

Annual Report

Center for Teaching and Learning
Office of the Provost

2018-2019



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Our Mission

The Center for Teaching and Learning (CTL) partners with faculty, students, and colleagues across the University to support excellence and innovation in teaching and learning. The CTL is committed to advancing the culture of teaching and learning at Columbia through all of its programs, services, and resources.

The CTL understands teaching as a critical practice, driven by inquiry, experimentation, reflection, and collaboration. We promote pedagogy that is inclusive, learner-centered, and research-based. We support the purposeful use of new media and emerging technologies in the classroom and online to foster the success of Columbia's instructors and students.

Our Vision

Our vision is a Columbia teaching community that innovates in evidence-based instructional practices and technology use, promotes and participates in the research on learning, and commits to creating inclusive and equitable learning environments.



Letter from the Provost



John H. Coatsworth
Provost

Dear Colleagues:

The Center for Teaching and Learning 2018-19 Annual Report highlights the CTL's programs, projects, and services offered to the Columbia University teaching community. Faculty, graduate students, postdocs, and staff continue to affirm the value of the CTL through their strong participation in its programs and services and through their extensive partnerships with CTL staff. The CTL's mission and vision are embodied in the work you will see in this report.

This spring, I announced the inaugural cohort of the Provost's Senior Faculty Teaching Scholars Program. In partnership with the CTL, this cohort of senior faculty will have the opportunity to create a vision and plan for supporting and developing the culture of teaching and learning within their own departments and schools as well as across campus. Each Senior Faculty Teaching Scholar will work with the leadership of the CTL to develop a year-long plan that aligns their work with the needs of the Columbia community.

In this report you will find many examples of instructors who are transforming learning at Columbia through a variety of pedagogical innovations and a focus on inclusion. You will learn about graduate students and postdocs who are preparing for careers as educators and scholars, guided by the CTL's many professional development programs. These examples are a testament to the breadth of support that the CTL now offers our teaching community.

We look forward to continuing to support the Columbia community as we develop new and exciting ways to enhance teaching and student learning at Columbia University.

Sincerely,

John H. Coatsworth
Provost

Letter from the Vice Provost



Soulaymane Kachani
Vice Provost for Teaching,
Learning, and Innovation

Dear Colleagues:

This year, the Columbia Center for Teaching and Learning has seen tremendous growth in its programs, services, and offerings. We have created strong partnerships with faculty, students, and colleagues across the University to support excellence and innovation in teaching and learning, and I am delighted to share some of the highlights of our work with you.

In June 2019, following the success of the *Guide for Inclusive Teaching at Columbia*, the CTL launched its first MOOC (massive open online course), *Inclusive Teaching: Supporting All Students in the College Classroom*, to explore the principles of inclusive teaching. The course provides practical, accessible, and usable strategies that instructors can implement in their classrooms to create and maintain a supportive learning environment for all students. The CTL continues to uphold inclusivity and equity in teaching and learning at Columbia as one of its primary tenets.

The Office of the Provost facilitated several initiatives and events aimed at strengthening teaching and learning collaborations at Columbia. We hosted the inaugural Science Of Learning Research (SOLER) Symposium on October 11, 2018. The Symposium brought together Columbia faculty, staff, graduate students, and experts in the science of learning to share research on metacognition in learning, and to translate it into strategies that maximize student learning. We also hosted the Provost's Conversations on Online Learning (PCoOL), a series of talks by leading experts on the future of education, specifically online learning.

This year marked the Provost's sixth Request for Proposals (RFP) for Hybrid Learning Course Redesign and Delivery, and its fourth RFP for Massive Open Online Courses. Since the first RFP was introduced in 2014, over 100 faculty members have received support for their teaching innovations from the CTL. Since 2018, the Office of the Provost has also awarded 25 new Large-Scale and Start Small grants for faculty.

Many of the 2018 Provost's awardees were on hand to share insights and ideas at the annual Celebration of Teaching and Learning Symposium on March 12, 2019. The Provost welcomed the Columbia community to the Symposium at Low Library to celebrate the innovative efforts of faculty and graduate students in transforming their courses and pedagogies. This year's keynote speaker was Carl Wieman, Nobel Laureate, Professor of Physics and Education at Stanford University, and author of *Improving How Universities Teach Science: Lessons from the Science Education Initiative*.

I hope that the activities highlighted in this report will encourage you to meet our talented staff at the CTL, explore new ideas for your own teaching, and make new connections with a community of inspired teachers and learners at Columbia.

Sincerely,

Soulaymane Kachani
Vice Provost for Teaching, Learning, and Innovation

Letter from the CTL Executive Director



Catherine Ross
Executive Director of the Center
for Teaching and Learning

Dear Colleagues:

The Center for Teaching and Learning (CTL) collaborates with instructors, departments, and schools across Columbia's campuses to achieve the best teaching and learning experiences for faculty and their students. Our foundational value of inclusion undergirds all of the research-based, learner-centered, and reflective practices that we share with our partners. We approach our partnerships as collaborations in building equity across the teaching and learning landscape at Columbia, and we deeply value the expertise of our collaborators. In this annual report, you will see the highlights of this work across the broad spectrum of Columbia University's teaching and learning landscape.

This year has been one of great momentum in our CTL inclusive teaching efforts, with a special focus on the role of metacognition in creating equitable learning opportunities. Our Workshop To Go, *Inclusive Teaching: Small Change to Maximize Equity in the Classroom*, was by far the most requested by schools and departments at both the Morningside and CUIMC campuses. We also developed three new inclusive teaching workshops: *Managing Classroom Climate: Responding to Microaggressions*; *Grading, Rubrics, and Feedback for Equity and Inclusion*; and *Metacognition as a Tool for Equity in the Classroom*. In partnership with the Columbia University Office of the Vice Provost for Faculty Advancement, the CTL hosted a workshop by Dr. Frank Tuitt, Provost of Diversity and Inclusion at the University of Denver, titled: *Centering Race in the Classroom: Engaging Faculty in Inclusive Excellence*. The CTL also partnered with the Office of Faculty Diversity and Inclusion to offer *The Teaching Hour* series which gathered affinity-based groups of faculty to create community around their identities in the teaching context. And on top of all these opportunities, our Faculty Programs and Services team has created a MOOC (massive open online course) on inclusive teaching, *Inclusive Teaching: Supporting All Students in the College Classroom*, which was launched at the end of June.

Our Graduate Student Programs and Services (GSPS) team was equally busy with the launch of the Teaching Development Program (TDP). The TDP is a comprehensive new service that allows Columbia doctoral students to cultivate, document, and reflect on teaching development across the arc of their graduate school career. Graduate students can participate in the TDP program on either of two tracks: Foundational Track or Advanced Track. GSPS also has put together a new resource, the Teaching Statement Online, an opportunity for current Columbia University doctoral students to learn about, write, and revise a teaching statement in order to enter the academic job market successfully. Lastly, GSPS piloted new peer observation opportunities for preceptors teaching in the Core Curriculum and for the GSAS (Graduate School of Arts and Sciences) Teaching Scholars.

Thanks to collaborations with the Provost's Office, departments, schools, allied administrative offices, and dedicated individuals, the CTL has had a wonderful year, flourishing across Columbia's campus and beyond. We hope you find inspiration in these pages and look forward to collaborating with you in the upcoming year.

Sincerely,

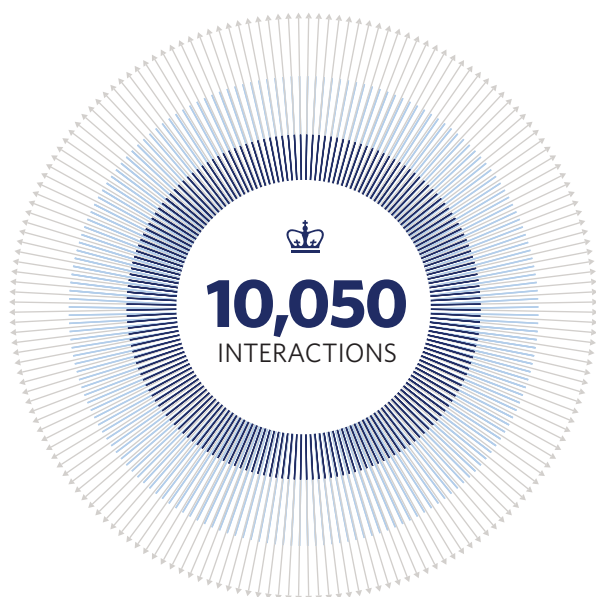
Catherine Ross

Executive Director of the Center for Teaching and Learning

Annual Highlights

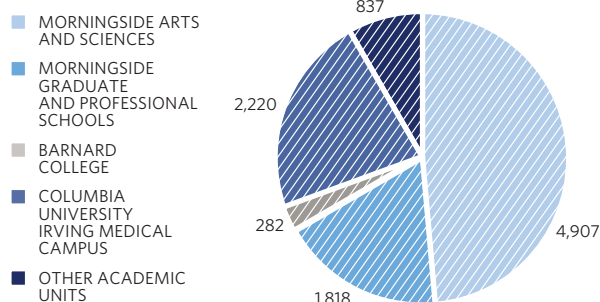
Interactions

with Columbia-affiliated individuals

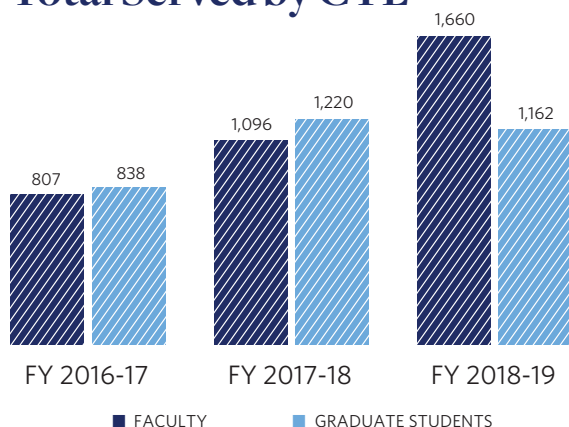


Interactions

with Columbia-affiliated individuals



Total Served by CTL



Service to Columbia University



32

Completed teaching and learning projects funded by the Office of the Provost



252

Workshops for Columbia faculty and graduate student instructors



78

Workshops requested by specific schools and departments



56

Graduate student fellows and teaching consultants

Service to Columbia and Beyond



285

Interactions with external visitors



22

Committees served by CTL staff



12,199

edX learners that completed a Massive Open Online Course (MOOC)



765

Thank-a-Prof / Thank-a-TA notes shared



2,928,337

Minutes watched on ColumbiaLearn YouTube channel

Accomplishments

Provost Senior Faculty Teaching Scholars

The inaugural cohort of Provost's Senior Faculty Teaching scholars was announced at the annual Celebration of Teaching and Learning Symposium on March 12th, 2019. In partnership with the CTL, this cohort of senior faculty will have the opportunity to create a vision and plan for supporting, changing, and innovating the culture of teaching and learning within their own departments and schools as well as across campus. Deans nominate senior faculty who are both outstanding teachers and well-respected researchers in their disciplines.

In partnership with the CTL, the Provost's Senior Faculty Teaching Scholars will choose from a range of teaching and learning initiatives including: building community among faculty through outreach; liaising and hosting events in the CTL; planning and facilitating disciplinary conversations, workshops, and/or panels; or proposing a project that has broad and sustainable impact on teaching and learning at Columbia that goes beyond a single course or curriculum. The leadership of the CTL will work with the Senior Faculty Teaching Scholars to develop a year-long plan that aligns their work with the needs of the Columbia teaching community.

Senior Faculty Teaching Scholars for 2019-2020

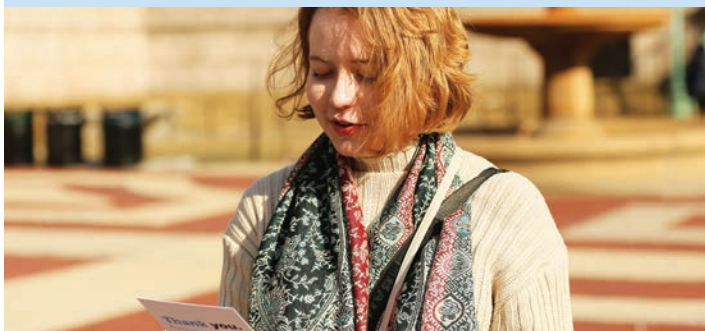
| | |
|--|--|
| Rachel Adams Department of English & Comparative Literature, Humanities | Shahid Naeem Department of Ecology, Evolution & Environmental Biology, Natural Sciences |
| Rita Charon Department of Medical Humanities & Ethics, CUIMC | Christos Papadimitriou Department of Computer Science, SEAS |
| Robert Fullilove Department of Sociomedical Sciences, Mailman School of Public Health | Susan Sturm Columbia Law School |
| Marguerite Holloway Columbia Journalism School | Susan Witte Columbia School of Social Work |
| Shamus Khan Department of Sociology, Social Sciences | |



The inaugural cohort of the Provost's Senior Faculty Teaching Scholars.

Thank-a-Prof Initiative

The CTL launched a Thank-a-Prof/Thank-a-TA initiative in the Spring 2019 semester to celebrate impactful teaching and learning at Columbia University and to recognize professors and TAs for their contributions. Students across departments and campuses submitted 765 thank you notes by hand or online to the CTL, and these were sent to the respective professors and TAs.



Students read aloud their thank you notes at the Celebration of Teaching and Learning Symposium.

Celebration of Teaching and Learning Symposium

The Office of the Provost welcomed the Columbia community to Low Memorial Library for the Celebration of Teaching and Learning Symposium on March 12th, 2019 to celebrate the ways that faculty and graduate students are transforming their courses and pedagogies, and impacting learning at Columbia. This year, 193 participants attended the event.

The event featured keynote speaker Carl Wieman, Nobel Laureate and Professor of Physics and Education at Stanford University. Wieman has pioneered the use of experimental techniques to evaluate the effectiveness of various teaching strategies for physics and other sciences,

and recently served as Associate Director for Science in the White House Office of Science and Technology Policy. In his keynote presentation, Wieman focused on the ways in which universities can successfully take a scientific approach to science education.

The keynote was followed by an interactive showcase in the Rotunda featuring presentations by faculty, graduate students, and undergraduate students, and the day closed with the Provost's announcement of the inaugural cohort of the Provost's Senior Faculty Teaching Scholars.

URL: bit.ly/cotl2019



Carl Wieman delivers his keynote speech on taking a scientific approach to teaching.



Keynote speaker Carl Wieman converses with Columbia faculty at the Celebration of Teaching and Learning Symposium.

Science of Learning Symposium

In keeping with the CTL's 2018-2019 focus on metacognition and its role in inclusive teaching, the CTL was pleased to partner with the Office of the Provost to co-host the inaugural Science Of Learning Research (SOLER) Symposium on October 11th, 2018. This year's Symposium "Metacognition: From Research to Classroom" brought together Columbia faculty, staff, graduate students, and experts in the science of learning to share research on metacognition and to translate it into strategies that maximize student learning.

The SOLER initiative was also formally launched and announced at the Symposium. The Science Of Learning Research (SOLER) initiative at Columbia aspires to become a vibrant hub for cross-disciplinary research at Columbia, and to make invaluable contributions to advance the scholarship of teaching and learning.

By facilitating a wide range of experiments, SOLER enables the distillation of research results from an unprecedented amount of data generated and collected from learning management systems, face-to-face and online courses, and from teaching and learning innovations and experimentations through the Provost's teaching and learning RFPs. The results of the research efforts will inform and guide innovative pedagogical strategies and suggest ways to embrace experimentation and change for on-campus and online education.

Thanks to the efforts of Dr. Janet Metcalfe, Professor of Psychology, Director of Graduate Studies in the Department of Psychology, and CTL Advisory Board member, the CTL was pleased to offer the following presentations by leading researchers and experts in the fields of cognitive psychology and metacognition at the Symposium on October 11th.

- "Metacognition and Curiosity" by Janet Metcalfe (Columbia University)
- "Why Don't the Trials and Errors of Everyday Living and Learning Teach Us How to Learn?" by Robert A. Bjork (University of California, Los Angeles)
- "Academic Performance under Stress" by Sian Beilock (Barnard College)

Later in the day, the CTL hosted the following workshops for faculty, staff, and graduate students to explore evidence-based metacognitive strategies that can be implemented in the classroom.

- "Turning Tests into Desirable Difficulties: How to Assess Learning in Ways that Enhance Learning" by Professor Elizabeth Ligon Bjork (University of California, Los Angeles)
- "Activating Students as Owners of Their Own Learning: Metacognition in the Classroom" by Professor Dylan Wiliam (University College London)

URL: ctl.columbia.edu/science-of-learning-symposium/



Science of Learning Symposium participants Dylan Wiliam, Janet Metcalfe, Sian Beilock, Elizabeth Ligon Bjork, and Robert Bjork

Provost's Conversations on Online Learning

This year's Provost's Conversations on Online Learning (PCoOL) series kicked off on October 3, 2018 with Jeff Maggioncalda, CEO of Coursera, visiting Columbia University. Maggioncalda discussed Coursera's role in the future of lifelong learning. He shared Coursera's strategy of partnering with top universities, such as Columbia, to provide universal access to the world's best education.

View recording of presentation: bit.ly/maggioncalda

On February 26, 2018, Nora Lewis, Vice Dean for Professional and Liberal Education at the University of Pennsylvania, led a conversation with Peter Decherney, Professor of Cinema and Media Studies and English at the University of Pennsylvania, on online learning initiatives at UPenn, including an overview of their fully online Bachelor's program.

View recording of presentation: bit.ly/noralewis



Nora Lewis and Peter Decherney of the University of Pennsylvania converse with Soulaymane Kachani, Vice Provost for Teaching, Learning, and Innovation at Columbia, at the PCoOL event.

Provost's Funded Teaching and Learning Grants

The CTL supports the professional development of Columbia faculty. CTL programs and services are grounded in teaching and learning scholarship, allowing faculty to explore, experiment, and reflect on their teaching practice. Faculty are introduced to innovative pedagogies and instructional technologies for integration

Hybrid Learning Course Redesign and Delivery

The Office of the Provost's Hybrid Learning Course Redesign and Delivery grant program provides faculty with funds of up to \$20,000 and support from the CTL to develop innovative pedagogies and technology-rich learning strategies for Columbia courses.

SPRING 2019 AWARDEES

Below is the list of projects that will be developed and released in the 2019-2020 academic year with support or advice from the CTL.

Nina Alvarez, *Assistant Professor of Journalism*

Ofelia Mangan, *Educational Designer and Technologist, School of Journalism*

Amy Singer, *Adjunct Faculty, School of Journalism*

PROJECT: "Video Newsroom: Meeting the Needs of a New Generation and a Changing Media World"

Glenn Denning, *Professor of Professional Practice in International and Public Affairs*

PROJECT: "Global Food Systems"

Martina Pavlicova, *Associate Professor of Biostatistics*

PROJECT: "Creating Online Version of the Course to Target the Broad Audience and Implementing Team Based Learning"

Barbara Rockenbach, *Associate University Librarian for Research & Learning*

PROJECT: "From Books to Bytes: Navigating the Research Ecosystem"

Kathy Shear, *Marion E. Kenworthy Professor of Psychiatry in Social Work*

PROJECT: "Developing Students' Clinical Skills via the Use of Scripted Realistic Client-Therapist Videos for Targeted Fine-Grained Practice and Meaningful Instructor Feedback and Coaching"

Alfredo Spagna, *Lecturer in the Discipline of Psychology*

PROJECT: "Do's and Don'ts in Cognitive Neuroscience: Promoting Critical Thinking using a Hybrid Neuropsychology Course"

Barbara Spinelli, *Senior Lecturer in Italian*

PROJECT: "Hybrid Learning and Multilingualism: Re-Designing an Introductory Italian Course for Plurilingual Speakers"

Pallavi Utukuri, *Assistant Professor of Radiology*

PROJECT: "Re-Imagining Radiology Education: An Interactive Blended Learning Approach to Radiology Education Using the Flipped Classroom Pedagogy"

Huiming Yin, *Associate Professor of Civil Engineering and Engineering Mechanics*

PROJECT: "Design and Development of a New Hybrid Learning Course of Energy Harvesting"

Yi Zhang, *Associate in Discipline in Data Science and Operations Research*

PROJECT: "Adopting Immediate Feedback Assessment Technique (IF-AT) for Computational Subjects"

SPRING 2018 AWARDEES

Below is the list of faculty who released courses in the 2018-2019 academic year with support or advice from the CTL.

Fall 2018 Courses

Wing Fu, Assistant Professor, Program in Physical Therapy

PROJECT: "Developing Students' Clinical Reasoning through a Hybrid Doctoral Course with Low-Cost Patient Simulations"

Vanessa Guida, Lecturer in the Discipline of Undergraduate Writing Program/Core

PROJECT: "Self-Directed Online Academic Writing Course for International Students"

Dana March, Assistant Professor of Epidemiology

PROJECT: "Hybrid Learning for Quantitative Foundations"

Mary Ann Price, Lecturer in the Discipline of Biological Sciences

PROJECT: "Improving the Implementation of Case Studies in Physiology"

Kathy Shear, Marion E. Kenworthy Professor of Psychiatry in Social Work

PROJECT: "Redesigning 'Introduction to Grief Therapy' with Interactive Videos"

Spring 2019 Courses

Andres Bendesky, Assistant Professor, Ecology, Evolution and Environmental Biology

PROJECT: "Principles and Practice in Modern Genomic Data Science"

Doru Cojoc, Lecturer in Discipline, SIPA

PROJECT: "Visualizing Theory Using Online Simulations"

Isobel Contento, Mary Swarz Rose Professor of Nutrition and Education

PROJECT: "Facilitating Students Learning the Processes of Effective Nutrition through Blending the Fields of Nutrition Science, Psychology, Education and Communication"

Faculty Spotlight:

Kathy Shear, 2018 Hybrid Learning Award Recipient, Marion E. Kenworthy Professor of Psychiatry, Columbia School of Social Work and Columbia College of Physicians and Surgeons

As a recipient of the Provost's Hybrid Learning Course Redesign and Delivery award, Kathy Shear received support from the CTL to redesign her Advanced Clinical Social Work Practice course. To engage students in learning a clinical skill in an online classroom setting, she used video models of the Complicated Grief technique and a real-world application activity that helped students practice "finding the words" to work with clients.

On engaging students using video models in a fully online course . . .

Shear: Students need practice with realistic clients, multiple brief opportunities to practice, and immediate feedback and coaching in order to develop their clinical skills. The creative use to which we put the videos we created allowed students to have that practice and receive feedback and coaching even in the somewhat artificial setting of an online course. Students' progress towards developing clinical skills was noticeable.

On collaborating with the CTL . . .

Shear: We spent time with CTL developing video models of the Complicated Grief technique, from writing scenarios to crafting scripts, casting, and coaching actors during the video shoots. The CTL helped us create videos upon which we could build a variety of course activities that gave a realistic view of a therapy session in progress. With this strong foundation we were able to shift gears during the semester to respond to student needs, creating new activities to help students build better skills.



Kathy Shear, Professor of Psychiatry, Columbia School of Social Work

Nikhar Gaikwad, *Instructor in Political Science*

PROJECT: "Video and Case Study Pedagogy in International Political Economy"

Kim Hekimian, *Assistant Professor, Program for Global and Population Health*

PROJECT: "Research Methods in Global and Population Health"

David Helfand, *Professor and Chair of Astronomy*

PROJECT: "Simulating the Universe: Stimulating Active Learning"

Sharon Schwartz, *Professor of Epidemiology at CUIMC*

PROJECT: "Epidemiology II: Going all the way with TBL"

Start Small! Mini Grants

The Start Small! Mini-Grants provided support to faculty who are interested in experimenting with one new pedagogical strategy or tool. Recipients received in-kind support from the CTL and up to \$2,000 for a one semester period.

SPRING 2019 AWARDEES

Below is the list of projects that will be developed and released in the 2019-2020 academic year with support or advice from the CTL.

Scott Banta, *Professor of Chemical Engineering*

Chris Chen, *Assistant Director, Graduate Programs and Services, Columbia CTL*

PROJECT: "Development of a Case & ARS Question Database for Introduction to Chemical Engineering"

Keri Bertino, *Adjunct Assistant Professor, Writing*

PROJECT: "Polyphonic Teaching for Polyphonic Texts"

Helen de Pinho, *Assistant Professor of Population and Family Health*

PROJECT: "Digital Instruction for Public Health Policy Advocacy"

Faculty Spotlight:

Wing Fu, *2018 Hybrid Learning Award Recipient, Assistant Professor of Rehabilitation and Regenerative Medicine (Physical Therapy), CUIMC*

Wing Fu received a Provost's Hybrid Learning Course Redesign and Delivery award to redesign her Complex Medical Conditions course, a required course for students in their final year of the Doctor of Physical Therapy program. Fu redesigned her course to focus on enhancing students' clinical reasoning skills, utilizing in-person patient simulations. These cases were designed to simulate real-life, complex situations. Students draw on prior knowledge from previous courses and apply clinical reasoning skills to diagnose and treat simulated patients in real time.

On students participating in simulated cases . . .

Fu: Over the course of the semester, students had the opportunity to assume three different roles while participating in a simulated case. Students gained valuable perspectives while serving as 1) a physical therapist managing a simulated patient, 2) a physical therapy aide assisting a physical therapist and, 3) a peer evaluator assessing a physical therapist's performance. When students were not assigned to one of the active roles, they participated as engaged audience members by responding at critical points to a "type your thoughts" prompt. The

unfolding nature of the patient cases, the active role of the physical therapist, and the "type your thoughts" prompts were designed to help students think quickly and facilitate real-time clinical reasoning.

On collaborating with the CTL . . .

Fu: Working with the CTL was one of the best experiences I've had as an educator here at Columbia. I was able to work with a dedicated learning designer every week and was given access and aid to many technology resources from the CTL, as well as support on assessment tools and strategies. The CTL's support was very valuable and I recommend everyone to utilize their resources.



Wing Fu, Assistant Professor of Rehabilitation and Regenerative Medicine, facilitates a live simulation in her Complex Medical Conditions course.

Vicky Evangelidis-Sakellson, *Professor of Dental Medicine*
PROJECT: "Moving Beyond Lectures: Active Strategies for Transforming an Interdisciplinary Case-Based Review Course"

Ana Maria Kelly, *Assistant Professor of Nursing*
PROJECT: "Implementing Case-Based Learning Through Technology into Medical-Surgical Nursing Education"

Caroline Marvin, *Lecturer in the Discipline of Psychology*
PROJECT: "Learning Skills and Content through a Case Studies Approach to Team-Based Learning"

SPRING 2018 AWARDEES

Below is the list of faculty who released projects in the 2018-2019 academic year with support or advice from the CTL.

Fall 2018 Courses

Dan Esposito, *Assistant Professor, Chemical Engineering*
PROJECT: "Evaluation and Assessment Tools for a Course-based Crowdsourcing Activity"

Alice Heicklen, *Senior Lecturer, Biological Sciences*
PROJECT: "Developing Probing Questions for Original Research Article Class Discussion"

Samantha Garbers & Bill Bower, *Assistant Professor, Population & Family Health*
PROJECT: "Game-based Program Planning & Logic Model learning experience"

Denise Milstein, *Lecturer in the Discipline of Sociology*
PROJECT: "Dispatches from the Field: Social Observation in Print"

Spring 2019 Courses

Maria Abascal, *Assistant Professor, Sociology*
PROJECT: "Learning Experimental Methods Through Hands-On Data Collection"

Logan Brenner, *Lecturer in Discipline, Core Curriculum, Columbia College*
PROJECT: "Development and Implementation of Brain and Behavior Case-Based Learning Experience to Enhance Scientific Habits of Mind in the Columbia College Core Curriculum"

Amy Starecheski, *Lecturer in Discipline, Oral History Master of Arts, INCITE*
PROJECT: "Curating Oral Histories: Audience Engagement, Evaluation, and Student Learning"

Elsa Stéphan, *Lecturer in French and Romance Philology*
PROJECT: "Creative Use of Digital Tools in the Language Classroom"

Massive Open Online Courses

The Office of the Provost's Massive Open Online Courses (MOOCs) grant program provided faculty with funds of up to \$25,000 and support from the CTL to develop innovative online courses. MOOC instructors partnered with the CTL to develop a learning design for media production and course delivery.

SPRING 2019 AWARDEES

Below is the list of MOOCs that will be developed in the 2019-2020 academic year with support or advice from the CTL.

Stephanie Grepo, *Director of Capacity Building at the Institute for the Study of Human Rights*

Andrew Nathan, *Professor of Political Science*

Elsa Stamatopoulou, *Director, Indigenous Peoples' Rights Program at the Institute for the Study of Human Rights*

PROJECT: "Indigenous Peoples' Rights"

R.J. Jenkins, *Curriculum Design Specialist in the Center for Veteran Transition and Integration*

PROJECT: "VET 101: Supporting Student Veterans in Higher Education"

Sameer Maskey, *Adjunct Associate Professor of International and Public Affairs*

PROJECT: "Artificial Intelligence for Business"

MOOCS RELEASED IN 2018-2019

Below is the list of MOOCs completed and released in the 2018-2019 academic year with support from the CTL.

Making the Case: Audiovisual Case Study Method and Creation

William Eimicke, *Director of the Picker Center for Executive Education and Professor of Professional Practice in the Faculty of International and Public Affairs*

Innovating Instruction with STEM:

Designing Authentic Projects for Engaged Learning

Ellen B. Meier, *Director of the Center for Technology and School Change*

Causal Inference I

Michael Sobel, *Professor, Department of Statistics*

Causal Inference II

Michael Sobel, *Professor, Department of Statistics*

Corporate Finance, third edition

Daniel Wolfenzon, *Stefan H. Robock Professor of Finance and Economics, Columbia Business School*

Women Have Always Worked

Alice Kessler-Harris, *R. Gordon Hoxie Professor Emerita of American History*

Soins infirmiers en VIH pédiatrique

Susan Michaels-Strasser, *Assistant Professor, Epidemiology (in ICAP), CUIMC*

Traitement antirétroviral pour lutter contre le VIH

Susan Michaels-Strasser, *Assistant Professor, Epidemiology (in ICAP), CUIMC*

Attaining Higher Education

Beth Morgan, *Director of Higher Education Transition and Partnerships, Center for Veteran Transition and Integration*

Indian & Tibetan River of Buddhism

Robert A.F. Thurman, *Jey Tsong Khapa Professor of Indo-Tibetan Studies*

Inclusive Teaching: Supporting All Students in the College Classroom

Amanda Irvin, *Director of Faculty Programs & Services, Columbia CTL*

Large-Scale Teaching and Learning Grants

The Large-Scale Teaching and Learning Grants supported efforts around teaching initiatives and exploration at the school, department, or program level. Awards provided up to \$20,000 per academic year plus in-kind CTL support.

SPRING 2019 AWARDEES

Below is the list of projects that will be developed and released in the 2019-2020 academic year with support or advice from the CTL.

Carlos Alonso, *Dean of the Graduate School of Arts and Sciences*

PROJECT: "Extending Professional Development for Columbia Graduate Students: Teaching-Conference Support"

Jonathan Amiel, *Associate Professor of Psychiatry*

PROJECT: "Redesigning the Pre-Clerkship Curriculum with Deep Integration, Active Learning, and Competency-Based Assessment with Coaching"

Jeremy Dodd, *Senior Lecturer in the Discipline of Physics*

PROJECT: "Transforming Introductory Physics Education at Columbia: Towards an Active Learning Paradigm"

Peter Susser, *Director of Undergraduate Musicianship*

PROJECT: "Digital Ear Training Improvisation Initiative"

Laureen A. Zubiaurre, *Senior Associate Dean, Admissions and Career Planning, College of Dental Medicine*

James Fine, *Senior Associate Dean for Academic Affairs, College of Dental Medicine*

Aubrie Swan Sein, *Director, Center for Education Research and Evaluation*

Shubha Dathatri, *College of Dental Medicine*

PROJECT: "Developing Dental Students as Primary Care Resources: Enhancing Clinical Education through an Innovative, Active-Learning-Oriented Educator Development Program"

SPRING 2018 AWARDEES

Below is the list of grants completed and released in the 2018-2019 academic year with support from the CTL.

Pam Cobrin, Cecelia Lie-Spahn, Laurie Postlewait,

Wendy Schor-Haim, *First-Year Writing Program, Barnard College*

PROJECT: "Building and Sustaining Inclusive Pedagogies in First-Year Writing and First-Year Seminar at Barnard College"

Michelle Hall, *Director, CUIMC Programs and Services, Center for Teaching and Learning*

PROJECT: "Providing State of the Art Services and Facilities to Support Media Development for Blended and Online Teaching"

Ivana Nikolic Hughes, *Senior Lecturer in the Discipline of Chemistry*

PROJECT: "Assessment to Document Student Learning in Frontiers of Science"

Julie Kornfeld, *Vice Dean for Education*

PROJECT: "Transforming Public Health Education at Mailman through Digital Learning"

Dustin Rubenstein, *Associate Professor of Ecology, Evolution and Environmental Biology*

PROJECT: "sTEAM Fellowship Program: A Teambased, Experiential Learning Research Program for Underrepresented Students"

Dana Wolf, *Associate Professor of Dental Medicine*

PROJECT: "Division of Periodontics: Online Faculty Calibration Tool"

Faculty Spotlight:

Ivana Hughes, 2018 Large Scale Teaching and Learning Grant Award Recipient, *Director, Frontiers of Science, Senior Lecturer in the Discipline of Chemistry*

As recipients of the Provost's Large Scale Teaching and Learning grant, Ivana Hughes and her colleagues received support from the CTL to develop an assessment instrument to evaluate student learning in the Columbia College Core course Frontiers of Science. They applied the insights gained from attending the American Association of Colleges and Universities (AAC&U) Institute on General Education and Assessment to develop and implement a comprehensive series of assessments to track Frontiers of Science students' development in the course.

On developing the assessment plans . . .

Hughes: Frontiers of Science has two inter-related goals: teach students how to think scientifically and expose them to the frontiers of four scientific disciplines. Because this is a Core course, students enroll with vastly differing experiences and preparations in the sciences. Our goal here is to ascertain the science attitudes, conceptual understanding, and quantitative reasoning skills of students at the beginning of the course and track how they change by the end of the course. The results allow us to determine how we can best support our students regardless of their previous science experience. Thus far, we have obtained a semester's worth of data and are continuing the assessment this semester, while making plans for next academic year and beyond.

On collaborating with the CTL . . .

Hughes: We worked closely with the CTL Associate Director of Assessment, Melissa Wright, and other CTL staff to develop the assessment instrument and plans for implementation. This collaboration was immensely helpful and enabled us to launch the assessment smoothly in Fall 2018. We are currently sharing preliminary analysis that Frontiers of Science Fellow Adam Brown has conducted with our broader faculty and with the CTL to identify and streamline next steps.



Ivana Hughes, Director, Frontiers of Science, and Senior Lecturer in Discipline in the Department of Chemistry, facilitates a lecture for her course.

Support for Faculty

4,237 interactions with Columbia faculty

1,986 services provided to Columbia faculty

904 faculty participants at CTL programs and events



CTL Director **Amanda Irvin** leads a session on learner-centered teaching at the New Faculty Orientation in Fall 2018.

The CTL supports the professional development of Columbia faculty. CTL programs and services are grounded in teaching and learning scholarship, allowing faculty to explore, experiment, and reflect on their teaching practice. Faculty are introduced to innovative pedagogies and instructional technologies for integration into their classroom. The CTL encourages a learner-centered approach to teaching Columbia students and models and promotes teaching practices that cultivate inclusive and equitable learning environments. This section highlights the range of programs and services offered to Columbia faculty.

What's New for Faculty

Inclusive Teaching MOOC

In June 2019, the CTL launched its first MOOC (massive open online course), *Inclusive Teaching: Supporting All Students in the College Classroom*, to explore five principles of inclusive teaching. The course provides practical, accessible, and usable strategies that instructors can

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implement in their classrooms to create and maintain a supportive learning environment for all students. The self-paced course is open to all.

Inclusive teaching is a topic that has received increased attention on college campuses around the country and world. Despite the fact that research has shown that creating an inclusive teaching environment is beneficial for all students' learning, issues around inclusion and disinclusion are rarely discussed in practical terms. This course aims to provide instructors with tools that are immediately applicable to their teaching contexts.

The course, led by Amanda M. Jungels and Chandani Patel of the Columbia CTL, was created following the success of the *Guide for Inclusive Teaching at Columbia*, written and released by the CTL in 2017. In addition to content discussions by Amanda M. Jungels and Chandani Patel, the MOOC features experts who offer strategies and insights from their own research and teaching contexts, illustrations of concepts, a glossary of terms, activities for exploration and application, reflective prompts, and interactive assessments.

New Online Courses

This year, the CTL debuted two new online courses: *New Faculty Orientation to Teaching* and *Blended Learning Essentials*. The courses were developed to meet Columbia faculty where they are in terms of geography, accessibility, and scheduling. The CTL strives to be responsive to the needs of the Columbia teaching community and to make its programs, courses, and services accessible to all.

New Faculty Orientation to Teaching

A self-paced course for new Columbia faculty, this offering provides instructors with an overview of the teaching and learning context at Columbia, learner-centered and inclusive teaching practices, strategies for engaging all students, resources available to instructors and academic support resources for learners. This course is a flexible alternative to the CTL's in-person New Faculty Orientation to Teaching.

URL: ctl.columbia.edu/faculty/orientation-for-faculty/

Blended Learning Essentials

This self-paced course provides an overview of blended learning and guides instructors through the design process for a lesson or unit of study. The course features videos of Columbia faculty and former recipients of the Provost's Hybrid Learning Course Redesign and Delivery grants, who share their blended teaching and learning experiences.

URL: ctl.columbia.edu/resources-and-technology/resources/

Programs

The CTL offers professional development programs and events to connect Columbia faculty and instructors to effective teaching approaches, resources, and instructional technologies.

INSTITUTES AND INTENSIVES

The CTL offered the following institutes and intensives for faculty this year.

Institutes

Institutes provide an immersive setting for faculty to develop new teaching approaches and skills with hands-on guidance from the CTL staff over a period of several days.

Active Learning Institute

In this three-day institute, faculty explored the benefits of active learning and applied research-based practices by developing their own active and student-centered course units. This year's institute featured a combination of hands-on activities, an instructional technologies lab, discussions, and online exercises to work through the essential components of designing engaging student learning experiences. Faculty designed individual and collaborative learning activities, aligned activities and assessments with learning goals, experimented with a variety of educational tools and software, and developed plans to foster and maintain an inclusive course climate.



The team of CTL staff who worked on the MOOC *Inclusive Teaching: Supporting All Students in the College Classroom*.

36 faculty participants in CTL institutes and intensives

"The Active Learning Institute (ALI) helped me clarify and articulate my objectives in moving some of the course content online, but it also pushed me to revisit and refine my learning objectives for my students in general. I left the 3-day institute with a better understanding of my own habits in lesson planning, as well as a host of concrete, practical activities to implement in the classroom. Many of the ideas and activities I took away from my time in ALI have become central to my teaching, and have been cited by my students as some of their most memorable and/or valuable experiences in the class."

— **Vanessa Guida**, *Lecturer and Course Co-Director: UW for International Students, Undergraduate Writing Program*

"ALI is such a gem, and instructors should be knocking down the doors to attend. It was the most critical three days of my year last year. I'd do it all over again, too, and may just do that because it's the kind of experience that you can continue to take from over and over again, particularly as your teaching evolves. I'm truly grateful for the experience."

— **Dana March**, *Assistant Professor, Department of Epidemiology + Center for Infection and Immunity; Associate Dean for Educational Initiatives, Mailman School of Public Health*

CUIMC Summer Institute for Teaching and Learning for CUIMC Faculty

This two-day institute was devoted to exploring effective teaching and learning strategies in health sciences education. The CUIMC Summer Institute was designed for junior faculty and senior faculty taking on a new teaching role to develop their skills as educators, learn about interactive teaching techniques, and collaborate with other faculty across the campus. Topics covered during the Institute included teaching and learning in the health sciences, effective course design, designing student-centered activities, and creating inclusive classrooms.

Intensives

Intensives are an option for faculty who wish to take a deeper dive into topics but may not be able to commit to a multi-day institute.

Course Design Essentials

CTL staff guided participants through a day of interactive activities to design and plan new courses, or change the design of existing courses. Faculty walked away with the materials needed to create learner-centered course materials.

Course Design Refresh

Faculty revitalized their courses by reflecting on effective ways to engage learners throughout and make their course more enjoyable to teach. Faculty left with implementation plans to create a more engaging, learner-centered course.



Michelle Hall, CTL Director, leads faculty in a workshop at the CUIMC Summer Institute.



Faculty participate in a workshop at the Course Design Essentials Intensive.

Hybrid Course Design Essentials for RFP Applicants

Faculty from all disciplines planning to apply for the Hybrid Learning Course Redesign and Delivery Grant were invited to attend this three-hour hybrid course design workshop. This session offered faculty hands-on instruction and activities designed to help them prepare their course for a Hybrid Learning Grant proposal.

Inclusive Teaching Intensive: Course Design to Include All Students

Faculty meaningfully applied principles of inclusive teaching to their syllabi, assessment strategies, and classroom activities to create a course climate that maximizes learning for all students. In a cohort of peers, participants workshoped syllabi (including course content, policies, and accessibility standards) and committed to making changes to future practice.

TEACHING ORIENTATION

Teaching Orientations introduce faculty to teaching at Columbia and offer practical, evidence-based strategies they can implement on the first day of class.

The CTL held an orientation session for faculty from all campuses in late August 2018. There were 69 faculty in attendance. CTL facilitators led sessions introducing participants to research-based and high-impact strategies to cultivate a learner-centered teaching culture and inclusive learning environment. Participants interacted with a panel of Columbia students who shared their most memorable classroom experiences, and a panel of Columbia faculty who shared insights and advice for those new to teaching at Columbia. At the end of the day, participants gathered with their colleagues for wine, cheese, and peer mentoring.

WORKSHOPS AND EVENTS

Workshops and Events allow faculty to drop in to the CTL for 1-2 hours to explore timely topics related to teaching, learning, and instructional technologies. The CTL offered the following workshops and events for faculty this year.

Fall 2018 and Spring 2019

Discussion-into-Practice: Student Learning and Metacognition Faculty Reading Group

Faculty met for three sessions to dive into the literature and explore metacognition by discussing an article or book chapter. Together participants considered how the research could inform their practices, reflected on

549 faculty participants in CTL workshops and events

"As a teacher for thirty years, I have been deeply impressed with the eloquence of the CTL workshop presenters, the direct applicability of each workshop's content that has already improved the quality of my teaching, and the relevance of the highly varied CTL offerings. I have participated in Teaching Students How to Teach Themselves, Promoting Deep Learning through Metacognitive Activities, Course Design Refresh, Syllabus From Scratch, and the Science of Learning Symposium. I am looking forward to continuing to refine my teaching through continuing to participate in CTL's exciting offerings."

— **Elaine Perlman**, *Director of the Peace Corps Fellows Program, Teachers College, Columbia University*

"I particularly liked the dialogue with small groups of faculty about how to respond to challenging situations and thought the workshop stimulated reflection among faculty who teach a wide range of courses, from large lecture classes to capstone workshops. I was impressed by the seriousness of SIPA faculty about making their classes as inclusive as possible."

— **Dan McIntyre**, *Associate Dean for Academic Affairs, School of International and Public Affairs*, regarding the Inclusive Teaching: Small Changes to Maximize Equity in the Classroom workshop



Helen de Pinho, Assistant Professor, Population and Family Health, **Dan Esposito**, Assistant Professor, Chemical Engineering, and **Kim Hekimian**, Assistant Professor, Nutrition, speak at a panel during the New Faculty Orientation in Fall 2018.

their teaching, and shared strategies. Reading included the chapter 'How Do Students Become Self-Directed Learners?' in *How Learning Works: Seven Research-Based Principles for Smart Teaching* by Susan A. Ambrose et al., 'Learning from Errors' in the *Annual Review of Psychology* by Janet Metcalf, and 'Improving Students' Learning with Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology' from *Psychological Science in the Public Interest* by J Dunlosky, K.A Rawson, and E.J. Marsh.

Inclusive Teaching: Small Changes to Maximize Equity in the Classroom

Faculty learned inclusive teaching strategies they can implement immediately to create a more equitable classroom space and empower student learning, including establishing a supportive course climate, setting explicit expectations, constructing inclusive course content, and designing all aspects of class for accessibility.

Introduction to CourseWorks (Canvas)

Faculty learned the basic features and functionality of the CourseWorks course management system, including how to migrate their content, navigate CourseWorks, manage syllabus and course materials, use quizzing tools, and utilize communication features in the system. The CTL also offers a self-paced, online course on how to use CourseWorks for teaching and learning, as a flexible alternative to the face-to-face workshops.

"The workshop allowed me to distance myself from my process and reflect on the steps and components accruing to a class lecture. I am very grateful for the high quality workshops that CTL consistently offers. CTL associates are knowledgeable and obviously reflect extensively on how to deliver information and stimulate engagement and active learning on the part of workshop participants. The CTL is an extremely valuable and greatly appreciated resource both for the quality and diversity of the programming and for the caliber of its highly invested and personable team."

— **Heidi Holst-Knudsen**, Senior Lecturer,
Department of French and Romance Philology,
Columbia University, regarding the Engaged Lecturing:
From Design to Delivery workshop

Teachers' Lounges

CTL staff hosted four sessions for faculty and graduate students in a yearlong conversation on Metacognition: Cultivating Expert Learners to Maximize Equity in the Classroom.

Bridging the Expert/Novice Divide

Participants discussed the divide between instructors as expert learners and students as novice learners to tackle the assumptions that instructors often make about students' learning processes. Instructors learned how to help students recognize cognitive blind spots as well as how to support students as they overcome barriers to new knowledge acquisition.

Identity, Inclusion, and How We Know What We Know

Instructors examined the ways in which the multiple identities students bring to the classroom impact their ability to assess and monitor their own learning processes.

Motivation and Agency in the Learning Process

Participants focused on methods for students to take ownership of their learning processes. Frequent collaboration and reflection were identified as ways to motivate and help students cultivate a growth mindset.

Teaching Students How to Teach Themselves

Instructors explored ways to make habits of thinking in their disciplines transparent to students, enabling them to take firmer control of their learning. Participants discussed how they can translate their own expert learner models for students new to a discipline. Broader conversations looked at what tools, attitudes, and resources students need to drive their own learning processes.

The Teaching Hour Series

The Teaching Hour series, co-sponsored by the Office of the Vice-Provost for Diversity and Inclusion, aimed to foster a teaching community among Columbia's underrepresented and diverse faculty populations. CTL staff hosted three sessions for faculty instructors to share their successes and concerns related to teaching at Columbia and to cultivate a community of peer mentorship. Participants explored issues of diversity from the perspective of instructors' positionalities, Columbia's student populations, as well as course content to collectively generate strategies to improve teaching practices and meet students' needs. Participants read short articles before each session to anchor discussions.

The Teaching Hour: For Faculty of Color

In this session for faculty of color, participants read and discussed “Teaching in the Line of Fire: Faculty of Color in the Academy” by Tuitt et al.

The Teaching Hour: For LGBTQ+ Faculty

In this session for LGBTQ+ faculty, participants read and discussed an article published in *The Atlantic* titled “The Plight of Being a Gay Teacher” by Amanda Machado.

The Teaching Hour: For Women Faculty

In this session for women faculty, participants read and discussed “Dancing Backwards in High Heels” by Colleen Flaherty.

Fall 2018

Book Discussion Group for Faculty: “Teach Students How To Learn: Strategies You Can Incorporate Into Any Course to Improve Student Metacognition, Study Skills, and Motivation”

Faculty gathered for three sessions to discuss Sandra McGuire’s book *Teach Students How to Learn: Strategies You Can Incorporate Into Any Course to Improve Student Metacognition, Study Skills, and Motivation*. McGuire, an award-winning Emerita Professor of Chemistry and expert in learning strategies, provides insights into motivating students and empowering them in their own learning. During the conversations, faculty reflected on current practices to support learning, and how to integrate practical strategies from the book to boost motivation and learning in their courses.

Engaged Lecturing: From Design to Delivery

Faculty explored the elements of an effectively designed and delivered lecture and left with strategies to maximize their students’ learning. Faculty reflected on their own lecturing practices and developed a plan for increasing student engagement.

Facilitating Discussions in CourseWorks (Canvas): Effective Strategies for Engaging Classroom Conversations

During this workshop, faculty explored uses for discussion in the classroom with a focus on using the CourseWorks (Canvas) discussion tool to enrich face-to-face and online discussion. All participants reflected on their use of online discussion and the potential applications for their teaching context.



Frank Tuitt, Provost of Diversity and Inclusion at the University of Denver, leads a workshop with Columbia faculty on centering race in the classroom.

“The workshop helped me reflect on all aspects of my teaching, even beyond grading. It led me to think systematically about how each of my pedagogical methods serve to encourage full participation and success in the classroom and in law school more generally. I learned very specific techniques to use in grading to ensure consistency across students and to diminish bias. In addition, I learned the best language to use in providing feedback that facilitates learning and growth for all students. I immediately implemented some of the strategies in the feedback that I provided to students when they come to office hours to better understand their exam performance. I also plan to use the rubrics in assessing student writing and exams in the future.”

— **Olatunde Johnson**, *Jerome B. Sherman Professor of Law, Columbia Law School*, regarding the Grading, Rubrics and Feedback to Equity and Inclusion workshop



CTL Senior Assistant Director **Amanda Jungels** leads the Grading, Rubrics, and Feedback for Equity and Inclusion workshop.

Managing Classroom Climate: Responding to Microaggressions

This workshop covered practical ways to address microaggressions and bias in the classroom, whether committed by or against a student or instructor. Participants practiced responding to microaggressions in a classroom setting and discussed ways to foster an inclusive environment.

Metacognition as a Tool for Equity in the Classroom

By examining key research in cognitive development theory, participants learned how to intentionally use metacognitive strategies that help build students' awareness of themselves as learners. Session facilitators highlighted strategies that include developing students' abilities to assess their own work and clarify instructor expectations.

Spring 2019

Assessment Tune-Up for RFP Applicants

Faculty from all disciplines who were interested in applying for the Provost Office Hybrid Learning Course Redesign and Delivery Grant or Start Small! Mini Grant were invited to attend this hands-on session to build or refine the evaluation and assessment portion of their proposals.

Centering Race in the Classroom: Engaging Faculty in Inclusive Excellence

Dr. Frank Tuitt, Provost of Diversity and Inclusion at the University of Denver led a session focused on centering race in the classroom. Dr. Tuitt explored the influence of classroom teaching on the educational outcomes of racially minoritized students, presented research findings on faculty experiences with centering race, and engaged participants in teaching strategies that promote racially inclusive learning environments. This session was co-sponsored by the Office of the Vice-Provost for Diversity and Inclusion.

Grading, Rubrics, and Feedback for Equity and Inclusion

In this workshop, participants explored the connection between inclusive grading and student learning, discussed challenges related to inclusive grading practices, and learned practical strategies to help assess students and give feedback in equitable, transparent, and efficient ways.

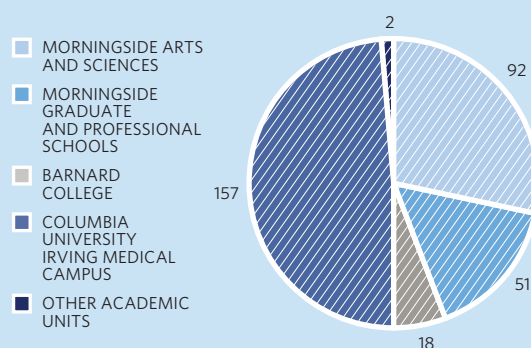
Promoting Deep Learning through Metacognitive Activities

In this workshop, participants learned about activities that promote the development of their students' metacognitive skills and considered how the learning activities and experiences in their courses can be enhanced with simple reflective strategies.

32 completed Workshops To Go

338 faculty participants in Workshops To Go

Participants per School:



WORKSHOPS TO GO

The Workshops To Go program is an on-demand offering for departments or programs interested in hosting a short workshop for their faculty. All workshops present evidence-based practices and are grounded in the science of teaching and learning.

With each Workshop To Go offering, faculty receive resources, strategies, and practices that can help them address common challenges in their classrooms. Department chairs and program directors select from a list of session topics offered in 30-, 60-, or 90-minute formats, and then work with CTL staff to customize the workshop to meet the needs of their faculty.

Below are listed the Workshop To Go sessions and the departments, schools, and/or offices that requested them:

- **Engaged Lecturing: From Design to Delivery:** CTL staff led this workshop for faculty in the Mailman School of Public Health and Vagelos College of Physicians and Surgeons.
- **Inclusive Teaching: Small Changes to Maximize Equity in the Classroom:** CTL staff led this workshop for faculty in the College of Dental Medicine, Barnard College, School of International and Public Affairs, Teacher's College, Office of the Vice Provost for Faculty Diversity and Inclusion, and Columbia College.
- **Learning Through Discussion: Three Steps to Effective Facilitation:** CTL staff led this workshop for faculty at the Mailman School of Public Health, Vagelos College of Physicians and Surgeons, and Columbia College.

- **Teaching Large Classes: Engagement, Management, and Integrity:** CTL staff led this workshop for faculty at the Fu Foundation School of Engineering and Applied Science and Columbia College.

Customized Workshops

In addition to Workshops To Go, department chairs and administrators requested customized workshops and information sessions to address the specific teaching needs of instructors in their schools, departments, and other academic units. During these workshops, participants worked through discipline-specific case studies and brainstormed strategies to implement in their own classrooms.

Schools

Arts & Sciences

- Music Humanities Core Orientation (August, 30, 2018): CTL staff joined the Music Humanities Core orientation to share CTL faculty offerings and fall 2018 programs.
- New Faculty Orientation (September 21, 2018): CTL staff facilitated short workshops on teaching strategies and held information sessions about the CTL's offerings as part of an orientation for new Arts & Sciences faculty.
- ePortfolio Overview and Digication Demo (January 16, 2019): CTL staff facilitated a short workshop on ePortfolios for Frontiers of Science faculty.

Barnard College

- "Developing Intercultural Competence: Student-to-Student Interactions" (February 8, 2019): CTL staff facilitated a session for Barnard First Year Writing and First Year Seminar faculty on the framework of intercultural competence. Participants generated strategies to develop their own and students' intercultural competence. This workshop was offered as part of the Barnard First Year Experience RFP.
- "Teaching a Diverse Syllabus: Strategies for the Classroom" (April 5, 2019): CTL staff facilitated a session for Barnard First Year Writing and First Year Seminar faculty on intentionally and productively facilitating classroom conversations about diverse content and identities. Participants constructed responses to challenging classroom conversations about diversity and identity. This workshop was offered as part of the Barnard First Year Experience RFP.

Jewish Theological Seminary

- "Learner-Centered Teaching: Role of the Instructor" (October 22, 2018): Professor Shira Epstein (Jewish Theological Seminary) and CTL staff facilitated a discussion on the ways in which instructors cultivate learning as part of the JTS Circle of Learning faculty discussion group.
- "Learner-Centered Teaching: Balance of Power and Student Responsibility" (November 29, 2018): Professor Shira Epstein (Jewish Theological Seminary) and CTL staff facilitated a discussion on how power dynamics can affect student learning as part of the JTS Circle of Learning faculty discussion group.
- "Learner-Centered Teaching: Function of Content" (March 6, 2019): Professor Barry Holtz (Jewish Theological Seminary) and CTL staff facilitated a discussion on assumptions related to content and what we value in the classroom as part of the JTS Circle of Learning faculty discussion group.
- "Institutional Alignment: Signaling Learning for Students" (February 27, 2019): Sarah Diamant (Jewish Theological Seminary) and CTL staff facilitated a conversation about the use of learning outcome frameworks and curriculum maps to signal learning to students.

School of Engineering and Applied Sciences

- New Faculty Orientation (August 22, 2018): CTL staff shared *The Guide to Inclusive Teaching* and CTL's fall 2018 programming with new School of Engineering and Applied Science faculty.

School of Social Work

- New Faculty Orientation (August 13, 2018): CTL staff shared information on the CTL's offerings and Fall 2018 programs as part of an orientation for new School of Social Work faculty.
- "Grading, Rubrics, and Feedback for Equity and Inclusion" (November 28, 2018): CTL staff facilitated a workshop for faculty on the connection between inclusive grading and student learning.

"I appreciated the opportunity to talk about my teaching goals, strategies, and design. Just having a couple of hours to think out loud, with an expert, on my teaching was useful. I benefited a lot from a class observation. I was observed many times before, but the experience with the CTL team was different. The whole process was wonderful and I'm planning to use it when I'm observing colleagues and students in the future."

— **Oren Pizmony-Levy**, *Assistant Professor of International and Comparative Education, Department of International and Transcultural Studies, Teachers College*, regarding his Teaching Consultation

"The Observation helped me to be more thoughtful about the learning outcomes I wanted to achieve during the design process and ways I could overcome the challenging context of an end-of-the-workday lecture. It was reassuring to hear that the trainees did seem engaged, as it is so difficult to be objective about your own session. This encourages me to continue to be creative with my teaching approach."

— **Allison Lee**, *Assistant Professor of Anesthesiology, CUIMC*

"I found [CTL consultant's] feedback very useful--especially with regard to time management and class objectives. [The CTL consultant] also helped me learn a bit about classroom activities that I was not sufficiently aware of—e.g. messaging. I am now also thinking more consciously about my class objectives."

— **Richard John**, *Professor of History and Communications, Columbia University*, regarding the Teaching Observation

Services

The CTL offers a range of services that guide Columbia faculty as they reflect on their teaching and implement effective practices.

CONSULTATIONS

Faculty requested 1,243 one-on-one consultations with CTL staff to receive support for their teaching and learning needs throughout the year. Common consultation topics included course and curriculum design, inclusive teaching strategies, teaching and diversity statements, educational grants, assessment and evaluation, as well as instructional technologies and digital pedagogies.

TEACHING OBSERVATIONS

Through a structured process, CTL consultants observed instructors in the classroom and provided individualized feedback to improve their teaching. In academic year 2018-2019, teaching observations were conducted for more than 20 faculty across 10 different schools within Columbia University. CTL staff also worked with schools, programs, and departments seeking to refine their peer teaching observation practice.

ASSESSMENT AND EVALUATION CONSULTATIONS

Faculty requested 87 consultations focused on assessment and evaluation. CTL staff worked with faculty to identify and develop assessment methods, consult on assessment and evaluation strategies for grants that support teaching and learning, and provide professional development on a variety of assessment best practices.

LEARNING DESIGNER TECHNOLOGY SUPPORT

CTL Learning Designers help members of the Columbia teaching community effectively integrate instructional technologies into their teaching practice. Faculty and instructors can seek advice and support to experiment with a rich portfolio of online platforms and digital and media tools to turn classrooms and online environments into active spaces for learning. The CTL also supports custom software development and media production driven by the faculty's teaching and assessment goals. These efforts allow faculty to stay on the cutting edge of instructional technologies.

This year the CTL supported a range of platforms and provided space, equipment, and education for the production of media and learning objects.

Audience Response Systems

Learning Designers aided faculty with the use of Audience Response Systems (ARS), which are used in classrooms of all sizes to engage participants. Instructors used ARS to communicate with learners, collect answers to questions, and provide real-time feedback. In Poll Everywhere, the ARS system used at Columbia, learners respond to questions using their own web-enabled devices, such as a phone, tablet, or laptop.

URL: ctl.columbia.edu/resources-and-technology/teaching-with-technology/tech-resources/ars/

CourseWorks Support

Columbia's learning management system, CourseWorks, is at the center of many instructional technology activities. CourseWorks is supplemented and enhanced by other tools that support a range of instructional objectives, such as tools for online collaboration, presentations, lecture capture, audience response, media annotation, and electronic portfolios.

URL: ctl.columbia.edu/resources-and-technology/courseworks/



CTL Senior Learning Designer **Andrew Flatgard** aids faculty at the Active Learning Institute.

Mediathread

Mediathread, an innovative platform developed at the CTL, supports collaborative multimedia analysis. Mediathread allows users to lift video, audio, and image items from a range of digital collections and then work with them in a course-specific website.

URL: ctl.columbia.edu/resources-and-technology/teaching-with-technology/tech-resources/mediathread/

DIY Media Production Spaces

The CTL maintains two DIY Media Production Spaces with technology suited for producing instructional multimedia content including interactive videos, screencasts, and annotated media. Instructors who request to use the facilities receive a consultation with a CTL Learning Designer, learn how to use the equipment and software, and discuss their learning goals for the course and how student learning can be enhanced using instructional media. As a support to faculty creating their own media, CTL Learning Designers and the media production team have produced the "Teaching with Do-It-Yourself 'DIY' Video" guide. This guide offers examples, principles, and best practices to help instructors create engaging classroom experiences using video, and provides information about the CTL's DIY Media Production Spaces.

URL: ctl.columbia.edu/resources-and-technology/teaching-with-technology/diy-video/

Resources

The CTL develops online resources for instructors covering a range of teaching and learning topics. These resources provide a concise introduction to pedagogical approaches, the basics of effective implementation, tips for getting started at Columbia University, and practical strategies to help instructors address the teaching and learning issues that they face in their classroom.

URL: ctl.columbia.edu/resources to access all of the CTL's resources and online courses.

Teaching Guide

Guide for Inclusive Teaching at Columbia

Last year the CTL authored and released the *Guide for Inclusive Teaching at Columbia*, which has received widespread interest. The online version of the guide has been accessed over 6,078 times in 78 countries since its release. The guide offers five research-based inclusive

teaching principles, as well as practical, accessible, and usable evidence-based strategies that instructors can use immediately.

URL: ctl.columbia.edu/resources-and-technology/resources/inclusive-teaching-guide/

On-Demand Teaching Resources

Blended Learning

The CTL's on-demand resource on blended learning describes the elements of an effective, learner-centered "blended" learning approach that integrates complementary face-to-face and online learning experiences in service of learning objectives. The resource poses questions that instructors can reflect on before designing their course as well as additional references and tools.

URL: ctl.columbia.edu/resources/blended-learning/

Metacognition

This new resource provides instructors with an overview of the what and why of metacognition and general "getting started" strategies for teaching for and with metacognition.

URL: ctl.columbia.edu/resources-and-technology/resources/metacognition/

Online Courses

Assessment and Grading in CourseWorks (Canvas)

Assessment and Grading in CourseWorks provides instructors with an in-depth understanding of the assessment and grading features in CourseWorks. In this self-paced course, participants learn about setting up assignments within CourseWorks using various tools. The course also helps participants navigate Courseworks' grading features to assess assignments, quizzes, and discussions. Since its launch in late Spring 2018, the course has recorded 216 enrollments by faculty and instructors.

Introduction to CourseWorks Online

Introduction to CourseWorks Online provides instructors with an overview of the basic features and functionality of Columbia's learning management system, allowing them to build and support engaging courses. In this self-paced course, participants learn how to navigate CourseWorks, manage syllabi and course materials, use quiz tools, and utilize communication features. Since its launch in Fall 2017, the course has recorded 1,159 enrollments by faculty and instructors.



Rachel Shelton, Assistant Professor of Sociomedical Sciences, Mailman School of Public Health, utilizes the DIY recording booth.

Support for Columbia University Irving Medical Center

1,404 interactions with CUIMC faculty
662 services provided to CUIMC faculty
283 faculty participants at CTL programs and events

The CTL offered a range of faculty development programs and events on the Medical Center campus to provide CUIMC instructors with effective teaching approaches, resources, and instructional technologies. In addition to the CUIMC Summer Institute for Teaching and Learning, the CTL also facilitated several customized workshops and information sessions to address the specific teaching needs of schools, departments, and other academic units at CUIMC.

What's New for CUIMC Faculty

CUIMC DIY Recording Studio

In August 2018, with the support of a Provost Office Large Scale Teaching and Learning grant, the CTL announced the opening of a DIY Media Production Recording Studio at the CUIMC campus. This sound-isolating space is suitable for instructors wishing to create high-quality media recordings of lectures and presentations, interactive videos, screencasts, or annotated media. Instructors can make use of a touchscreen display, microphones, lighting, and backdrops, including a green screen. Media recording tools supported include Camtasia, iMovie, Audacity, and other production-grade software. The recording studio is wheelchair accessible and is equipped with an adjustable-height desk.

Malaria

Community extension workers pick up shipments containing bed nets

| | | | | |
|-------|----------|--------|--------|--------|
| INPUT | ACTIVITY | OUTPUT | EFFECT | IMPACT |
|-------|----------|--------|--------|--------|

Question: 5 of 10
Overall Score: 700

Attempt: 2
Possible points: 150

Click to replay video

HINT
Costs 50 points

An interactive online game developed by the CTL to support learning in the 'Program, Planning, and Evaluation' unit of the Mailman School of Public Health Core Curriculum.

The CTL offers support to instructors who are interested in producing multimedia to use in their blended and online courses. The CTL aims for a significant simplification of the video production workflow for faculty by eliminating several time-consuming steps to facilitate the creation of high-quality, engaging instructional videos. Since opening, the recording studio has served over 20 faculty, administrators, and graduate students through over 90 recording sessions.

CTL Staff Design Interactive Online Game

This year, CTL staff at CUIMC, along with Mailman School of Public Health faculty Samantha Garbers and Bill Bower, developed an interactive online game to support learning in the 'Program, Planning, and Evaluation' unit of the Mailman Core Curriculum. The creation of this game was representative of a larger trend among several CUIMC faculty of utilizing interactive online resources to engage learners. In the game, key concepts are practiced and assessed through videos and interactive quizzing. Students played the game multiple times until mastery was achieved and the highest scores were automatically recorded in CourseWorks. Student and faculty feedback suggest the game is a more engaging learning experience than other strategies used to teach these concepts.

The CTL facilitated the following customized workshops for CUIMC faculty:

Customized Workshops

Mailman School of Public Health

- "Introduction to CourseWorks" (August 27, August 29, September 6, and January 23, 2019): CTL staff facilitated sessions for Mailman Core courses' teaching assistants on August 27 and 29 and Biostatistics teaching assistants on September 6 and January 23 on the basic features and functionality of the CourseWorks (Canvas) course management system, including how to migrate their content, navigate CourseWorks, manage syllabus and course materials, use quizzing tools, and utilize communication features in the system.

College of Dental Medicine

- "Inclusive Teaching: Strategies for the Classroom and Clinic" (June 5, 2019): CTL staff facilitated a session for faculty in the College of Dental Medicine on inclusive teaching strategies they can implement immediately to create a more equitable classroom space and empower student learning, including establishing a supportive course climate, setting explicit expectations, constructing inclusive course content, and designing all aspects of class for accessibility.

Support for Graduate Students

3,651 interactions with Columbia graduate students

753 services provided to Columbia graduate students

2,410 graduate student participants in CTL programs and events



CTL Director Mark Phillipson leads the graduate student Teaching Orientation in the Fall of 2018. Students in the Foundational Track of the Teaching Development Program attended Teaching Orientations.

The CTL supports the professional development of Columbia graduate students across the University with current or future teaching responsibilities. This support includes an array of offerings for graduate students to help them reflect on, improve, and measure their teaching at Columbia. Graduate students participating in the CTL’s programs and services develop a sense of pedagogical agency, interdisciplinary exchange, and peer-driven inquiry that helps prepare them for the future in a variety of academic and professional settings.

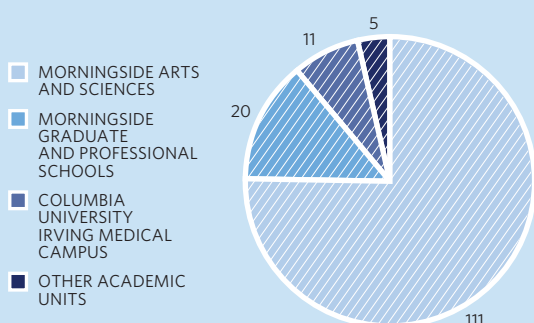
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What’s New for Graduate Students

Teaching Development Program

This year, the CTL launched the Teaching Development Program (TDP), which allows Columbia doctoral students to cultivate, document, and articulate their teaching development across the arc of their graduate school career. Graduate students can participate in the TDP program on either of two tracks: Foundational or Advanced.

Teaching Development Program Participants across Columbia



"The most valuable take-away for me was simply the opportunity to spend time thinking and reflecting on my teaching. Having a dedicated space to engage in these reflections helped to formalize the process just enough that I would commit to following through on this important work. It also helped that I was accountable to someone else, and that the CTL is a supportive environment that encourages experimentation and thinking broadly about teaching strategies."

— **Allison Elizabeth Bernard**, PhD student, *East Asian Languages and Cultures*, regarding the Teaching Development Program



CTL Senior Assistant Director **Chris Chen** leads a session in the Essentials of Teaching and Learning series.

"Based on being observed, I was able to identify and adjust a number of smaller teaching techniques that made a big difference in the overall functionality of the class. I came to realize just how important the seemingly small aspects of teaching are for keeping students engaged. After each session of feedback, I made immediate changes to my own instructional practices that paid dividends. I very much plan to use what I have learned moving forward and hope to have another opportunity for peer observation in the future."

— **Joseph Fisher**, PhD student, *Department of Religion*, regarding the Peer Observation Pilot in the Teaching Scholars program

Completion of a TDP track earns a letter outlining track competencies and certifying completion from the CTL. Completion is also noted on Columbia transcripts for doctoral students in Arts and Sciences and Fu Foundation School of Engineering and Applied Science departments.

Peer Observation Program

In 2018-2019 the CTL piloted new Peer Observation Programs for two cohorts of graduate students at Columbia: Preceptors in the Core Curriculum and instructors in the Graduate School of Arts and Sciences Teaching Scholars program. These pilots paired students with a partner in a different discipline to reciprocally observe classes and provide formative feedback on instructional practices.

Through these observations, instructors gained insight into their own pedagogical strengths and the different approaches across disciplines, advancing their instructional practices and developing an array of materials in order to represent their teaching on the academic job market. The pilots engaged 13 Core Preceptors and 8 Teaching Scholars.

Programs & Services

BEGINNING TO TEACH

The CTL offers programs and services throughout the year that introduce graduate students to fundamental concepts and practices in student-centered teaching. They help to deepen the experience of TAs, connecting early instructional experience to proven and sustainable pedagogical practices. Participation in these

offerings with subsequent reflection helps to satisfy the Foundational Track for graduate students enrolled in the Teaching Development Program.

Teaching Orientations

Teaching Orientations introduce graduate students to a range of teaching resources at Columbia, procedures and policies at the university, and practical, evidence-based strategies that they can implement on the first day of class.

This year, orientations featured sessions on topics such as establishing classroom policies, grading tactics, and inclusive teaching practices. A campus resources session featured representatives of campus services and support offices providing guidance on common challenges faced by new teaching assistants. This year the CTL hosted 135 graduate student participants at the Morningside Graduate Student Orientation sessions. The CTL also ran 10 sessions at other orientation sessions across the Columbia campuses, which were attended by 285 graduate students.

“The Essentials series strikes an excellent balance between presenting specific teaching frameworks and techniques while still leaving room for the instructor to adapt those skills to their own fields and teaching styles. Coming out of my work with the CTL thus far, I feel less anxious and more excited and confident about teaching. I see every syllabus, lesson plan, and class meeting as an opportunity to facilitate learning in a way that is both efficient and engaging, and I believe that my students will get more out of my teaching because of the practices I am developing here.”

— **Abby Schroering**, PhD student, *English and Comparative Literature and Theatre*



PhD students **Alan Burke**, Pharmacology & Molecular Signaling; **Brian Tackett**, Chemical Engineering; and **Jeff Sherman**, Electrical Engineering, participate in an activity in an Essentials of Teaching and Learning workshop.

Essentials of Teaching and Learning Workshops

The Essentials sequence of workshops familiarize graduate students with frameworks and tools they can use to facilitate student learning.

Fall 2018 and Spring 2019 sessions

Creating Inclusive Learning Environments: In this workshop, participants learned about the key terms, frameworks, and principles of inclusive teaching, focusing on strategies and tools for including all students in the learning process.

Learning Objectives and Backward Design: In this workshop, participants learned about backward design: an end-in-mind approach to instruction to facilitate students' learning.

Active Learning: In this workshop, participants practiced developing class activities aligned with learning objectives that incentivize all students to participate.

Grading & Feedback: In this workshop, participants learned how to engage students in their learning beyond the classroom by giving more effective feedback.

ADVANCING YOUR TEACHING

Graduate students wishing to develop advanced teaching practices and engage more deeply with a community of peers can participate in a range of advanced programs, seminars, and institutes at the CTL. These offerings help participants apply conceptual frameworks and emerging technologies to innovate their teaching, engage with the scholarship of teaching and learning within a community of peers invested in teaching, and cultivate transferable professional skills.

Institutes

Institutes provide an immersive setting for graduate students to develop new teaching approaches and skills with hands-on guidance from CTL staff over a period of several days.

Innovative Teaching Summer Institute

The CTL's Innovative Teaching Summer Institute (ITSI) is a four-day series of collaborative workshops, discussions, and shared reflections all centered on the use of emerging teaching practices and technologies to support effective teaching. 56 graduate students participated in the 2019 Innovative Teaching Summer Institute.



Participants in the 2019 Innovative Teaching Summer Institute.



Tiana Reid, PhD student, English and Comparative Literature, at the Teaching Transformations Ivy Plus Summit.



Participants in the Teaching Transformations Ivy Plus Summit from Columbia, Princeton, Yale, and Brown universities.



Graduate students participate in a workshop at the Innovative Teaching Summer Institute.

During the 2019 Institute, invited faculty and graduate student presenters shared their own innovative teaching projects including case studies, role playing games, projects cultivating digital literacies, multimedia creation and analysis, and other learner-centered student activities. Participants embarked on “field trips” to several locations on campus to try out a variety of instructional technologies and advanced pedagogies, and to learn about campus and online resources that could help them meet their goals. By the end of the Institute, all participants defined, revised, and presented an innovative assignment that exemplifies their instructional priorities.

Teaching Transformations Ivy Plus Summit

The Columbia CTL hosted the third annual Ivy Plus Summit for graduate students to discuss teaching development and practices. Participants shared artifacts representing unique aspects of their teaching, discussed pedagogical techniques of common interest,

and considered teaching development support beyond their home institutions. This year's Ivy Plus Summit was designed by the Columbia CTL in partnership with the McGraw Center for Teaching and Learning at Princeton University, the Poorvu Center for Teaching and Learning at Yale University, and the Harriet W. Sheridan Center for Teaching and Learning at Brown University.

SEMINARS

Seminars provide the opportunity for cohorts of graduate students to engage in a sustained series of conversations, modules, and workshops focused on selected topics in teaching and learning over the course of the semester.

150 graduate student participants in CTL seminar programs

This year the following seminar programs were offered to graduate students.

Evidence-Based Teaching Practices in Science and Engineering Seminar

The CTL offered the Evidence-Based Teaching Practices in Science and Engineering (ETSE) Seminar during the fall and spring semesters on the Morningside and CUIMC campuses, respectively.

The series was designed for postdocs and graduate students undertaking sciences and engineering teaching for the first time or looking to advance their teaching through engagement with the research on teaching and learning. Participants applied the principles of backward

design to develop student learning objectives, aligned assessments, and active learning activities in order to better facilitate student learning, culminating in a syllabus of their own design.

Inclusive Teaching Seminar

The CTL offered the Inclusive Teaching Seminar for graduate students during the spring semester, co-facilitated by Valerie Bondura, PhD student in Anthropology. The seminar was designed as a five-part workshop series for graduate student instructors to reflect on their teaching experiences. Participants engaged with scholarship on inclusive teaching, developed concrete strategies for promoting diversity in their classrooms, and created an action plan, culminating in a revised statement on inclusive teaching and a five-minute lightning talk that highlighted one salient and representative strategy for inclusion in their pedagogy.

LEARNING COMMUNITIES, JOURNAL CLUBS, AND LOUNGES

CTL Learning Communities, Lounges, and Journal Clubs are designed to address the particular interests that graduate students have as they cultivate instructional practices in today's teaching and learning environments.

CTLgrads Learning Communities

Drawing on support from the CTL, Senior Fellows from the CTL's fellowship programs worked in interdisciplinary pairs to design and co-facilitate two-part discussion series on teaching and learning topics. This year Senior Fellows hosted the following learning communities for their peers.

219 graduate student participants in CTL learning communities and journal clubs

"I enjoy thinking and talking about teaching with others, and I've appreciated how the [STEM Education Research] Journal Club has provided me with a reflective teaching community. (Most of the people I'm close to at Columbia outside my department and research area are people I've met through Journal Club!) Our readings and discussions have also helped me clarify my teaching approach and values through having to articulate my positive and negative reactions to research and through observing what kinds of practices I'm most likely to keep in mind for my own teaching."

— **Jessie Oehrlein**, PhD student, Applied Mathematics, Fu Foundation School of Engineering and Applied Science

"Without hesitation, I can say that the most valuable part of co-developing a Learning Community was the distinctive collaborative character of the endeavor. Working through ideas about a subject matter in which I am deeply interested—namely, service-learning in higher education — alongside a brilliant colleague with whom I share a commitment to pedagogical development, though importantly not the same set of expertises or proclivities . . . was certainly an impactful experience on my self-conception as a teacher."

— **Adam Blazej**, PhD student, Philosophy, Senior Lead Teaching Fellow

Fall 2018

| | |
|------------------------------|--|
| Peer-to-Peer Learning | Zachary Domach , Religion; Senior Teaching Consultant Scot McFarlane , History; Senior Lead Teaching Fellow |
|------------------------------|--|

Spring 2019

| | |
|--|---|
| A Call to Action: Service Learning in the Classroom | Adam Blazej , Philosophy; Senior Lead Teaching Fellow Inna Kapilevich , Slavic Languages; Senior Lead Teaching Fellow |
| Blind Spots in Inclusive Teaching: Implicit Bias | Karin Christiaens , Art History & Archaeology; Senior Lead Teaching Fellow Massimiliano Delfino , Italian; Senior Lead Teaching Fellow |

STEM Education Research Journal Club

The STEM Education Research Journal Club, facilitated by CTL staff with 2018-19 CIRTL (Center for the Integration of Research, Teaching and Learning) Fellow Michael Ginsberg, focused on ways participants can use education research in their fields and beyond to inform their own teaching practices. Graduate students and postdocs were required to read peer-reviewed articles and contribute to the journal club's discussions.

Teachers' Lounges

In the CTL's Lounges, graduate students and CTL staff converse informally over lunch about teaching approaches, drawing from research and one another's classroom experiences. CTL Lounges met several times each semester during the 2018-19 academic year.

Metacognition: Cultivating Expert Learners to Maximize Equity in the Classroom

In this four-part series, participants explored the benefits of helping students to assess and monitor their own learning, a process known as metacognition, paying special attention to ways that this can increase equity and inclusion in the classroom. (Fall 2018 and Spring 2019)

Language Lounge: Metacognition: Becoming Expert Language Learners

In this four-part series, participants explored how to build their own metacognitive awareness and devise ways of sharing these self-monitoring strategies with their students, emphasizing student growth, agency, and self-motivated practice in and beyond the classroom. (Fall 2018 and Spring 2019)

ADVANCED TOPICS IN TEACHING WORKSHOPS

Workshops and events provide a space for graduate students to explore timely topics related to teaching, learning, and instructional technologies.

In 2018-19, the CTL provided several advanced workshops to graduate students looking to acquire new pedagogical frameworks and to innovate their teaching.

Illuminating Learning Processes: In this workshop, participants explored strategies to help their students monitor and adjust their learning processes: an essential part of helping students build expertise and metacognitive skills. (Fall 2018)

Teaching through Discussion: In this workshop, participants explored how to teach through discussion by focusing on how to prioritize goals for a discussion, make expectations for discussion transparent to students, and assess whether or not goals for discussion are met. (Fall 2018)

Presentations for Learning: Graduate students learned strategies for preparing a presentation and practiced their "elevator pitch" with a peer to gain confidence in their presentation style and discover ways to improve. (Spring 2019)

Hacking the Classroom: In this session, participants learned a range of "hacks" that instructors can make to a space – ranging from furniture rearrangement to activity facilitation to critically reflective practices – that foster a positive classroom climate, engage students, and support active learning. (Spring 2019)

1,943 Graduate student participants in CTL workshops and events

APPROACHING THE JOB MARKET

Approaching the Job Market Workshops

CTL offers an array of workshops for graduate students preparing to represent their teaching experiences and priorities in applications, interviews, and campus visits. In 2018-19, these workshops included the following.

Writing a Teaching Statement: In this two-part series, participants gathered ideas and drafted components of their teaching statement, and shared full drafts with peers for feedback. (Fall 2018 and Spring 2019)

Syllabus from Scratch: In this two-part series, participants explored key elements of an effective syllabus and defined learning goals and assessment methods to promote student learning. (Fall 2018 and Spring 2019)

Building Your Portfolio: In this two-part series, participants learned about the content and purpose of a teaching portfolio on the academic job market, and began to assemble portfolios and polish teaching materials through peer review. (Fall 2018)

Building Your Teaching E-Portfolio: In this session, participants examined sample teaching e-portfolios to determine what effective communication, design, and layout look like in the digital environment. (Spring 2019)

Teaching Statement Online: In this new online program, participants learned about, wrote, and revised a teaching statement in order to enter the academic job market successfully. (Summer 2018 and Summer 2019)

Writing a Diversity Statement: In this workshop, participants learned about the components of a reflective and thoughtful diversity statement and brainstormed their first draft. (Fall 2018)

Representing Your Teaching Summer Intensives: In a week of events, graduate students learned about and began drafting teaching-related documents with feedback and guidance from CTL. (Summer 2018 and Summer 2019)

SERVICES

The CTL offers a number of services to help graduate students at Columbia become reflective and effective instructors.

Consultations

Graduate students requested 447 one-on-one consultations with CTL staff to receive support for their teaching and learning needs. Common consultation topics included syllabus design, creating and refining a teaching statement and teaching portfolio, integrating instructional technologies into class activities, and lesson planning.

Teaching Observations

Graduate students requested teaching observations to receive individualized feedback on their teaching. Through a structured process, consultants observed instructors in the classroom and provided suggestions to improve their teaching. The CTL also worked with schools, programs, and departments seeking to refine their peer-to-peer teaching observation practices.

Microteaching

The CTL offered microteaching practice sessions for small groups of graduate students and postdocs to rehearse teaching practices and get direct feedback and support. These sessions were run by doctoral students who completed CTL training to become Microteaching Facilitators.

Mid-Course Reviews

The CTL offered Mid-Course Reviews for graduate student instructors seeking quick, anonymous student feedback on their teaching. The confidential service paired instructors with trained peer consultants who solicited feedback directly from students on their course. Participants gained a clear picture of how their teaching practices are impacting students' learning in their course.

68 graduate student participants in CTL Mid-Course Reviews

143 graduate student participants in CTL Teaching Observations

"The most valuable part of the teaching observation were (1) the detailed questions sent before the observation, which were so helpful in prompting me to think about how I typically structure and scaffold my lessons; and (2) the feedback afterwards -- having a detailed written report with concrete things to improve going forward is so helpful! The people who observed my lessons offered me suggestions and ideas that I hadn't even considered previously: for board work; for varying student groups in group work; or for engaging students in processes of actively learning vocabulary, for instance. All in all, these CTL observations have been enormously valuable and I will continue to request them as I go forward in my time teaching at Columbia!"

— **Isabella Livorni**, PhD student, Italian

76 graduate student participants in CTL microteaching sessions

"As a microteaching facilitator, you get a front-row seat to the diversity of effective teaching styles, which aids in developing an instinctual sense for the qualities that define effective instruction. The experience heightens your ability to quickly pinpoint the specific elements of a lesson that contribute most to its success, a skill that finds perhaps its greatest utility in real-time self-evaluation. I also took away a greater ability to converse with people from any and all disciplines about the fundamentals of high-quality teaching. Without question, microteaching made me more aware of the multiple perspectives that are simultaneously present in any instructional setting, whether it's a classroom or a seminar. Knowing by heart a selection of the most reliable techniques for presenting material clearly, engaging the audience effectively, and so on is invaluable as an instructor when there's not much time to deliberate on the options, as is so often the case."

— **Colin Raymond**, PhD student, Earth and Environmental Sciences, Teaching Consultant

Teaching Consultants

Teaching Consultants are trained by CTL to provide classroom teaching observations, facilitate microteaching sessions, and run mid-course reviews for graduate students who request these services.

2018-2019 Senior Teaching Consultants Senior Fellow:

Zachary Domach, Religion

2018-2019 Teaching Consultants:

| | |
|---------------------------------|---|
| Allison DeWitt , Italian | Catherine Hoar , Earth and Environmental Engineering |
| Niki Kiviat , Italian | Colin Raymond , Earth and Environmental Sciences |

FELLOWSHIPS

CTL Fellowships provide Columbia doctoral students with an opportunity to apply for a paid, sustained professional development experience.

This year the CTL offered the Lead Teaching Fellowship, the Teaching Observation Fellowship and the CIRTL Fellowship.

Lead Teaching Fellows

Lead Teaching Fellows produce teaching-related events and workshops for peers in their home departments, with support from the CTL. The fellowship provides an

interdisciplinary professional development experience for students across campus who are committed to exploring and advancing pedagogical practices.

This year Senior Lead Teaching Fellows mentored a roster of 28 Lead Teaching Fellows as they designed and produced almost 60 teaching-related workshops and discussions across the University. See page 44 for a list of workshops facilitated by Lead Teaching Fellows for their schools and departments. Fellows also participated in a series of interdisciplinary gatherings to plan and reflect on their departmental events.

56 graduate student Fellows and Teaching Consultants

"The Senior Lead Teaching Fellowship provided me with an opportunity to mentor colleagues from diverse departments and to co-facilitate a learning community that transcended disciplinary boundaries. The SLTF leadership position is predicated on principles of research, mentorship, and peer-learning. Not only was I able to broaden my pedagogical knowledge and share my expertise, but also I have learned a variety of new approaches to common challenges encountered across the university."

— **Karin Christiaens**, PhD student, Art History and Archaeology, Senior Lead Teaching Fellow



Massimiliano Delfino, PhD student, Italian, Senior Lead Teaching Fellow, converses with other Fellows at the Lead Teaching Fellow Orientation.



Student Spotlight

Zachary Domach, PhD student, Religion; Senior Fellow, 2018-19; Pilot Participant in the Teaching Development Program, Spring 2018; Teaching Consultant, 2017-18; Teaching Observation Fellow, 2016-17

On participating in the Teaching Development Program (TDP) and reflecting on his teaching . . .

"Reflection is intrinsic to the TDP. Many deliverables involve two parts: physically going to an event and writing a brief reflection on it. This process is helping me to both document my evolving approach to pedagogy and create a space for critical reflection, pushing me to evaluate my

own teaching to better understand what works and what does not—and why. I now find myself interrogating my own policies and methods, questioning their efficacy and why I have implemented them."

On how participating in and finishing the TDP has prepared him to enter successfully into the academic job market . . .

"The program provided a structure within which I could frame my past and current pedagogical development: I am now equipped to articulate my teaching approaches and my reasoning behind them on the academic job market. All of the CTL programs work toward this end, either directly or indirectly, by conveying the vocabulary to intelligently describe my teaching while also introducing me to the current higher ed research with which my teaching should be conversant.

I am also crafting a digital teaching portfolio as part of my capstone TDP project. Not only will an online portfolio conveniently showcase my teaching to prospective employers, but also it will offer a curated selection of teaching artifacts that illustrate the deliberate and effective practice behind my teaching process."

Read the full spotlight: bit.ly/DomachSpotlight

2018-2019 Senior Lead Teaching Fellows

| | |
|--|---|
| Elizabeth Bailey , CITRL Fellow, Chemistry | Michael Ginsberg , CITRL Fellow, Earth and Environmental Engineering |
| Karin Christiaens , Art History and Archaeology | Scot McFarlane , History |
| Massimiliano Delfino , Italian | Adam Blazej , Philosophy |
| Inna Kapilevich , Slavic Languages | |

2018-2019 Lead Teaching Fellows

| | |
|--|--|
| Zohar Elmakias , Anthropology | Fern Thompsett , Anthropology |
| Alex Ekserdjian , Art History and Archaeology | Emma Le Pouésard , Art History and Archaeology |
| Catherine O’Keeffe , Biological Sciences | Brian Tackett , Chemical Engineering |
| Neil Foegen , Chemistry | Carina de Klerk , Classics |
| Caitlin Morgan , Classics | Rachel Marzen , Earth and Environmental Science |
| Palani Akana , Ecology, Evolution and Environmental Biology | Ye Zhang , Economics |
| Diana Newby , English and Comparative Literature | Kevin Windhauser , English and Comparative Literature |
| Sarah Kramer , Environmental Health Sciences | Folake Eniola , Epidemiology |
| Sally Xing , History | Kumar Goutam , Industrial Engineering and Operations Research |
| Beatrice Mazzi , Italian | Marta Ferrer , Latin American and Iberian Cultures |
| Jane Forner , Music | Jacob Portes , Neurobiology and Behavior |
| Deivid Ribeiro , Physics | Laura Resnick-Samotin , Political Science |
| Megan Goldring , Psychology | Mahmood Gharavi , Religion |
| Eliza Rose , Slavic Languages | Carolyn Hayek , Sustainable Development |

Teaching Observation Fellows

Teaching Observation Fellows work closely with the CTL, peer mentors, and each other across the academic year to assess and reflect on targeted elements of classroom teaching. The fellowship helps them to develop critical perspectives on the design, implementation, and assessment of teaching by observing each other in various settings and offering structured feedback.

This year, two Senior Teaching Observation Fellows mentored 14 Teaching Observation Fellows. The Fellows participated in formal observations of one another’s teaching, microteaching practice sessions, and observations of faculty. Upon completing the fellowship, Teaching Observation Fellows are qualified to join a cohort of trained Teaching Consultants in the CTL next year.

“Being a Teaching Observation Fellow has greatly changed how I approach my teaching responsibilities at Columbia, and there are countless reasons that every graduate student would benefit from participating in this fellowship. But most important among them is the opportunity to learn from a group of fellow graduate students from across disciplines and departments, all dedicated to the cause of becoming better instructors. The CTL’s TOF program is a true testament to the constructive power of peer mentorship!”

— **Tomer Dav Yavetz**, PhD student in Astrophysics, Teaching Observation Fellow

2018-2019 Senior Teaching Observation Fellows

| | |
|---|---|
| Jessica Engebretson , English and Comparative Literature | Chelsea Spata , English and Comparative Literature |
|---|---|

2018-2019 Teaching Observation Fellows

| | |
|---|---|
| Tara Kuruvilla , Art History and Archaeology | Katherine Fein , Art History and Archaeology |
| Tomer Yavetz , Astrophysics | Akua Banful , English and Comparative Literature |
| Mike He , Environmental Health Sciences | Kat Raichlen , French |
| George Kimson , History | Tylar Colleluori , Italian |
| Mary Catherine Stoumbos , Music | Sean Colonna , Music |
| Theo Milonopoulos , Political Science | Jeff Sherman , Electrical Engineering |
| Francisco Lara-Garcia , Sociology | Olivia Rutigliano , Theatre |



Student Spotlight

Franziska Landes, PhD Candidate in Earth and Environmental Science; GSAS Teaching Scholar, 2018-19; CIRTl Fellow, 2017-18; Senior Lead Teaching Fellow, 2016-17; Lead Teaching Fellow, 2015-16

On her motivation to participate in the CTL's STEM Education Journal Club (among others) . . .

"One of the first things scientists do when exploring a new question is to read the literature to explore previous information and studies, and I wanted to base my teaching in these same foundational resources for the field of learning. I've found the Journal Club to be especially effective because the education literature is often different from our home disciplines, and as a group we are able to dissect and discuss this new vocabulary and methodology."

On participating in the CIRTl Fellowship . . .

"The CIRTl fellowship has been very valuable because I had the support to think about how I would assess my own teaching. It has been helpful to create these connections between research and teaching and think about how I can monitor my students' learning to see whether my teaching is effective. I also found CIRTl's online workshops, courses, and resources to be helpful."

On interacting with peers during her engagements with the CTL . . .

"Interacting with my peers has been one of the most valuable aspects of my time at the CTL. In the fellowships, we develop into a supportive learning community and learn through the diversity of the different departments and teaching roles. For example, I was able to adapt some strategies that my peers used in discussion sections for my own course, such as jigsaws and think-pair-share exercises. While we often start by assuming our teaching is very discipline-specific, we end up finding we share many learning goals for our students."

Read the full Student Spotlight feature on Landes' teaching experience and insights at:
bit.ly/LandesSpotlight

Center for the Integration of Research, Teaching and Learning (CIRTL) Fellowship

CIRTL Fellows are a key component of Columbia's institutional partnership with the Center for the Integration of Research, Teaching and Learning (CIRTL) Network. The fellowship provides science, technology, engineering and math (STEM) doctoral students with opportunities to serve in a leadership role on campus and participate in networking opportunities with STEM leaders across more than 40 member institutions.

This year's CIRTL Fellows were Elizabeth Bailey (Chemistry) and Michael Ginsberg (Earth and Environmental Engineering). Drawing on resources provided through the CIRTL Network and the CTL, they promoted and supported CIRTL learning communities and workshops on the Morningside and CUIMC campuses, and served as mentors to STEM peers during the year.

Fellows in Academic Administration

Fellows in Academic Administration (FFA) are funded by the Graduate School of Arts and Sciences to work closely with CTL staff in assessment and development of programs for graduate students and teaching resource development.

FAAs:

| | |
|--------------------|--|
| Summer 2018 | Adrianna Munson , PhD student in Sociology |
| Fall 2018 | Valerie Bondura , PhD student in Anthropology |
| Spring 2019 | Carina de Klerk , PhD student in Classics |

CUSTOMIZED PROGRAMS

46 requests for customized workshops
56 workshops facilitated for departments by Lead Teaching Fellows
166 graduate student participants in customized workshops

Schools

Business School

In February 2019, the CTL ran four microteaching sessions for MBA students in the Columbia Business School who deliver business training to incarcerated individuals as part of the REAP (ReEntry Acceleration Program) program. Sessions were observed by faculty members who run the program and Kate Hauptert, Director of the Arthur J. Samberg Institute for Teaching Excellence, Columbia Business School.

Graduate School of Arts and Sciences

- In 2018-19, the CTL piloted a new Peer Observation program in the Graduate School of Arts and Sciences' Teaching Scholars Program, and coordinated syllabus workshops and consultations around the Teaching Scholars application cycle.

- Department of Classics: CTL staff consulted with department representatives on adjustments to faculty observations of graduate student instructors in Spring 2019.
- Department of French: CTL staff offered a session on teaching statement and portfolio preparation in the Language Pedagogy Seminar in December 2018.
- Department of History: CTL staff provided an overview of job market preparation and pedagogy support to History graduate students at a department lunch series in September 2018 and May 2019.
- Department of Music: CTL staff ran an active learning session in the department pedagogy seminar in March 2019.
- Department of Physics: CTL staff continued to advise on the build-out of a comprehensive peer observation program and several microteaching sessions for TAs running labs in 2018-19.
- Sustainable Development: CTL provided consultations to faculty and TAs teaching the foundational course Challenges in Sustainable Development in Spring 2019.

Mailman School of Public Health

CTL staff dovetailed offerings with a redesigned curriculum for students in the Doctor of Public Health (DrPH) program. In Spring 2019, the CTL's Evidence-Based Teaching for Sciences and Engineering seminar was offered at CUIMC and programmed to coordinate with follow-on sessions for DrPH students.

Vagelos College of Physicians & Surgeons

CTL staff consulted with the supervisor of Vagelos College of Physicians and Surgeons' Medical Education Track and visited Track meetings to highlight pertinent CIRT resources, CTL programs, and project opportunities.

The Fu Foundation School of Engineering and Applied Sciences (SEAS)

SEAS Professional Development and Leadership (PDL) program: In 2018-19, CTL staff worked closely with administrators to advise on teaching and mentoring programming in the PDL, determine CTL offerings that can be cross-listed in the PDL, and connect SEAS Lead Teaching Fellows to PDL support.

Customized for SEAS Departments

- Chemical Engineering: CTL staff ran a departmental workshop on Tricky Situations for Lab and Recitation TAs in Fall 2018 and ran custom microteaching sessions for first-time TAs.
- Department of Industrial Engineering and Operations Research: CTL staff ran custom microteaching sessions for first-time TAs.

Programs Centers, and Institutes

- Core Curriculum: CTL staff supported Fall 2018 orientation and microteaching sessions for Preceptors in Contemporary Civilization, Literature Humanities, and Art Humanities, and worked with the Director and Course Leads to plan and implement an expanded, two-part orientation in May and August of 2019.
- Institute for Research on Women, Gender, and Sexuality: CTL staff ran a series of microteaching sessions for students in IRWGS Spring 2019 seminar.
- Zuckerman Mind Brain Behavior Institute (ZMBBI): CTL staff collaborated with the Office of Postdoctoral Affairs and the Scientific Program Manager on diversity statement support adapted to the professional development needs of postdocs, and supported microteaching sessions at ZMBBI through its LTF program.

Libraries

In December 2018, CTL ran microteaching sessions for instructors of new Foundations for Research Computing workshops in Columbia University Libraries.

LEAD TEACHING FELLOWS EVENTS

LTF events are led by Lead Teaching Fellows to serve graduate student instructors in their respective departments. Below are a list of events held in the 2018-2019 academic year.

Anthropology

- Lead Teaching Fellow Zohar Elmakias designed and facilitated:
 - Teaching With and Against Culture: How Do We Deal with Culture in the Classroom?
 - What to Expect When You're TAing?
- Lead Teaching Fellow Fern Thompsett designed and facilitated:
 - How to Reverse-Engineer your TAs: Learning from our Students
 - Supporting Students' Mental Health

Art History and Archeology

- Lead Teaching Fellow Alex Ekserdjian designed and facilitated:
 - Engaging Students: Participation and Discussion in the Classroom
 - Humanities for the Good Life: Structural Improvements for the Students in Our Classes
- Lead Teaching Fellow Emma Le Pouésard designed and facilitated:
 - Talking to Student Survivors
 - Universal Design for Learning

Biological Sciences

- Lead Teaching Fellow Catherine O'Keeffe designed and facilitated:
 - Making the Right Choice: TAing Opportunities in the Biological Sciences Department
 - Modeling a Paper Discussion: Learn Ways to Approach Primary Literature with Your Undergraduate Students!

Chemical Engineering

- Lead Teaching Fellow Brian Tackett designed and facilitated:
 - Award Winning TA Strategy
 - Marketing Your Teaching Experience for a Non-academic Career Path

Chemistry

- Lead Teaching Fellow Neil Foegen designed and facilitated:
 - Building a New Teaching Resource For TAs: A Teaching Document Archive
 - Leveraging Your Teaching Experience for Careers in Academia and Beyond

Classics

- Lead Teaching Fellow Carina de Klerk designed and facilitated:
 - The Actor-Teacher Parallel: Lessons from the Stage for the Classroom
 - Uncovering the Assumptions Behind our Teaching Practices
- Lead Teaching Fellow Caitlin Morgan designed and facilitated:
 - Peer-to-Peer Teaching Observation Network for Classics
 - How Can I Observe Myself?: Teaching Journals

Earth and Environmental Science

- Lead Teaching Fellow Rachel Marzen designed and facilitated:
 - Doing Office Hours Right
 - Maximize Student Learning! Strategies for (Re-) Designing Assignments

Ecology, Evolution and Environmental Biology

- Lead Teaching Fellow Palani Akana designed and facilitated:
 - Engaging Students through Active Learning
 - Jump Starting Your Teaching Portfolio

Economics

- Lead Teaching Fellow Ye Zhang designed and facilitated:
 - The Application of Static Graphs and Dynamic Graphs in R
 - Mentoring RAs: Teaching Challenges in GU 4996/GU 4995

English and Comparative Literature

- Lead Teaching Fellow Diana Rose Newby designed and facilitated:
 - TA Orientation & Pedagogy Workshop
 - Harkness Method for Inclusive Learning
- Lead Teaching Fellow Kevin Windhauser designed and facilitated:
 - Teaching Humanities Research Skills
 - Planning Your Graduate Teaching Career

Environmental Health Sciences

- Lead Teaching Fellow Sarah Kramer designed and facilitated:
 - Using Questions to Engage Students in their Own Learning
 - Game-Based Learning in STEM Education

Epidemiology

- Lead Teaching Fellow Folake Eniola designed and facilitated:
 - Teaching Essentials Workshop: Planning for Effective Teaching Placements
 - Inclusive Teaching Environments: A Primer for Doctoral Students and FacultyHistory
- Lead Teaching Fellow Sally Xing designed and facilitated:
 - Navigating Power Dynamics and Teaching with Inclusivity
 - How to Maintain a Safe Professional Boundary between You and Your Students?

Industrial Engineering and Operations Research

- Lead Teaching Fellow Kumar Goutam designed and facilitated:
 - TA 101
 - Don't Just Recite in a Recitation!

Italian

- Lead Teaching Fellow Beatrice Mazzi designed and facilitated:
 - Engaging Students' Participation in The Language Class
 - From Theory to Practice. How to Design a Learning Unit for The Italian Language Class

Latin American and Iberian Cultures

- Lead Teaching Fellow Marta Ferrer designed and facilitated:
 - Thoughts Left Visible: Strategies for Self-Directed Learning in the Classroom
 - A Purposeful Goal or an Alluring Gadget? Re-thinking the Uses of Technology in Both the Classroom and the Curriculum'

Music

- Lead Teaching Fellow Jane Forner designed and facilitated:
 - Interdisciplinary Teaching in Music
 - Creative Class Discussion

Neurobiology and Behavior

- Lead Teaching Fellow Jane Forner designed and facilitated:
 - TA-ing and Teaching Neuroscience
 - Neuroscience Chalk Talk Workshop

Physics

- Lead Teaching Fellow Deivid Ribeiro designed and facilitated:
 - A Recitation to Remember
 - Grade Smart

Political Science

- Lead Teaching Fellow Laura Resnick-Samotin designed and facilitated:
 - Political Science TA Orientation
 - Running an Engaging Discussion Section

Psychology

- Lead Teaching Fellow Megan Goldring designed and facilitated:
 - Become A Good Mentor!
 - How to Design a Course

Religion

- Lead Teaching Fellow Mahmood Gharavi designed and facilitated:
 - Teaching “Religion”
 - Marketing “Religion”

Slavic Languages

- Lead Teaching Fellow Eliza Rose designed and facilitated:
 - Collaborative Syllabus Design
 - Teaching Literature in Context

Sustainable Development

- Lead Teaching Fellow Carolyn Hayek designed and facilitated:
 - Cultural Awareness Around Classroom Interactions
 - Keeping Your Recitations Engaging

Instructional Technology Support

The CTL Instructional Technologies group leverages its extensive experience with the purposeful use of media and technology to support teaching and learning projects and services. Working collaboratively with instructors and CTL staff, the Instructional Technologies group engages in a range of projects requiring software development, interface and experience design, media production, and project management, while maintaining a service-oriented disposition.

The group advocates and provides oversight for a range of educational technology platforms. Serving as the primary representative to the University's IT Leadership Council and the Academic Technologies Leadership Group, the CTL Instructional Technologies group ensures that the CTL's practices are compliant with University policies around accessibility, identity protection and data stewardship, issues that have become increasingly complex.

Instructional Technology Projects in 2018-2019

SUPPORT FOR PROVOST'S FUNDED TEACHING AND LEARNING GRANTS

The Instructional Technologies group is an essential resource for the Provost's Funded Teaching and Learning Grant projects, including the Hybrid Learning Course Redesign and Delivery grant program and the Massive Open Online Courses (MOOCs) grant program, providing media production and technology expertise to faculty clients. (See page 14 for the full list of 2018-2019 Provost's Funded Teaching and Learning Grant projects).

The software development and design team within the Instructional Technologies group builds digital experiences to augment curricula and explore how technology can further the learning experience. The team, with project management support, ensures that all CTL projects adhere to best practices; include well-documented, accessible and reusable components; and consist of code and methodologies that benefit audiences within and beyond the university.

Below are a list of highlighted projects from the 2018-2019 academic year:

Astronomy Simulators

David Helfand, *Professor and Chair of Astronomy, Department of Astronomy*

CTL staff ported and enhanced eight flash-based simulations created under the direction of Professor Kevin Lee at the University of Nebraska-Lincoln for the use of Professor David Helfand's 2018 Hybrid Course Redesign project "Simulating the Universe: Stimulating Active Learning". The Lunar Phase Simulator and Motions of the Sun Simulator phases of the project have been completed, with the rest of the project to be completed in summer 2019.

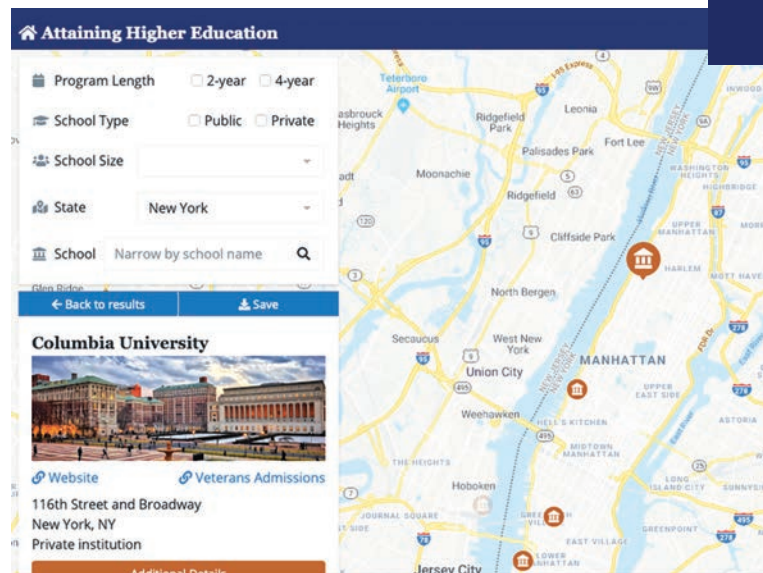
URL: columbiactl.github.io/astro-simulations/

Attaining Higher Education Interactive Map

Beth E. Morgan, *Director of Higher Education Transition and Partnerships, Center for Veteran Transition and Integration*

CTL staff developed an interactive map tool for Beth Morgan's Attaining Higher Education MOOC, which assists veterans in transitioning to higher education. The map helps veterans make university selections by allowing users to search for universities and programs that match their interests. The map uses data collected via a custom survey aimed at university admissions officers knowledgeable about veterans' services and programs.

URL: ahemap.veterans.columbia.edu



The Attaining Higher Education Interactive Map helps veterans make college selections.

DESIGN Online

Isobel Contento, *Mary Swartz Rose Professor of Nutrition and Education, Teacher's College*

Pam Koch, *Associate Research Professor, Teachers College*

CTL staff constructed DESIGN Online, an online curriculum builder for practitioners in the field of nutrition-science, for Professor Isobel Contento's 2018 Hybrid Learning Course Redesign project. The web application models the research-proven DESIGN Procedure created by Professors Contento and Koch, and provides students with a systematic process to create nutrition education that is more effective at changing eating behaviors. The project was used in classrooms during the spring 2019 semester, with a larger rollout to entry-level nutrition classes planned in fall 2019.

URL: designonline.ctl.columbia.edu

StatsInteractives

Doru C. Cojuc, *Lecturer in the Discipline of International and Public Affairs, School of International and Public Affairs*

CTL staff developed the StatsInteractives website for the Quantitative Analysis I course, as part of Dr. Cojuc's 2018 Hybrid Course Redesign project. The website houses four interactive simulations designed to demonstrate complex concepts as students' knowledge progresses during the semester. Three of the four simulations are used for evaluating students via a Canvas LMS quiz integration, while one serves to enhance understanding of a theoretical model described in course readings.

URL: stats-interactives.ctl.columbia.edu/

WritLarge—New York City's Educational Past from the Ground Up

Bette Weneck, *Lecturer of the Center on History and Education, Teachers College*

In August, the development team concluded work on Writ Large, a map visualization tool developed in conjunction with Professor Weneck's course History of Education in New York City. The map tool was designed to inform research questions such as, "How did a neighborhood's educational ecosystem change over time?" Final development work this year included enhancements to the map tool to offer advanced search and time filters and an updated homepage. Students in Professor Weneck's class used the application throughout the spring semester to locate varied sites of teaching and learning and to develop new historical perspectives.

URL: writlarge.ctl.columbia.edu

Ongoing Project Development

Mediathead

Mediathead, an open-source platform for exploration, annotation, and analysis of multimedia content, was conceived and developed at the CTL. The platform was utilized in over 50 courses in Fall 2018, with students creating 14,787 annotations on 1,950 media assets. Mediathead continues to be widely used by the Columbia community for a variety of purposes. In spring 2019, the CTL Mediathead team worked closely with Barnard Professor Paul Scolieri and the New York Public Library's Jerome Robbins Dance Division to make rare dance footage available for analysis by students.

Technology Platforms and Support

The Instructional Technologies group identified and migrated to new solutions for project management (Jira) and client relationship management (Hubspot) for the larger CTL organization. Both platforms offer staff enhanced abilities to organize work, track time and report on overall efforts. The media and software development teams also oversaw efforts to move existing streaming services and asset management systems to Panopto, the University's enterprise video management service. Lastly, the CTL website underwent a user experience upgrade informed by focus groups and interviews with various stakeholders.

MEDIA PRODUCTIONS

The media team produces high quality impactful videos that further effective pedagogy and expand the CTL's visibility. By promoting productions, publishing articles on best practices, and sharing new discoveries through experimentation, the media team has established their expertise as media producers and thought leaders in the field of classroom and online teaching and learning.

MASSIVE OPEN ONLINE COURSES (MOOCs)

The CTL provides comprehensive production and media support for the design, creation, and delivery of MOOCs using two partner organizations: edX and Coursera.

MOOCs Released in 2018-2019:

Attaining Higher Education

Beth E. Morgan, *Director of Higher Education Transition and Partnerships, Center for Veteran Transition and Integration, School of General Studies*

Released: April 3, 2019

Attaining Higher Education is specifically targeted at active-duty service members and veterans investigating entering the world of higher education. Led by a team of instructors with experience in admissions, financial aid and transition support services, Attaining Higher Education breaks down the process of transition to academic life and assists service members in finding an educational program to fully maximize their potential. The course is available on edX.

Causal Inference I & II

Michael Sobel, Professor of Statistics,
Department of Statistics

Released: (I) October 1, 2018

Released: (II) January 22, 2019

Causal Inference I & II offer a rigorous mathematical survey of advanced topics in causal inference at the Master's level.

The two courses provide an introduction to the way in which statisticians and applied researchers in many disciplines use data to make inferences about causal relationships. The courses are available on Coursera.

Inclusive Teaching: Supporting All Students in the College Classroom

Amanda Irvin, Director of Faculty Programs & Services,
Columbia CTL

Released: June 26, 2019

The CTL launched the first ever MOOC dedicated entirely to the topic of inclusive teaching in higher education. Inclusive Teaching: Supporting All Students in the College Classroom provides practical, accessible, and usable strategies that instructors can implement in their classrooms to create and maintain a supportive learning environment for all students. The self-paced course is open to all and available on the edX platform.

Indian & Tibetan River of Buddhism

Robert A.F. Thurman, Jey Tsong Khapa Professor of
Indo-Tibetan Studies, Department of Religion

Released: May 15, 2019

Indian & Tibetan River of Buddhism explores the history and philosophy of Buddhism throughout India, South and Southeast Asia, Tibet, and Central Asia, featuring the basics of the Buddhist view of reality and its educational principles of sciences, mind and social ethics. The course is available on the edX platform.

New Editions and Re-releases in 2018-2019

Corporate Finance Professional Certificate

Daniel Wolfenzon, Stefan H. Robock Professor of Finance
and Economics, Columbia Business School

Third edition released: October 10, 2018

- I – Introduction to Corporate Finance
- II – The Free Cash Flow Method for Firm Valuation
- III – Risk and Return and the Weighted Average Cost of Capital



Michael Deleon, Media and Production Lead, facilitates a discussion with faculty at the Active Learning Institute.



The CTL media team records an interview with **Melissa Wright**, CTL Associate Director of Assessment and Evaluation, for the Inclusive Teaching MOOC.

Innovating Instruction

Ellen B. Meier, *Director and Co-Founder of the Center for Technology and School Change, Teachers College*

Second edition released: July 11, 2019

1. Soins infirmiers en VIH pédiatrique

2. Traitement antirétroviral—VIH

Susan Michaels-Strasser, *Assistant Professor, Epidemiology (in ICAP), CUIMC*

Released: March 27, 2019

French versions of previously released courses.

Women Have Always Worked—XSeries

Alice Kessler-Harris, R. Gordon Hoxie,
Professor of American History, Department of History

New edition released: January 30, 2019

- I – Seeking Women’s Rights: Colonial Period to the Civil War
- II – Wage Work for Women Citizens: 1870-1920
- III – Negotiating a Changing World: 1920-1950
- IV – Fighting for Equality: 1950-2018

Media Projects in 2018-2019

Below are a list of highlighted projects from the 2018-2019 academic year:

Redesigning ‘Introduction to Grief Therapy’ with Interactive Videos

Kathy Shear, *Marion E. Kenworthy Professor of Psychiatry, School of Social Work*

The CTL media team produced videos for Professor Kathy Shear’s Hybrid Learning Course Redesign project for her Introduction to Grief Therapy course. The videos provided a simulated experience with realistic client-clinician interactions to better support social work students’ readiness for grief therapy.

CTL and Office of the Provost Events:

The media team filmed and produced videos for the following CTL and Office of the Provost events throughout the year:

- New Faculty Orientation
- Science of Learning Research Symposium
- Celebration of Teaching and Learning Symposium
- Provost’s Conversations on Online Learning

CTL Promotional Videos

The media team also filmed and produced several promotional videos for the following initiatives:

- Welcome to Blended Learning Essentials Online
- Thank-A-Professor, Thank-A-Teaching Assistant initiative
- CTL promotional video
- Teaching Statement Online

Internal and External Engagement

Conference Presentations and Invited Workshops

- Althouse, Ian. Presentation at II Encuentro Internacional de Centros de Formación Docente Universitaria (Second International Meeting of University Teaching Centers), Pontificia Universidad Católica del Perú, March 7-8, 2019.
- Althouse, Ian. "Graduate Student Leadership and CTLs: Changing Teaching Culture through Community". Panel at the 43rd Annual POD Network Conference "Learning in Times of Change" in Portland, OR, November 14-18, 2018.
- Althouse, Ian, Christopher Chen and Chandani Patel. "Leveraging Departmental Structures to Implement and Refine Teaching Development Programming". Presentation at the 43rd Annual POD Network Conference "Learning in Times of Change" in Portland, OR, November 14-18, 2018.
- Chen, Christopher. "Elevating Future Faculty Roles in Teaching and Leadership in Local Learning Communities and in the CIRTLL Network". Workshop at the CIRTLL In-Person Network Meeting in Madison, WI, October 11-12, 2018.
- Chen, Christopher. "Marketing Online and Local Programming". Workshop at the CIRTLL In-Person Network Meeting in Irvine, CA, March 22-23, 2019.
- Foo, John and Amanda Jungels. "Inclusive Teaching: Small Changes to Maximize Equity in the Classroom." Workshop at NorthEast Mechanical Engineering Chairs Summit at Columbia University in New York, NY, August 16, 2018.
- Guzman, Jason and Kingon, Ashley. "Game-Based Learning in a Public Health Course." Emerging Learning Design Conference in Montclair, NJ, May 30, 2019.
- Irvin, Amanda. "Engaged Learning for Changing Times." Keynote presentation at the University of Saint Joseph faculty development day in West Hartford, CT, August 23, 2018.
- Irvin, Amanda. "Save Your Summer with Backward Design." Fairleigh Dickinson University faculty development day in Madison, NJ, May 20, 2019.
- Irvin, Amanda and Suzanna Klaf. "Changing Our Modes of Delivery: Responsive Educational Development." Presentation at the 43rd Annual POD Network Conference "Learning in Times of Change" in Portland, OR, November 14-18, 2018.
- Jungels, Amanda and Suzanna Klaf. "Consuming the Literature: Promoting Changes to Practice". Presentation at the 43rd Annual POD Network Conference "Learning in Times of Change" in Portland, OR, November 14-18, 2018.
- Jungels, Amanda and Chandani Patel. "Inclusive Teaching and Learning." Invited workshop for cadets and faculty at West Point Academy hosted at Columbia University, October 4, 2018.
- Mustapha, Zarina. "Choosing Wagtail: A Story of Process". Presentation at Wagtail Space USA 2018 in Philadelphia, PA, June 14, 2018.
- Mustapha, Zarina. "Disentangling an Image Map for Accessibility". Presentation at Women Who Code NYC in New York, NY, December 12, 2018.
- Ross, Catherine and Amanda Irvin. "Leadership Development in a CTL as a Change Management Tool." Presentation at the 43rd Annual POD Network Conference "Learning in Times of Change" in Portland, OR, November 14-18, 2018.
- Ross, Catherine. "The Evolving Contributions of Teaching Centers in Rewriting the Value Narrative of Education". Joint presentation with Executive Directors from Yale and Cornell at AAC&U/POD at AAC&U conference in Atlanta, GA, January 25, 2019.
- Ross, Catherine. "The Evolving Contributions of Teaching Centers in Rewriting the Value Narrative of Education". Presentation for AAC&U / POD Network collaborative webinar, March 19, 2019.
- Ross, Catherine. "Intercultural and Inclusive Pedagogy". Presentation at Pacific University in Forest Grove, OR, November 14, 2018.
- Ross, Catherine. "Intercultural and Inclusive Pedagogy" at Summer Institute of Intercultural Communication in Portland, OR, July 10-13, 2018.

Representation at Conferences and Events

- AAC&U 2018 Transforming STEM Higher Education conference. Atlanta, GA, November 8-10, 2018.
- AAC&U Raising Our Voices: Reclaiming the Narrative on the Value of Higher Education. Atlanta, GA, January 25, 2019.
- Association of American Medical Colleges (AAMC) Information Technology in Academic Medicine Conference. San Diego, CA, June 4-7, 2019.
- Association of American Medical Colleges (AAMC) Northeast Group on Educational Affairs (NEGEA) 2019 Annual Conference. Philadelphia, PA, April 4-6, 2019.
- Amazon Web Services EKoSystem Day. New York, NY, July 19, 2018.
- Amazon Web Services Summit NYC 2018. New York, NY, July 7, 2018
- Annual Conference on Case Study Teaching in Science. Buffalo, NY, September 21-22, 2018.
- Byteconf 2018. Virtual. September 13, 2018.
- CIRTl In-Person Network Meeting. Madison, WI, October 11-12, 2018.
- CIRTl In-Person Network Meeting. Irvine, CA, March 22-23, 2019.
- Dartmouth Experiential Learning & Teaching Adventure (DELTA) Summit. Hanover, NH, August 7, 2018.
- EduCause Annual Conference. Denver, CO, October 30-November 2, 2018.
- Emerging Learning Design Conference. Montclair, NJ, May 30-31, 2019.
- Exploring Future Reality. New York, NY, November 29, 2018.
- Grace Hopper Celebration Connect @ Google 2018. New York, NY, September 26, 2018.
- International Society for the Scholarship of Teaching and Learning 2018 conference. "Toward A Learning Culture". Bergen, Norway, October 24-27, 2018.
- Ivy+ Teaching and Learning Network Conference. Providence, RI, May 2-3, 2019.
- JSConf Colombia 2018. Medellín, Colombia, November 16-17, 2018.
- Learn Serve Lead, the annual meeting of the Association of American Medical Colleges (AAMC). Austin, TX, November 2-6, 2018.
- LibrePlanet 2019, annual conference for the Free Software Foundation. Boston, MA, March 23-24, 2019.
- 43rd Annual POD Network Conference "Learning in Times of Change". Portland, OR, November 14-18, 2018.
- PyGotham 2018, New York, NY, October 5-6, 2018
- Wagtail Space USA 2018. Philadelphia, PA, June 14-16, 2018.
- Women Who Code NYC. New York, NY, December 12, 2018.

Columbia University Committee Work

- CTL Staff. Digital Community at Columbia (DCC).
- CTL Staff. Emerging Technologies Consortium; CUIT.
- Foo, John. Academic Integrity Working Group; Columbia College and Columbia Engineering.
- Hall, Michelle. Academic Leadership and Technology Group (ATLG).
- Hall, Michelle. CUIMC Education Resource Committee (Co-Chair).
- Hall, Michelle. Digital Learning Taskforce; Mailman School of Public Health.
- Hall, Michelle. CUIMC Service Learning Advisory Board.
- Hall, Michelle and Ashley Kingon. Vagelos College of Physicians and Surgeons (VP&S) Curriculum Governance Committee.
- Hall, Michelle and Ashley Kingon. VP&S Educate Curriculum Committee.
- Hall, Michelle and Jason Guzman. Curriculum Innovation Committee; College of Dental Medicine.
- Hirschmann, Kenny. Course Evaluation Working Group; Jewish Theological Seminary.
- Irvin, Amanda. LGBTQ+ Working Group at Columbia; Office of University Life.

- Jungels, Amanda and Chandani Patel. Task Force on Inclusion and Belonging at Columbia; Office of University Life. Co-facilitators of subcommittees on Inclusive Classrooms with Ixchel Rosal; Office of University Life.
- Kingon, Ashley. CUI MC Educational Technology Advisory Committee (ETAC).
- Kingon, Ashley. VP&S Knowledge Assessment and Learning Resources Task Force
- Matiz, Maurice. Provost's Faculty Advisory Committee on Online Learning.
- Matiz, Maurice. Information Technology Leadership Council.
- Matiz, Maurice. Academic Technologies Leadership Group.
- Patel, Chandani. Diversity Officers Working Group.
- Ross, Catherine. Senate Education Committee.
- Ross, Catherine. Educational Policy and Planning Committee (EPPC) and the EPPC subcommittee on the Evaluation of Teaching.
- Ross, Catherine. Columbia Law School Teaching Evaluation Committee.
- Rowe, Jessica. Academic Leadership and Technology Group (ATLG).
- Wright, Melissa. Academic Leadership and Technology Group (ATLG).
- Wright, Melissa. Monitoring and Evaluation Sub-Group, Digital Learning Taskforce; Mailman School of Public Health.

External Review Participation

- Althouse, Ian. Program Review Consultant to El Instituto de Docencia Universitaria (the University Teaching Center) at the Pontificia Universidad Católica del Perú, March 4 - 6, 2019
- Phillipson, Mark. External review committee member for Yale University Poorvu Center for Teaching and Learning graduate teaching development programs, January 2019.
- Ross, Catherine. Chair of Dartmouth Center for the Advancement of Learning External Review, August 2018.

External Committees and Boards

- Carswell, Sarah, Elizabeth Hernandez, and Laura Nicholas. Ivy+ Admin and Communications Teaching and Learning Network Conference Planning Committee.
- Chen, Christopher. 6th CIRTL Forum Planning Committee.
- Chen, Christopher. CIRTL Cross-Network Learning Community Working Group.
- Irvin, Amanda. Ivy+ Teaching and Learning Conference Planning Committee.
- Irvin, Amanda. *The Scholarly Teacher* Editorial Board.
- Patel, Chandani. Co-Chair for POD Network Diversity Committee.
- Ross, Catherine. Ivy+ Directors, Ivy+ Conference Planning Committee.



Appendix A:

CTL Leadership and Staff

Leadership Council

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| Soulaymane Kachani , Vice Provost for Teaching, Learning, and Innovation; Senior Vice Dean and Professor, Fu Foundation School of Engineering and Applied Science | Catherine Ross , Executive Director, Center for Teaching and Learning |
| Michelle V. Hall , Director, CUIMC Programs and Services | Amanda Irvin , Director, Faculty Programs and Services |
| A. Maurice Matiz , Senior Director, Instructional Technologies | Mark L. Phillipson , Director, Graduate Student Programs and Services |
| Sandesh Tuladhar , Assistant Provost for Online Education, Office of the Vice Provost for Teaching, Learning, and Innovation | |

Below is a list of staff at the Center for Teaching and Learning.

Communications and Outreach

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| Laura Nicholas , Manager |
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Assessment and Evaluation

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| Melissa Wright , Associate Director |
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Faculty Programs and Services

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|--|---|
| Amanda Irvin , Director | Suzanna Klaf , Associate Director |
| Jessica Rowe , Associate Director, Instructional Design | Amanda M. Jungels , Senior Assistant Director |
| John C. Foo , Assistant Director, Science and Engineering | Chandani Patel , Senior Assistant Director |
| Andrew Flatgard , Senior Learning Designer | Paul Joseph Stengel , Senior Learning Designer |
| Aurora Collado , Learning Designer | Nicole Hentrich , Learning Designer |
| Andrew Corpuz , Learning Designer | Lakshmi Nair , Learning Designer |
| Mike Tarnow , Learning Designer, Science and Engineering | |

CUIMC Programs and Services

| | |
|--|---|
| Michelle V. Hall , Director | Jason Guzman , Learning Designer |
| Ashley Kington , Senior Learning Designer | |

Graduate Student Programs and Services

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|---|---|
| Mark L. Phillipson , Director | Ian Althouse , Senior Assistant Director |
| Christopher Chen , Senior Assistant Director | Caitlin DeClercq , Assistant Director |

Instructional Technologies

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|--|--|
| A. Maurice Matiz , Senior Director | Stephanie Ogden , Associate Director |
| Susan Dreher , Associate Director | Vincent Aliberto , Media and Production Lead |
| Devon Anirudh , Senior Technical Specialist | Alexis Aurigemma , Assistant Media Producer |
| Nick Buonincontri , Programmer | Michael R. Deleon , Media and Production Lead |
| Jon Hanford , Video Technical Specialist | Zarina Mustapha , Senior Front-end Developer |
| Nik Nyby , Senior Programmer | Marc A. Raymond , Senior Designer |
| Abie Sidell , Assistant Media Producer | |

Administration

| | |
|---|---|
| Sarah Carswell , Executive Assistant | Teresa Gonzalez , Administrative Coordinator |
| Elizabeth Hernandez , Programs Coordinator | |

Appendix B:

CTL Advisory Board

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|---|--|
| Soulaymane Kachani , <i>Co-Chair</i> Vice Provost for Teaching, Learning, and Innovation; Senior Vice Dean and Professor, Fu Foundation School of Engineering and Applied Science | Catherine Ross , <i>Co-Chair</i> Executive Director of the Center for Teaching and Learning |
| Carlos Alonso Dean, Graduate School of Arts and Sciences; Morris A. & Alma Schapiro Professor in The Humanities, Vice President for Graduate Education | Sarah Cole Parr Professor of English and Comparative Literature; Dean of Humanities, Faculty of Arts and Sciences |
| Allison DeWitt Student, Graduate School of Arts and Sciences | Ron Drusin Rolf H. Scholdager Professor of Medicine at the Columbia University Medical Center; Vice Dean for Education, College of Physicians and Surgeons |
| Pat Grieve Nancy and Jeffrey Marcus Professor of the Humanities, Department of Latin American and Iberian Cultures, Faculty of Arts and Sciences | Fredrick Harris Professor of Political Science; Dean of Social Sciences, Faculty of Arts and Sciences |
| Julia Hirschberg Percy K. and Vida L. W. Hudson Professor of Computer Science, Fu Foundation School of Engineering and Applied Science | Lisa Hollibaugh Dean of Academic Affairs, Columbia College |
| Kris Kavanaugh Associate Vice President, Columbia Libraries | Julie Kornfeld Associate Professor of Epidemiology; Vice Dean for Education, Mailman School of Public Health |
| Ellen Meier Professor of Practice, Teachers College; Director of the Center for Technology and School Change | Janet Metcalfe Professor of Psychology; Director of Graduate Studies, Department of Psychology, Faculty of Arts and Sciences |
| Dennis Mitchell Vice Provost for Faculty Advancement; Professor of Dental Medicine (Community Health and Periodontics); Senior Associate Dean for Diversity, College of Dental Medicine | Barclay Morrison Professor of Biomedical Engineering; Vice Dean of Undergraduate Programs, Fu Foundation School of Engineering and Applied Science |

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| <p>Letty Moss-Salentijn Edward V. Zegarelli Professor of Dental Medicine (in Anatomy and Cell Biology); Vice Dean for Curricular Innovation and Interprofessional Education in the College of Dental Medicine</p> | <p>Justin Pearlman Vice Provost for Communications and Engagement, Office of the Provost</p> |
| <p>Brent Stockwell Professor of Biological Sciences and Chemistry, Department of Biological Sciences, Faculty of Arts and Sciences</p> | <p>Anne Taylor John Lindenbaum Professor of Medicine; Vice Dean, Academic Affairs, Vagelos College of Physicians and Surgeons; Senior Vice President for Faculty Affairs and Career Development at the Columbia University Medical Center</p> |
| <p>Ann Thornton Vice Provost and University Librarian, Columbia University Libraries</p> | <p>Miguel Urquiola Professor of Economics and International and Public Affairs, School of International and Public Affairs</p> |
| <p>Greg Wawro Professor of Political Science, Department of Political Science; Chair, Department of Political Science, School of Arts and Sciences</p> | |

Appendix C:

Data Summary of AY 2018-2019 Programs and Services

1 a. Unique Individuals Served by the CTL

By University Status/Affiliation

| | |
|-------------------------------------|-------|
| Faculty | 1,660 |
| Graduate students | 1,162 |
| Administrators and university staff | 746 |
| Postdocs | 77 |
| Research scientists | 61 |
| Undergraduate students | 17 |
| Total | 3,723 |

By School

| | |
|---|-------|
| Arts and Sciences | 1,679 |
| Barnard College | 110 |
| College of Dental Medicine | 91 |
| Columbia Business School | 53 |
| Columbia Law School | 83 |
| Fu Foundation School of Engineering and Applied Science | 265 |
| Graduate School of Journalism | 32 |
| Jewish Theological Seminary | 61 |
| Mailman School of Public Health | 287 |
| School of Architecture, Planning and Preservation | 48 |
| School of International and Public Affairs | 141 |
| School of Nursing | 71 |
| School of Social Work | 119 |
| Teachers College | 103 |
| Vagelos College of Physicians and Surgeons | 322 |
| Other academic units | 254 |
| Total Columbia-affiliated individuals | 3,719 |
| Total external visitors | 173 |
| Total unique individuals served | 3,892 |

1 b. CTL Interactions with Clients

By University Status/Affiliation

| | |
|-------------------------------------|--------|
| Faculty | 4,237 |
| Graduate students | 3,651 |
| Administrators and university staff | 1,793 |
| Postdocs | 199 |
| Research scientists | 124 |
| Undergraduate students | 46 |
| Total Interactions | 10,050 |

By School

| | |
|---|--------|
| Arts and Sciences | 4,907 |
| Barnard College | 282 |
| College of Dental Medicine | 312 |
| Columbia Business School | 79 |
| Columbia Law School | 120 |
| Fu Foundation School of Engineering and Applied Science | 641 |
| Graduate School of Journalism | 65 |
| Jewish Theological Seminary | 271 |
| Mailman School of Public Health | 711 |
| School of Architecture, Planning and Preservation | 87 |
| School of International and Public Affairs | 337 |
| School of Nursing | 177 |
| School of Social Work | 216 |
| Teachers College | 273 |
| Vagelos College of Physicians and Surgeons | 1,020 |
| Other academic units | 552 |
| Total Columbia-affiliated interactions | 10,050 |
| Total external visitor interactions | 285 |
| Total interactions | 10,335 |

2. Programs and Events

Client Interactions By Program Type

| | |
|--------------------------------------|-------|
| Workshops | 2,988 |
| University-wide events | 431 |
| Teaching orientations | 247 |
| Institutes | 126 |
| Seminars | 241 |
| Total program and event interactions | 4,033 |

3. Services

Client Interactions By Program Type

| | |
|--|-------|
| Consultations | 2,275 |
| Project consultations | 875 |
| Teaching and course consultations | 573 |
| Program planning consultations | 166 |
| Assessment and evaluation consultations | 163 |
| Graduate student professional development consultations | 145 |
| Instructional technology consultations | 132 |
| School/Department/Program consultations | 106 |
| CTL Fellows support consultations | 77 |
| DIY Media Consultations | 38 |
| Platform training and support (Canvas, EdBlogs, Mediathread, etc.) | 1,219 |
| Total services interactions | 3,494 |

Center for Teaching and Learning

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