. Roundtable.

2019 National CIRTL Forum: Preparing Future Faculty as Change Leaders Toward Inclusive STEM Higher Education, **Chen CVH-H**, Althouse, I, DeClercq, C., Phillipson, M, *Graduate Student Fellowship Programs that Promote Agency as Teachers and Future Faculty*, **2019**. Poster.

CIRTL In-Person Network Meeting, Kennison, R, Dukes, A, Dixie, KI, Woods, L, **Chen CVH-H**, Marketing Online and Local Programming, **2019**. Workshop.

Professional and Organizational Development (POD) Network in Higher Education Conference, Althouse I, **Chen CVH-H**, Patel C, *Leveraging Departmental Structures to Implement and Refine Teaching Development Programming,* **2018**. Roundtable.

CIRTL In-Person Network Meeting, **Chen CVH-H**, Ruggeri N, Elevating future faculty roles in teaching and leadership in Local Learning Communities and in the CIRTL Network, **2018**. Workshop.

Professional and Organizational Development (POD) Network in Higher Education Conference, Schwarz S, **Chen CVH-H**, Verhey M, Haines P, Mirakhur Z, Monroe, C, *Teaching Inclusive Teaching,* **2017**. Workshop.

Professional and Organizational Development (POD) Network in Higher Education Conference, **Chen CVH-H**, Stein, GM, *Beyond Attendance and Satisfaction: Exploring Strategies for Soliciting Effective Feedback,* **2016**. Roundtable.

ACS National Meeting, **Chen CVH-H**, Triana BP, Prud'homme RK, *Investigation of the local environment of functional end-groups on polyethylene glycol (PEG) brushes,* **2016**. Poster.

ACS Colloids Meeting, **Chen CVH-H**, Liu, Y, Stone HA, Prud'homme RK, *Visualization of dispersant dynamics at liquid-liquid interfaces using Nile Red-polyethylene glycol (NR-PEG) surfactant-dyes,* **2016**. Oral.

Princeton Graduate Student Symposium, **Chen CVH-H**, Triana BP, Prud'homme RK, *Investigation of the Surface Presentation of Hydrophobic Dyes Tethered to Poly(styrene-b-ethylene glycol) Stabilized Nanoparticles,* **2014**. Oral.

Princeton Graduate Student Symposium, **Chen CVH-H**, Stone HA, Prud'homme RK, *Surfactant-dyes for the study of ultrafast surfactant dynamics to and along oil-water interfaces,* **2013**. Poster.

Gulf of Mexico Oil Spill & Ecosystem Science Conference, **Chen CVH-H**, Moffat JN, Stone HA, Prud'homme RK, *Measurement techniques for ultrafast surfactant dynamics at oil/water interfaces,* **2013**. Oral and Poster.

Mason Lecture Symposium Poster Session, **Chen CVH-H**, Tatami A, Tee BC-K, Allen RD, Bao Z, *PMMA-ionic liquid composites for high dielectric applications in elastic electronics*, **2011**. Poster.

AIChE Annual Conference Undergraduate Poster Session, **Chen CVH-H**, Tee BC-K, Tatami A, Allen RD, Bao Z, *PMMA-ionic liquid composites for high dielectric applications in elastic electronics,* **2011**. Poster.

Stanford Symposium of Undergraduate Research and Public Service, **Chen CVH-H**, Tee BC-K, Tatami A, Allen RD, Bao Z, *Elastic PMMA-ionic liquid composites for high dielectric application,* **2010**. Poster.

Mason Lecture Symposium Poster Session, **Chen CVH-H**, Tee BC-K, Tatami A, Bao Z, *Design of an elastomeric conductor for improved pressure sensing,* **2010**. Poster.

Chemical Engineering Undergraduate Symposium, **Chen CVH-H**, Tee BC-K, Bao Z, *Organic capacitive pressure sensors,* **2009**. Poster.

AWARDS & DISTINCTIONS

Joseph J. Martin Award, Chemical Engineering Division, ASEE — 2023
Redesigning to Foster Community in an Online Introductory Chemical Engineering Course

Large-Scale Teaching and Learning Grant, Office of the Provost, Columbia University — 2019
Expanding Assessment of Course Innovations: The Teaching Assessment Fellows Initiative (renewed 2020 and 2021)
Teaching & Learning Start-Small Mini Grant, Office of the Provost, Columbia University
Development of a Case & ARS Question Database for Introduction to Chemical Engineering

Professional Development Travel Grant, Princeton Graduate School, Princeton University — 2016
Beyond Attendance and Satisfaction: Exploring Strategies for Soliciting Effective Feedback, POD Conference Presentation

Excellence in Teaching Award, Princeton Engineering Council, Princeton University — 2013
Assistant in Instruction, Mass, Momentum, and Energy Transport, Fall 2012

Poster Presentation Award, Materials Engineering and Science Division, AIChE Conference — 2010
PMMA-ionic liquid composites for high dielectric applications in elastic electronics

PEDAGOGICAL PROGRAMMING, MATERIALS, & INITIATIVES DEVELOPED

Turning Your Research into Teaching (TYRIT) at Columbia. Online, inter-institutional 7-week seminar that engages participants in the development of courses based on their own research, taught across the CIRTL network. — 2021
Teachers' Lounge: Lessons from a Pandemic. Developed workshop series to discuss teaching during the COVID-19 pandemic and what lessons drawn from this time can be applied to teaching in the future, with Dr. Mark Phillipson.
Approaching the Job Market Online Modules. Self-paced modules to help participants understand the genres of and begin drafting their teaching statement, diversity statement, and teaching portfolio, developed with Dr. Ian Althouse.
Online Tools, In-Person Contexts. Hybrid workshop that explored the translation of tools and strategies used when teaching online and their application to hybrid and in-person modalities.

Future Faculty-led Workshops on the CIRTL Network. Led efforts to formalize CIRTL online, cross-network offerings led by future faculty, and mentored graduate students from Columbia leading workshops for the network.

Supporting Hybrid & Online Learning & Teaching (SHOLT). Asynchronous, self-paced course for TAs teaching online for the first time, giving practical tactics and strategies that can be used in their online teaching role at Columbia. 2020
Assessing Teaching and Learning Seminar (ATLS). Online, asynchronous 5-week seminar that teaches fundamentals of Teaching-as-Research assessment methods, resulting in a project plan for a course. Developed with Michael Ginsberg.
Innovative Course Design Seminar (ICDS). Seminar discussing tactics and strategies to design courses for teaching during COVID and beyond and the implications of online and hybrid teaching, developed with Dr. Ian Althouse.

Graduate Student Consultant (GSC) Matrix for Growth. Multifaceted matrix for CTL staff who work with graduate student consultants to help CTLs reflect and develop these collaborations with graduate students, based off of the ACE-POD matrix, developed with Dr. Ian Althouse, Dr. Caitlin DeClercq, Dr. Nancy Ruggeri, and Dr. Lauren Woods. 2019
Online Teaching Practicum. 12-week intercollegiate online practicum for graduate students to learn how to teach online through the development and delivery of an online teaching development workshop on the CIRTL Network.
CIRTL Future Faculty Teaching Summit. CIRTL online cross-network teaching event for graduate students to connect, share teaching approaches, and discuss trends in teaching, and teaching development in higher education.
Course Design Online Module. Online, self-paced module to help guide students through refining their initial ideas for a course into a more intentional and thoughtful syllabus, developed with Adrianna Munson and Dr. Mark Philipson.
Course Design Seminar (CDS). Advanced, course design seminar focused on student-centered and inclusive teaching, developed with Dr. Caitlin DeClearcq.
Learning Objective Generator (LOG). Online, self-paced Canvas course that teaches students the function of a learning objective and guides students through the development and refinement of their own objective. Developed with Valerie Bondura, Dr. Caitlin DeClercq, Dr. Ian Althouse, and Dr. Mark Philipson.
Teaching Assessment Fellowship. Fellowship to support faculty working on Provost RFP granted projects in the assessment of their teaching interventions. Developed with Dr. Mark Phillipson and Melissa Wright.

Representing Your Teaching Summer Intensives (RYTSI). Series of day-long workshop days to guide graduate students through the job market teaching materials, developed with Dr. Ian Althouse and Dr. Chandani Patel. 2018
Illuminating the Learning Process. Workshop to help students understand how to help students understand their cognitive processes by making explicit the ways of thinking and knowing in the discipline.
Teaching Consultant (TC) Program Expansion. Expanded the program of peer teaching consultants to also include the training of peer consultations on teaching and job market materials.
Program Consultant (PC) Program. Program that collaborates with and develops graduate students who serve as co-facilitators for CTL programs, or as leaders in the development of digital resources focused on teaching and learning. Folded into the Teaching Consultants program in 2019.
CIRTL Fellows Program. Fellowship to support and develop graduate students who work centrally at the CTL with the CIRTL administrative leader to strategize and grow the CIRTL and Teaching-as-Research programs at Columbia.
Engineering Doctoral Orientation. Week-long orientation and professional development week put on by the Professional Development and Leadership program at the School of Engineering and Applied Sciences (SEAS). Dr. Christopher Chen (CTL) developed and led all of the teaching development portions of this orientation.

Evidence-Based Teaching in Science and Engineering (ETSE) Seminar. Intensive, month-long seminar for graduate students and postdocs in evidence-based teaching practices that engaged participants in the literature of teaching and learning, in peer feedback and mentorship of their work as instructors, and in microteaching practice. 2017
Peer Observation Program in Physics. Initiative implemented with Dr. Jeremy Dodd for first year graduate student TAs of the introductory physics laboratory course to be observed by experienced super TAs and by other first year TAs.
STEM Education Research Journal Club. Participant-driven journal club for graduate students and postdocs to discuss and apply discipline-based educational research (DBER) to their own teaching practice.
Essentials of Teaching and Learning. Series of core pedagogical workshops for graduate student instructors, redeveloped with Dr. Ian Althouse to focus on Backward Design (learning objectives, assessments, and active learning).
Teaching Orientation for Graduate Students. Day long teaching orientation designed to prepare students for their first days as an instructor, redeveloped with Dr. Mark Philipson and Dr. Ian Althouse to emphasize on Backward Design.

Peer Pedagogical Media. Project to empower undergraduate peer learning consultants to develop pedagogical media for their peers, with the medium of delivery determined by the learning goals each the individual project. 2016
Tutoring Data Assessment. Research project using the tutoring programs' feedback data to assess the effects of tutoring and improve feedback delivery and collection with other graduate learning fellows.
Inclusive Teaching at Princeton. A series of programs to improve the culture of teaching on campus with other graduate learning fellows. Spearheaded STEM inclusive initiatives and supported assessment of inclusive teaching efforts.
Engineering Independent Work Support. Ensemble of workshops, enduring resources, such as the restructuring departmental materials to more explicitly detail expectations and outcomes to students, and individual consultations to

directly support undergraduates involved in independent work in the School of Engineering and Applied Sciences.
Learning in College. Workshop to support incoming college freshmen in the Princeton University Preparatory Program through reflection on their own learning techniques and presentation of college resources.

Learning Consultant Reflections. Project to archive peer learning consultant trainings by engaging consultants in guided written reflections and conversations to be used for future trainings. 2015
By Request Workshops. System that engages the student sponsors of requested workshop in reflection to tune workshops to their students' needs and demands.
Efficient Research. Workshop for undergraduates to develop a research plan, with research and personal goals, along with a reasonable schedule for their project developed.
Mentor-Mentee Relationships. Separate workshops for undergraduates involved in independent work, and graduate students mentoring undergraduate researchers to facilitate discussion of expectations/goals of both parties.
Combatting Digital Distractions. Workshop to engage undergraduates in reflection about why they themselves are procrastinating and how to use technology to help them better reach their goals.

Searching and Critically Reading the Scientific Literature. Primer on the types and usefulness of scientific literature focused on challenging students to develop and answer questions while reading. 2014
Getting More Out of STEM Classes. Series of 5 workshops that help students develop the concept of student-centered learning so they may apply student-centered approaches to better engage in any of their classes.

Assistant in Instruction Orientation (AIO). Two-day workshop to provide the basis for assistants in instruction to begin their work with students focused on developing and delivering a micro-lesson. 2013
Mentoring Undergraduate Researchers. Workshop for graduate students and post-docs to reflect on and develop a means of effectively communicating and engaging with undergraduate researchers.
Conducting Research with Graduate Mentors. Workshop for undergraduate students undertaking research to develop a means of effectively communicating their goals and learning to mentors.
No Dumb Questions in Academics. Curated panel to engage undergraduates and their candid questions about academic and research life at Princeton University. Used to inform new programming efforts.
Getting More Out of Office Hours. Workshop to guide undergraduates on how they may better utilize office hours by forming a plan and setting goals prior to attending these learning sessions.

Many of these workshops and initiatives are ongoing or recurring. Only the first instance of each program is listed here.

LEADERSHIP POSITIONS

Chemical Engineering Education
Publication Board Member 01/2024 – Present

- Served a 3-year term as a board member advising the journal Chemical Engineering Education on policy and practices.

The Center for the Integration of Research, Teaching, and Learning (CIRTL), Madison, WI
Leadership Team Member 08/2020 – Present

- Elected by the membership of the CIRTL Network to the leadership team to serve two 2 year terms (2020-22, & 2022-24).
- Chaired the Fall 2020 and Spring 2021 CIRTL Network Virtual In-Person Meetings organizing committee to produce an online conference for the 40 university members of the CIRTL network, with over 100 people in attendance, synchronously online.
- Led efforts to pilot and standardize cross-network, online graduate student-led programming for CIRTL.

OMAO Brands, New York, NY 09/2020 – Present
Chief Scientific Officer and Advisory Board Member

- Advised the scientific operations of and material selection processes for OMAO Brands, a green, consumer goods startup.

Princeton University Swing Club, Princeton, NJ
Organizer and Instructor 09/2011 – 06/2017

- Developed curricula, organized dances, and taught classes in Lindy Hop to serve 50+ community and university members.
- Implemented methods to develop new dance instructors based on laboratory and graduate student instructor trainings.

Boston Lindy Hop, Boston, MA
Visiting Instructor 06/2015 – 12/2015

- Developed curricula and taught classes in Lindy Hop in a school of 100+ dancers, and workshops for dance instructors.
- Helped facilitate the merger of Boston Lindy Hop with New School Swing.

Swingtime Dance Troupe, Stanford University, Stanford, CA
Vision Chair, Choreographer, and Performer 09/2009 – 06/2011

- Choreographed and performed in Stanford University's swing dance troupe.
- Responsible for promoting the development of Swingtime members' dancing through collaboration with other dance groups.

Taiwanese Cultural Society, Stanford University, Stanford, CA 09/2007 – 06/2011
Secretary and Member

- Organized club meetings, recorded meeting minutes, and facilitated quarterly food and social events for 200+ attendees.

PROFESSIONAL AFFILIATIONS

American Society for Engineering Education (ASEE) 2022 – Present

American Institute of Chemical Engineering (AIChE) 2022 – Present

American Chemical Society (ACS) 2016 – Present

Professional and Organizational Development (POD) Network in Higher Education 2015 – Present