

# Program Leaders



[Kathy Jessen Eller, PhD](#)  
East Bay  
Educational  
Collaborative  
Rhode Island  
Science Teachers  
Association  
Secretary

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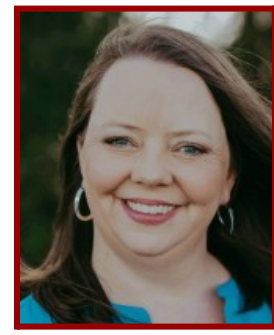
[Mike Cassidy, PhD](#)  
Senior Research  
Scientist, TERC

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[Leo Anthony Celi](#)  
MD, MPH, MS  
Massachusetts  
Institute of  
Technology  
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Deaconess  
Medical Center of  
Harvard

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[Brandy Jackson](#)  
CEO of Scoutlier  
by Aecern

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# Program Leaders

## Kathryn Jessen Eller

- Director of Client Services and Science Specialist, East Bay Educational Collaborative
- Secretary, Rhode Island Science Teachers Association

## Degrees

- PhD in Oceanography, University of Connecticut, 1996
- MS in Oceanography, University of Connecticut, 1992
- BS in Animal Behavior, Bucknell University, 1987

## Bio

Dr. Jessen Eller's primary goal is to improve and broaden K-12 STEM literacy, particularly in data science, AI, community gardens, and ocean sciences. She has a BS in Animal Behavior, PhD in Oceanography (biomolecular indicators of pollution), and postdoctoral training in aquatic toxicology. Kathy taught at the college level and was trained and certified by the Rhode Island Department of Education (RIDE) to engage underserved secondary school students in Providence, Rhode Island. Through the Providence Public School Department, she completed a middle school endorsement. Ultimately Kathy taught secondary science in Rhode Island for 10 years whereupon she joined the East Bay Educational Collaborative (EBEC) to direct STEM programs and write and lead federally-funded K-12 STEM initiatives/activities in collaboration with higher education (MIT, Brown University, Woods Hole Oceanographic Institute). Her contributions as Secretary for the Rhode Island Science Teacher's Association (RISTA) include spearheading a state-wide NASA Downlink event and collaborating with MA and CT science association leaders to provide a virtual solar eclipse workshop.

With a lifelong interest in nature and all things science, Kathy drew on her research experiences to informally and formally teach pK-college students ranging from age 5 (Audubon summer camp) to 85 (Elderhostel). Throughout her research, teaching, and community service (e.g. judging national and regional STEM fairs), a disturbing pattern emerged. In elementary school, science was reduced to fun activities between prioritized ELA and math instruction. In middle school, math teachers often did not get to the statistics

# Program Leaders

part of the standards due to time crunches. In high school, the average student could not create or interpret anything more complicated than a bar chart, and as adults, voters make decisions based on trusting others to interpret science for them. Now we're living in a world where social influencers gain more traction than scientists and AI, with all its embedded flaws and biases, is becoming part of every aspect of society. This includes healthcare, wherein flawed AI predictions can be a matter of life and death. With Data Science, AI and You (DSAIY) in healthcare, we're working towards mitigating bias through education.

## Michael Cassidy

- Senior Research Scientist, TERC
- Adjunct Professor, Boston College and Brandeis University

## Degrees

- PhD in Educational Theory and Practice. University of Georgia (2015)
- MS in Elementary Education and Teaching (2009)
- BS in Elementary Education and Teaching (2007)

## Bio

Dr. Michael Cassidy has over a decade of experience as an educator and researcher in mathematics and science education. His research builds upon his PhD in Educational Theory and Practice, MS, and BS in Elementary Education and Teaching, and his professional experiences as a teacher and teacher educator in the Southeast. Michael's current work focuses on computational thinking, engineering education, robotics, and the evaluation of mathematics and science intervention programs. Before joining SEEC at TERC, Michael was a middle and elementary school science and English language arts teacher in Title I schools, an instructor of pre-service middle grades teachers, and a supervisor of student teachers in urban and rural field placements. He is especially interested in teachers' perspectives about their professional learning, the impact of STEM educational programs on learning opportunities, particularly for members of underrepresented groups, and the application of computational thinking across content areas.

In his spare time, Michael enjoys playing and watching sports. He has also been involved in community service projects.

# Program Leaders

## Leo Anthony Celi

- Principal Research Scientist, Massachusetts Institute of Technology  
Clinical Research Director, Laboratory of Computational Physiology
- Co-Director, MIT Sana
- Staff Physician, Division of Pulmonary, Critical Care and Sleep Medicine, Beth Israel Deaconess Medical Center
- Associate Professor of Medicine, Part-time, Harvard Medical School

## Degrees

- MPH in Clinical Effectiveness, Harvard University School of Public Health, 2010
- MSc in Biomedical Informatics, MIT, 2009
- MD in Medicine, University of the Philippines, 1990

## Bio

Leo Anthony Celi has practiced medicine in three continents, giving him broad perspectives in healthcare delivery. As clinical research director and principal research scientist at the MIT [Laboratory of Computational Physiology](#) (LCP), he brings together clinicians and data scientists to support research using data routinely collected in the intensive care unit (ICU). His group built and maintains the Medical Information Mart for Intensive Care (MIMIC) database. This public-access database has been meticulously de-identified and is freely shared online with the research community. It is an unparalleled research resource; over 2000 investigators from more than 30 countries have free access to the clinical data under a data use agreement. In 2016, LCP partnered with Philips eICU Research Institute to host the eICU database with more than 2 million ICU patients admitted across the United States. The goal is to scale the database globally and build an international collaborative research community around health data analytics.

Leo founded and co-directs [Sana](#), a cross-disciplinary organization based at the Institute for Medical Engineering and Science at MIT, whose objective is to leverage information technology to improve health outcomes in low- and middle-income countries. At its core is an open-source mobile tele-health platform that allows for capture, transmission and archiving of complex medical data (e.g. images, videos, physiologic signals such as ECG, EEG and oto-acoustic emission responses), in addition to patient demographic and clinical information. Sana is the inaugural recipient of both the mHealth (Mobile Health) Alliance

# Program Leaders

Award from the United Nations Foundation and the Wireless Innovation Award from the Vodafone Foundation in 2010. The software has since been implemented around the globe including India, Kenya, Lebanon, Haiti, Mongolia, Uganda, Brazil, Ethiopia, Argentina, and South Africa.

He is one of the course directors for HST.936—global health informatics to improve quality of care, and HST.953—secondary analysis of electronic health records, both at MIT. He is an editor of the textbook for each course, both released under an open access license. The textbook [\*Secondary Analysis of Electronic Health Records\*](#) came out in October 2016 and was downloaded over 48,000 times in the first two months of publication. The course “[Global Health Informatics to Improve Quality of Care](#)” was launched under MITx in February 2017.

Leo was featured as a designer in the Smithsonian Museum National Design Triennial “Why Design Now?” held at the Cooper-Hewitt Museum in New York City in 2010 for his work in global health informatics. He was also selected as one of 12 external reviewers for the National Academy of Medicine 2014 report “Investing in Global Health Systems: Sustaining gains, transforming lives”.

## Brandy Jackson

- CEO of Scoutlier by Aecern, LLC
- Program Director at AMroC Fab lab

## Degrees

- Masters, Instructional Technology, Bridgewater State University, 2012
- BA, Education, English, Communications, 2002

## Bio

Ms. Jackson is a veteran STEM educator of 23 years and CEO of [Scoutlier](#), a learning development and delivery system. In 2017 she was highlighted as one of the top STEM educators in the world by MIT. In 2020, she was one of the 12 finalists for teacher of the year in HCPS. Her work and learning platform are used by the Office of Naval Research and USF Florida Inventors Hall of Fame to create Rapid Innovation Challenges.

## Teacher Journey

# Program Leaders

As a military spouse, I worked in nine districts, multiple subject areas and grade levels. To succeed I had to thrive at adapting new systems, curriculums, and technology tools to meet my students' needs. I fell in love with EdTech!

Towards the end of my classroom time, I began working as a STEM teacher and an integration specialist. It was my job to research tools and vet STEM curriculum that could document student performance. I was required to show evidence of student progress, I had to protect my students data, and I quickly learned there wasn't a single tool that would help me do this with ease. In the first moments using the Scoutlier app, I saw that it could meet this need.

Why and how? Scoutlier automates many of the classroom processes required for hands-on learning, so teachers have more time to actually work with their students. My lesson plan was the student activity, and the student activity returned rich data sets where I could quickly scout for any outliers in my classroom. Who was falling behind, who needed an additional challenge to stay engaged. And for the first time in 10 years, differentiation and choice became not an idea or goal but a reality in my classroom. Over the next three years, I would change content areas, schools, and states again. But no matter where I went-Scoutlier was there to support me in the process.

I eventually left the classroom full time to work in educational research with the Scoutlier learning platform. My three main goals were: build a system that seamlessly integrated into any learning platform, continue to demonstrate the effectiveness on scaffolding resources to connect career skills to school lessons, and make it so easy to for a teacher to gather student data in real time that they knew that the modifications they were putting in place were meeting students individual needs. With hard work and dedication to the teachers of today and tomorrow, I am proud to say we continually meet these goals.