

Current* DLL Member Achievements 2017-2022

***former members included only when projects also involve current members**

Journal articles and conference proceedings

Friend, Caitlin M.; Avello, Monika; Wilttrout, Mary Ellen; Gordon, Darcy G. "A Framework for Revising MOOC Formative Assessments" LWMOOCS 2022, in press

Inma Borrella, Sergio Caballero-Caballero, and Eva Ponce-Cueto. "Taking action to reduce dropout in MOOCs: Tested interventions." Computers & Education, 2022.

<https://doi.org/10.1016/j.compedu.2021.104412>

Anindya Roy, Shigeru Miyagawa, Ana Bell, Ronisha Carter, and Meghan Perdue. "How COVID-19 Affected Computer Science MOOC Learner Behavior and Achievements: A Demographic Study." Learning @ Scale, 2022.

Joey Gu and Martin Bazant. "From MOOCs to Residential Instruction – Departmental Perspective on Digital Learning @ MIT ChE." AIChE Annual Meeting, 2021.

Virginia Katherine Blackwell and Mary Ellen Wilttrout. "Learning During COVID-19: Engagement and Attainment in an Introductory Biology MOOC." EMOOCs, 2021.

<https://publishup.uni-potsdam.de/frontdoor/index/index/docId/51725>

Emily Welsh, Dan Li, John Hart, and John Liu. "Scaling Hands-On Learning Principles in Manufacturing through Augmented Reality." ASEE Annual Conference & Exposition Proceedings, 2021.

John Hart, Dawn Wendell, John Liu, John Lewandowski, Miguel Funes-Lora, and Albert Shih. "Teaching Manufacturing Processes Using a Flipped Classroom Model." Procedia Manufacturing, 2021.

Aidan MacDonagh, Peter Dourmashkin, Michelle Tomasik, Alex Shvonski, Joshua Wolfe. "Remote Active Learning for Large-Enrollment Introductory Physics." Contributed Talk, AAPT Summer Meeting, 2021.

Darcy Gordon and Mary Ellen Wilttrout. "A Framework for Applying the Learning Sciences to MOOC Design." Frontiers in Education, 2021. <https://doi.org/10.3389/educ.2020.500481>

Michelle Tomasik, Peter Dourmashkin, and Saif Rayyan. "The TEAL Physics Project at MIT." Active Learning in College Science, 2020.

Jennifer French, Haynes Miller, and Anindya Roy. "Computer Manipulatives and Student Engagement in an Online Mathematics Course." *Active Learning in College Science*, 2020.

Monika Avello, Mary Ellen Wilttrout, Ana Bell, Christine Vonder Haar, and Shira Fruchtmann. "Impact of Course Delivery Mode on Learner Engagement in MOOC." *Learning with MOOCs (LWMOOCs)*, 2020. <https://ieeexplore.ieee.org/document/9234325>

Giora Alexandron, Mary Ellen Wilttrout, Aviram Berg, and Jose A. Ruiperez-Valient. "Assessment that matters: balancing reliability and learner-centered pedagogy in MOOC assessment." 10th International Conference on Learning Analytics and Knowledge (LAK), 2020.

<https://doi.org/10.1145/3375462.3375464>

Jessica Sandland and Mary Ellen Wilttrout. "The Digital Learning Laboratory Model to Catalyze University Teaching and Learning." Sixth International Conference on Higher Education Advances, 2020. <https://riunet.upv.es/handle/10251/145919>

Jessica Sandland, Andreas Wankerl, Alejandra Quintanilla Terminel, Azael Capetillo, and Diana Salinas Flores. "Collaborative Learning for Innovation Education." *EEE Global Engineering Education Conference*, 2020.

Jessica Sandland, Emma Vargo, Jonathan Paras, George Varnavides, Sarah Warkander, and Polina Anikeeva. "Electronic, Optical, and Magnetic Properties of Materials: A Comic-Based MOOC." *Learning with MOOCs (LWMOOCs)*, 2020.

<https://ieeexplore.ieee.org/document/9234344>

Meghan Perdue. "Practicing 21st Century Skills in the Classroom." Sixth International Conference on Higher Education Advances, 2020.

Meghan Perdue. "Workforce Training Hubs: White Paper." *Stanford Day One Project*, 2020.

Hannah Burd, Ana Bell, Erik Hemberg, and Una-May O'Reilly. "Analyzing Pre-Existing Knowledge and Performance in a Programming MOOC." *Proceedings of the Seventh ACM Conference on Learning @ Scale*, 2020. <https://doi.org/10.1145/3386527.3406728>

Christine Vonder Haar and Ana Bell. "Analysis of Repeat Learners in Computer Science MOOCs." *Learning with MOOCs (LWMOOCs)*, 2020. <https://ieeexplore.ieee.org/document/9234342>

Darcy Gordon, Monika Avello, Mary Ellen Wilttrout, and Aaron Kessler. "A Codebook for Evaluating Learning Science Applications in an Online Course." *European Association for Research on Learning and Instruction (EARLI) Significant Interest Group 6-7*, 2020.

John Liu, Alex Shvonski, Aidan MacDonagh, Jennifer French, and Aaron Kessler. "Using the ICAP Framework to Map Student Opportunities for Engagement in Massively Open Online Courses." European Association for Research on Learning and Instruction (EARLI) Significant Interest Group 6-7, 2020.

Alex Shvonski, Pushpa Prabakar, Jacob White, Peter Dourmashkin. "Implementation of Design Experiments in Large-Scale Introductory Physics Classes." Contributed Talk, AAPT Summer Meeting, 2020.

Inma Borrella, Sergio Caballero-Caballero, and Eva Ponce-Cueto. "Predict and intervene: Addressing the dropout problem in a MOOC-based program." Proceedings of the Sixth ACM Conference on Learning @ Scale, 2019. <https://doi.org/10.1145/3330430.3333634>

Ayesha Bajwa, Erik Hemberg, Ana Bell, and Una-May O'Reilly. "Analyzing Student Code Trajectories in an Introductory Programming MOOC." Proceedings of the Sixth ACM Conference on Learning @ Scale, 2019. <https://doi.org/10.1145/3330430.3333646>

Isabel Hilliger, Mar Pérez-Sanagustín, Mary Ellen Wilttrout, and Carlos Delgado-Kloos. "Extending the H-MOOC Framework: Metrics for Evaluating the Success of Blended Learning Experiences." Hybrid Education Workshop, 2019. https://educate.gast.it.uc3m.es/wp-content/uploads/2019/06/HybridEd_2019_paper_6.pdf

Meghan Perdue. "Digital Learning in Humanities Higher Education." OEB Global, 2019.

Jen French. "Lessons learned: An introvert's guide to establishing community in a MOOC forum." Canadian Math Society (CMS) Annual Meeting, 2019.

Michelle Tomasik and Anindya Roy. "Exploring the relationship between students' online LMS performance and attitudes in an intro physics course." APS March Meeting, 2019.

Monika Avello, Darcy Gordon, and Mary Ellen Wilttrout. "The Importance of Iterative Course Design: Using Learning Analytics to Evaluate and Revise Difficult Problems in a Biochemistry MOOC" Engaging Digital Learning Experiences LINC Workshop, 2019. https://web.mit.edu/mitxbio/img/LINC_Workshop_2019_paper_11.pdf

Alexander Shvonski, Yunfei Ma, Michelle Tomasik, Byron Drury and David Pritchard. "Topical, Randomized Quizzes Administered Electronically in an Introductory Electromagnetism Course at MIT." Engaging Digital Learning Experiences LINC Workshop, 2019. https://web.mit.edu/mitxbio/img/LINC_Workshop_2019_paper_8.pdf

Byron Drury, Ian Bouche, Amelia Guttentag, Sunbok Lee, Michelle Tomasik, Alexander Shvonski, Chandralekha Singh, and David Pritchard. "Online Quizzes to Replace Traditional Paper

Assessment in Introductory Mechanics.” Engaging Digital Learning Experiences LINC Workshop, 2019. https://web.mit.edu/mitxbio/img/LINC_Workshop_2019_paper_12.pdf

Alexander Shvonski, Aidan MacDonagh, Michelle Tomasik, and Peter Dourmashkin. “Use of In-Class Response Questions in a Large-Scale, Blended Learning, Introductory Physics Class at MIT.” Engaging Digital Learning Experiences LINC Workshop, 2019. https://web.mit.edu/mitxbio/img/LINC_Workshop_2019_paper_5.pdf

Jessica Sandland. “The 3.024x Comic Book Project.” Engaging Digital Learning Experiences LINC Workshop, 2019. https://web.mit.edu/mitxbio/img/LINC_Workshop_2019_paper_1.pdf

Pushpaleela Prabakar, Alexander Shvonski, Jacob White and Peter Dourmashkin. “Implementation of Design Experiments in a Large-Scale, Blended Learning, Introductory Physics Class at MIT.” Engaging Digital Learning Experiences LINC Workshop, 2019. https://web.mit.edu/mitxbio/img/LINC_Workshop_2019_paper_10.pdf

Aidan MacDonagh, Alex Shvonski, Michelle Tomasik, Peter Dourmashkin. “Concept Question Use Across Multiple Sections of Introductory Electromagnetism.” Contributed Talk, AAPT Summer Meeting, 2019.

Mary Ellen Wiltrout and Anindya Roy. “The Effect of Course Content Position on Student Attempts of Practice Problems in Introductory Biology.” Learning with MOOCs (LWMOOCs), 2018. <https://ieeexplore.ieee.org/document/8534635>

John W. Harrold and Jessica Sandland. “The Influence of Immediate Homework Feedback on Student Performance and Satisfaction in an Engineering MOOC.” Learning with MOOCs (LWMOOCs), 2018. <https://ieeexplore.ieee.org/document/8534592>

Darcy Gordon and Mary Ellen Wiltrout. “Student Feedback on Implementing a Molecular Visualization Tool in General Biochemistry in Class and Online.” Hybrid Education Workshop, 2018. https://educate.gast.it.uc3m.es/wp-content/uploads/2018/06/HybridEd_2018_paper_5.pdf

Jennifer French. “Designing a MOOC on the Laplace Transform.” Hybrid Education Workshop, 2018. https://educate.gast.it.uc3m.es/wp-content/uploads/2018/06/HybridEd_2018_paper_18.pdf

Michelle Tomasik and Peter Dourmashkin. “Use of Online Videos Developed for a MOOC in the MIT Introductory Physics Classes.” Hybrid Education Workshop, 2018. https://educate.gast.it.uc3m.es/wp-content/uploads/2018/06/HybridEd_2018_paper_12.pdf

Jessica Sandland and Philip Rodenbough. “Strategies for Assessment in Materials Science and Engineering MOOCs.” Open Education Global Conference, 2018.

Jennifer French, Martin Segado, Phillip Z. Ai. "Sketching Graphs in a Calculus MOOC: Preliminary Results". In: Hammond T., Adler A., Prasad M. (eds) *Frontiers in Pen and Touch. Human-Computer Interaction Series*. Springer, Cham, 2017. https://doi.org/10.1007/978-3-319-64239-0_7

Sera Thornton, Ceri Riley, and Mary Ellen Wilttrout. "Criteria for Video Engagement in a Biology MOOC." *Proceedings of the Fourth ACM Conference on Learning @ Scale*. ACM, 2017. <https://doi.org/10.1145/3051457.3054007>

Curtis Northcutt, Tailin Wu, Martin Segado, Isaac Chuang. "Measuring Assessment Authenticity in Open Online Learning." *NCME Annual Meeting*, 2017.

Sera Thornton and Mary Ellen Wilttrout. "Teaching MIT Students to Think Like Cell Biologists: A Visual Approach" *EducationXpress*, 2017. https://biology.mit.edu/wp-content/uploads/2018/04/Teaching_MIT_Students_to_Think_Like_Cell_Biologists_A_Visual_Approach.pdf

Presentations, panels, and workshops

Mary Ellen Wilttrout. "The Future of EdTech in a Post-Pandemic World" and "Adoption of EdTech Innovation from Within Educational Institutions" panels. *EdTechX Summit*, 2022.

John Liu and Mary Ellen Wilttrout (others external). "Workshop: How can institutions improve faculty adoption of digital teaching methods?" *Digital Universities Week - US from the Times Higher Ed*, 2022.

Mary Ellen Wilttrout. "How Assessment Design Can Eliminate the Need for Digital Proctoring" *Open edX Conference*, 2022.

Mary Ellen Wilttrout. "How to Build the Future of Teaching and Learning While Growing from the Changes and Challenges of 2020-21." *OEB Insights (workshop)*, 2021.

Mary Ellen Wilttrout. "How will Remote Teaching Continue Post Pandemic?" *EdtechX Spotlight event (co-panelist)*, 2021.

Mary Ellen Wilttrout. "Evidence-Based Design in Online and Blended Courses." *Qatar Digital Learning Summit*, 2021.

Mary Ellen Wilttrout. "Digital Learning at MIT: Learning from the Past to Transition to the Future." *LOGIN*, 2021.

Mary Ellen Wiltrout. “Remotely” Designing for Learning: From Principles to Practice” Assessment Panel in J-WEL Workshop, 2021.

Mary Ellen Wiltrout. “MIT’s Approach to Emergency Remote Teaching and Transition to a New Normal” at the Optimizing Online Learning in Higher Education: Experiences during Covid-19 and Beyond webinar, University of Nairobi, 2021.

Jennifer French. “Building Community: Strategies and Lessons Learned.” J-WEL Workshop, 2021.

Jennifer French. “Equity and Inclusion in the Math Classroom.” Math Microteaching Workshop, Fall 2020, Winter 2020, Fall 2021.

Luis Perez-Breva, Maria Khotimsky, Arthur Bahr, and Jennifer French. “Fresh Perspectives.” (panel discussion) MIT Teaching and Learning Lab Fresh Perspectives series, 2021.

Jennifer French, Rena Levitt, John Levitt, and Lucas Tambasco (organizers) with panelists Jennifer French, Mark Huber, and Dina Yagodich. “What Have We Learned? Lessons Gleaned from Transitioning to Online Teaching.” MAA Joint Math Meetings, 2021.

Meghan Perdue. “Project Based Assessments in Online Courses” J-WEL Workshop, 2021.

Meghan Perdue. “Strategies for Active Learning in the Humanities” J-WEL Workshop, 2021.

Meghan Perdue and Tom Kochan. “Shaping Work of the Future” Open Learning Talks, 2021.

George Westerman, William Bonvillian, Axelle Clochard-Bossuet, Lakshmi Killada, John Liu, and Stephen Nelson. “MassBridge: Advanced Manufacturing Workforce Education Program – Benchmarking Study Phase One Report.” MIT Open Learning, 2021.

John Liu. “Manufacturing Workforce Training at Scale.” APT Members Meeting, 2021.

John Liu. “Lessons on Remote Instruction in the Age of COVID.” University of Ibadan invited seminar, 2021.

Darcy Gordon. “Navigating Disability, Both Visible and Invisible.” MIT Diversity, Equity, and Inclusion Conversations Series (invited panelist), 2021.

Caitlin Friend, Anj Fayemi, and Aaron Kessler. “Student Learning Technologists: A Model for Transforming and Scaling Instructional Design.” Educause, 2021.

Sanjay Sarma, William Bonvillian, Jenna Myers and Meghan Perdue. “Workforce Education & the Implications of Covid-19.” National Academies of Sciences, Engineering & Medicine Government-University-Industry Roundtable and the Innovation Policy Forum, 2020.

Mary Ellen Wilttrout. “MIT's Approach to Emergency Remote Teaching.” EdTechX Summit, 2020.

Jennifer French. “Coming Together to Teach Remotely in the Time of COVID-19: A Case Study.” Online and e-Learning Summit, 2020.

Michelle Tomasik and Jennifer French. “The Powers of Latex, MITx, and edX combined.” MITx Significant Interest Group, 2020.

Alexander Shvonski. “Electricity and Magnetism Take-Home Design Experiments.” MIT J-WEL Connections Panel, “Activating the Ecosystem to Reimagine Education,” October 2020.

Darcy Gordon. “Barriers & Bridges: Inclusivity in Higher Education.” MIT Departments of Civil and Environmental Engineering and Biology: Diversity, Equity, and Inclusion Seminars, 2020.

Darcy Gordon. “Inclusive Classrooms: How to Leverage Identity to Improve Your Teaching Practice.” Workshops (MIT Community, IAP, and J-WEL), 2019 and 2020.

John Liu and Jessica Sandland. “Perspectives From Around MIT: Digital Learning.” J-WEL Workshop, 2020.

John Liu. “Tips from Teachers on Moving Laboratory Experiences Online.” J-WEL Webinar, 2020.

John Liu. “Manufacturing Workers.” J-WEL Connections, 2020.

John Liu. “Explain Everything Digital Whiteboarding and Tablet Style Video Creation.” Teaching + Learning Lab Workshop, 2020.

Mary Ellen Wilttrout. “Learning Design for Engaging Digital STEM Assessments Workshop.” Reimagine Education Conference, 2019.

Mary Ellen Wilttrout. “How MIT's Unique Digital Learning Lab Model is Transforming Classroom and Online Learning.” Learning Designer's Summit, 2019.

Mary Ellen Wilttrout. “Toolkit to Master Learning Design for Student Success Workshop.” Learning Designer's Summit, 2019.

Saif Rayyan, Kristin Kurianski, and Jennifer French. “Blended Learning by Example Workshop.” J-WEL Workshop, 2019.

Darcy Gordon. "Integration of Learning Principles to Meet Faculty and Student Needs." MIT Teaching and Learning Lab Seminar Series, 2019.

Darcy Gordon. "Integrating Residential and Online Learning Experiences in Biochemistry." MITx Significant Interest Group, 2019.

Polina Anikeeva and Jessica Sandland. "Case Study in MIT Education." MIT J-WEL Curriculum & Course Design Workshop, 2019.

Mary Ellen Wiltrout, Darcy Gordon, and Monika Avello. "Designing Engaging Digital Learning Experiences." MIT J-WEL Curriculum & Course Design Workshop, 2019.

Mary Ellen Wiltrout, Darcy Gordon. "A Hybrid Approach to Enhance Learning Experiences in Biochemistry." Reimagine Education Conference. 2018.

Jennifer French. "Digital Design in Differential Equations." Charles River X Presentation, 2018.

David Jerison, and Jennifer French. "Case Studies: Online approaches in calculus and differential equations." J-WEL Workshop, 2018.

Darcy Gordon. "Exploring MITx Biology MOOCs." J-WEL Exchange, 2018.

Darcy Gordon. "Using a Digital Learning Lab to Improve Biology Education at MIT and Online." Network of STEM Education Centers National Conference, 2018.

Mary Ellen Wiltrout. "Teaching MIT Students to Think Like Cell Biologists: A Visual Approach." Reimagine Education Conference, 2017.

Mary Ellen Wiltrout and Sera Thornton. "Competency-Based Testing in a Biology MOOC." Learning with MOOCs (LWMOOCs), 2017.

Mary Ellen Wiltrout. "Perspectives in Competency-Based Education" panelist. Saylor Higher Education Summit, 2017.

Blogs and other media

Jessica (2022):

<https://medium.com/open-learning/peer-evaluation-in-open-online-courses-72aa04ec5b0>

Mary Ellen, Meghan, and Ana, MITx 10 Years Anniversary Video (2022):

[MITx's 10th Anniversary](#)

Darcy (2022):

<https://openlearning.mit.edu/news/learning-doing-and-teaching-biology-through-multimedia>

Ana (2022): <https://openlearning.mit.edu/news/secret-superheroes-eecs>

Jessica (2022): <https://news.mit.edu/2022/fostering-research-mentorship-materials-science-0303>

John and Mary Ellen (2022):

<https://www.timeshighereducation.com/campus/using-communities-practice-drive-teaching-innovation>

Meghan (2022):

<https://www.timeshighereducation.com/campus/defining-student-experience-postpandemic>

Alex (2022): <https://openlearning.mit.edu/news/vibrations-and-waves>

Jen and Mary Ellen (interviewed by John) (2022):

<https://openlearning.mit.edu/news/conversations-mitx-digital-learning-lab>

Joey Gu (2022)

<https://news.mit.edu/2022/festival-learning-centers-guiding-students-surviving-thriving-0224>

Simona (2021): <https://news.mit.edu/2021/school-of-engineering-awards-0915>

John Liu (2021):

<https://medium.com/open-learning/designing-ar-apps-to-close-the-skills-gap-7c1a6275d04c>

Mary Ellen (2021):

<https://news.mit.edu/2021/studying-learner-engagement-during-covid-19-pandemic-1116>

John Liu (2021):

<https://news.mit.edu/2021/bridging-education-workforce-gap-community-college-beyond-0817>

Mary Ellen (2021):

<https://oeb.global/oeb-insights/how-to-build-the-future-of-teaching-and-learning-while-growing-from-the-changes-and-challenges-of-2020-21/>

Jessica (2020):

<https://openlearning.mit.edu/news/see-you-funny-papers-do-educational-comics-affect-mooc-student-performance-and-attitudes>