



## California Education Learning Lab

*The Grand Challenge: Overcoming the Calculus Barrier to STEM Success*

### Selection Committee Member Bios

#### **Steve Bennoun**

##### ***Lecturer, Department of Psychology, UCLA***

Steve Bennoun completed his B.Sc. and M.Sc. in mathematics at the École Polytechnique Fédérale de Lausanne (EPFL) in Switzerland. He then earned his PhD in mathematics at the University of British Columbia in Canada. Before joining UCLA, Steve was an Active Learning Lecturer at Cornell University where he focused on redesigning mathematics courses to establish consistent use of active learning as well as assessing the impact of such curricular changes. His research focus includes understanding which teaching strategies can improve student learning, especially in college mathematics and science courses; assessing the impact of curriculum reforms; and studying faculty development programs to understand what factors can help instructors adopt evidence-based teaching methods.



#### **Janet Bowers**

##### ***SDSU Emeritus***

Dr. Janet Bowers was most recently an Associate Professor in the Department of Mathematics and Statistics and the Director of the Mathematics and Statistics Learning Center at San Diego State University (SDSU). As a member of the Center for Research in Mathematics and Science Education at SDSU, she is currently a PI on a nationwide NSF grant to redesign precalculus calculus curricula to incorporate input from content discipline partners. She is also a co-PI on a Noyce grant from NSF dedicated to creating new pathways for students in STEM disciplines to consider teaching as a career. Dr. Bowers' interests involve researching the ways in which students' development of mathematical understandings can be supported through advanced technologies. She has worked with many teams of researchers to develop applets to support students' development of deeper conceptual understandings of lower division math concepts. Dr. Bowers holds a Ph.D. in Education and Human Development, with specialization in Mathematics Education and Technology, from Vanderbilt University. She holds an M.A. in Mathematics Education from Villanova University, and a B.A. in Mathematics and Psychology from Bucknell University.



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**Kathy Kubo**

***Mathematics Instructor, College of the Canyons***

Kathy Kubo is a Mathematics Instructor at College of the Canyons. She helped create the college's redesigned statistics pathway, then led a faculty training program that enabled them to dramatically scale the number of sections offered. Canyons' statistics pathway has been honored by the California Community Colleges Chancellor's Office and the Board of Governors, and in 2015, the Campaign for College Opportunity honored Kubo for her leadership in transforming remediation. She participated in a National Science Foundation grant on statistics education, worked with Stanford University's Open Learning Initiative to revise their Concepts of Statistics courseware, and was a writing team member for the American Statistical Association's Two-Year College Data Science Summit. She is a 2019 recipient of the American Statistical Association's Fellowship Program for Two-Year College Teachers. Kubo currently works with the California Acceleration Project and coordinates the Chancellor's Office Statistics Institute, introducing best practices in pedagogy for teaching introductory statistics at the community college level. She holds a master's degree in Mathematics from the University of California, Los Angeles.



**Kelly Mack**

***Vice President for Undergraduate STEM Education and Executive Director of Project Kaleidoscope, AAC&U***

Dr. Kelly Mack is the Vice President for Undergraduate STEM Education and Executive Director of Project Kaleidoscope at the Association of American Colleges and Universities (AAC&U). In this capacity, Dr. Mack provides leadership for the organization's mission level commitments to quality and inclusion through the delivery of world class professional development aimed at empowering our nation's finest STEM faculty to competitively train and educate more STEM students. Prior to joining AAC&U, Dr. Mack was the Senior Program Director for the National Science Foundation ADVANCE Program while on loan from the University of Maryland Eastern Shore where, as a Professor of Biology, she taught courses in Physiology and Endocrinology for 17 years.

Dr. Mack's holistic approach to STEM reform is grounded in a strategic vision that foregrounds inclusion as an immutable factor for achieving excellence in undergraduate STEM education. Her leadership in STEM reform has led to: significant increases in the capacity of STEM faculty to



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implement culturally responsive pedagogies, major shifts in the ways in which leadership development for STEM faculty is delivered, and the expansion of both physical and virtual convening platforms for knowledge generation, exchange, and dissemination.

Recognized as a national thought leader in higher education, Dr. Mack's work has been highlighted in *Diverse Magazine* and *U.S. News and World Report*. Currently, she is an advisor to several institutional transformation initiatives at NSF-funded ADVANCE institutions, as well as other national STEM reform collaboratives. She is also co-founder and chair of the board of the Society of STEM Women of Color, Inc., and has served as member of numerous board and national committees.

Dr. Mack earned the BS degree in Biology from the University of Maryland Eastern Shore and, later, the PhD from Howard University in Physiology. She has had extensive training and experience in the area of cancer research with her research efforts focusing primarily on the use of novel antitumor agents in breast tumor cells, as well as the use of bioflavonoids in the regulation of estrogen receptor positive (ER+) and estrogen receptor negative (ER-) breast tumor cell proliferation. Most recently, her research efforts have examined STEM leadership development and the impact of mindfulness on STEM faculty self-efficacy.



### **Sathya Narayanan**

#### ***Professor of Computer Science, CSU Monterey Bay***

Prof. Sathya Narayanan is passionate about building actionable pathways that enable students from low-income communities to earn a quality computer science education and compete for opportunities in the tech industry. This passion has led him to develop a cohort-based model at his home institutions of Cal State Monterey Bay and Hartnell College, which has resulted in significant increases in retention, transfer, graduation, and job placement for first-generation, low-income, underrepresented minority students.

This work has been recognized with a \$5M award for innovation in higher education from the state of CA, as well as multiple National Science Foundation grants including a \$5M award to replicate the model at Cal State Dominguez Hills and El Camino College in LA. A paper describing the model, "Upward Mobility for Underrepresented Students: A Model for a Cohort-Based Bachelor's Degree in Computer Science" won a best paper award at SIGCSE 2018 and was nominated for the SIGCSE Top Ten Symposium Papers of All Time award.



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Sathya received his Master's in Computer Applications from the College of Engineering, Guindy, India, in 1994, his M.S. in Computer Science from Temple University, Philadelphia, in 1998, and his Ph.D. in Computer Science from NYU-Polytechnic University, Brooklyn, NY, in 2006. He teaches freshman year seminar, Physics, ProSeminar and a senior capstone courses in the CS program along with offering problem solving and internship preparation workshops to students from across CA.



### **Ganesh Raman**

***Assistant Vice Chancellor, Research, CSU Chancellor's Office  
Research Department***

Dr. Ganesh Raman is Assistant Vice Chancellor for Research at the California State University Office of the Chancellor. In this role, he is the senior academic official responsible for the vision, advancement and administration of CSU's research and scholarly mission and enterprise. He also oversees ten system-wide multi-campus consortia in a variety of disciplines. Dr. Raman formerly served as Deputy Vice Provost for Research at the Illinois Institute of Technology in Chicago. He began his career at NASA Glenn Research Center where he worked for 14 years and has served in consulting capacities with the Boeing Company. Dr. Raman serves on the Board of Directors of the California Life Sciences Association, the California Council for Science and Technology and is a founding member of the Board of Directors of the Long Beach Accelerator. He was named a fellow by the American Institute of Aeronautics and Astronautics (AIAA), and is also a fellow of the American Society of Mechanical Engineers (ASME) and the Royal Aeronautical Society, UK. He is the founding editor-in-chief of the International Journal of Aeroacoustics. Dr. Raman has published over 150 scholarly articles. He earned a Ph.D. in Mechanical and Aerospace Engineering from Case Western Reserve University.



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### **Jeffrey Stopple**

***Associate Vice Chancellor for Undergraduate Education  
and Professor of Mathematics***

Jeffrey Stopple is Associate Vice Chancellor for Undergraduate Education, and Professor of Mathematics. His specialty is Analytic Number Theory, which uses calculus and complex numbers to study the distribution of the primes. Stopple received his PhD from UC San Diego in 1986, and, following postdoctoral positions at Stanford University and the Mathematical Sciences Research Institute, has been at UC Santa Barbara since 1987. He was a Fulbright Scholar at Charles University, Prague in 1997, and is the author of "A Primer of Analytic Number Theory" (Cambridge University Press, 2003.) He has been chair of the Mathematics Department and of Undergraduate Council, and was Associate Dean for the UC Education Abroad Program.