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Imagining the Future of Undergraduate STEM Education
Designing Future Learning Opportunities with Students at the Center
Wednesday, March 9th, 2022

Moderator:

LYNN ANDREA STEIN is a professor of Computer and Cognitive Science at the Olin College of Engineering. She has a bachelor's degree, cum laude, in computer science from Harvard and Radcliffe Colleges and master's and doctorate degrees in computer science from Brown University. Dr. Stein's research spans the fields of artificial intelligence, programming languages, and engineering and computer science education. She has received the National Science Foundation Young Investigator Award, a Bunting Fellowship, and several educational awards; she has also served on the Executive Council of AAAI, on the Member Services Board of the ACM, and in various leadership positions as a woman in computing.

Undergraduate Student Perspectives

KATE MACOLINI is a member of the University of Maine Class of 2020, holding a Bachelor of Science in Mechanical Engineering.

GEORGE FRANCIS is a current student at the University of the Virgin Islands and a member of the Class of 2022.

BONNIE LIN is a recent graduate of Amherst College, earning a degree in Statistics in 2019.

SHREYA CHOWDHARY is a current student at Olin College and a member of the Class of 2022.

Examples of Student-Centered Learning

MICHELE GUANNEL is an Assistant Professor of Biology at the University of the Virgin Islands, based in St. Thomas. She earned a B.A. in Biological Sciences at Smith College, holds both an M.S. and a Ph.D. in Biological Oceanography from the University of Washington. She is a trained microbiological oceanographer and educator whose work focuses heavily on how science can promote social equality and the different threads that translate into the bigger picture of how science can benefit society.

LAWANDA CUMMINGS is the owner and principal evaluator of Com-metrics, LLC. She currently facilitates the evaluation of an NSF Targeted Infusion grant at UVI and manages assessment procedures for VI-EPSCOR educational outreach and ISERP teacher preparation. She was recently a Co-PI on an HBCU-UP NSF-funded project studying the psychosocial and contextual barriers and facilitators for African Americans in STEM

degree completion. Dr. Cummings' research focuses on the inclusion of minorities and women in STEM fields through academics and workforce inclusion, non-cognitive skills associated with academic achievement and persistence of African American students in college, and culturally congruent curricula and intervention development. She earned her Ph.D. in Community Psychology from Georgia State University.

Culturally Relevant Computing, Experiential Learning, Industry Partnerships, and Virtual Mentoring

KINNIS GOSHA is an Hortenius I. Chenault Endowed Associate Professor and Division Chair for Experiential Learning and Interdisciplinary Studies at Morehouse College. There he also serves as the Academic Program Director for Software Engineering and the Director of the Culturally Relevant Computing Lab. He received his Ph.D. in Human-Centered Computing from Clemson University and was the inaugural graduate of the program. He also holds an M.S. in Computer Science and Software Engineering from Auburn University and a B.S. in Computer Science from Albany State University.

Practical Ways to Design for the Students of the Future

CATHY MANDUCA is the Founding Director of the Science Education Resource Center (SERC) at Carleton College. She served as the Director of SERC until 2020, during which time she led work to improve education guiding projects to completion, developing new directions, raising funds, and managing staff. She was also served as the Executive Director of the National Association of Geoscience Teachers from 2007 to 2019. Currently, she serves on the Board on Science Education and the LabX Advisory Board for the National Academies of Science, Engineering, and Medicine, and has served on the elected leadership for the American Geophysical Union and AAAS Education Section in the past. She is a fellow of the AAAS and the Geological Society of America, and a past recipient of the American Geophysical Union's award for Excellence in Earth and Space Education. She received a B.A. in Geology from Williams College and a Ph.D. in Geology from the California Institute of Technology.

LINDA POWELL is Professor and Department Head of Biology at the Community College of Philadelphia [CCP]. She has served as Department Head of Biology for over 20 years guiding instruction. She was the CCP 2006 recipient of the Christian R. and Mary F. Lindback Foundation Award for Distinguished Teaching. She is the CCP Co-Principal Investigator for the Greater Philadelphia Region Louis Stokes Alliance for Minority Participation [LSAMP]Grant, funded by the National Science Foundation. She has worked on this initiative for 27 years. CCP works with eight tri-state Colleges and Universities to increase the number of African American, Latino, and Native –American students receiving baccalaureate degrees in the areas of Science, Technology Engineering and Mathematics [STEM]. Dr. Powell received a Citation from the Philadelphia City Council in June 2015 for

her years of STEM student support on the LSAMP grant and the RISE/Minority Science and Engineer Improvement Program [MSEIP] grant funded by the US Department of Education. She was PI on the CCP RISE/MSEIP grant [2013-2018]. Dr. Powell graduated with a B.S. in Science from Pennsylvania State University. She received an M.D. from the American University of the Caribbean in 1987.

GABRIELA WEAVER is the Assistant Dean for Student Success Analytics and Professor in Chemistry at the University of Massachusetts Amherst. Her scholarship is in the area of STEM education innovation for the goal of increasing access to higher education and student success. Her work has spanned numerous projects, including individual innovations in classes, researching how students learn specific concepts using different pedagogies or tools, engaging in curricular reform at the program or department level, providing professional development for K-12 teachers and higher education faculty, researching and supporting institutional-level change, engaging in national-level policy-related work, and developing and studying networks for practitioners and researchers of higher education STEM reform. Although her work has progressed across different projects, it has remained within the same sphere and theme, even while its scope has expanded from individual courses to institutions and ultimately communities of practitioners across the nation. She is a Fellow of the AAAS and was a member of the 2019-2020 ACE Fellows cohort. Weaver has a Bachelor's degree in Chemistry from Caltech and a doctoral degree in Chemical Physics from the University of Colorado Boulder.