



# COME-IN

## Resources for Assessing and Improving EDI Efforts in Mathematics and Statistics Departments

*Michael Dorff and Abbe Herzig*

**Scenario #1:** Alona is a student in Calc I who has a strong interest in math. She has scored near the top of her class on all her work and has shown some clever approaches to solving problems. Alona is Native American. How can you help Alona see your department as an attractive intellectual home for her major?

**Scenario #2:** Robert is finishing a postdoc at a prestigious university. He has defined an important area of research for which he has NSF funding, and he is a committed teacher who has just been selected as a Project NExT fellow. Robert is African American. How can you help him see your department as a place that would value his talents?

**Scenario #3:** Cristina is a math major applying to graduate school. Her GPA is 3.96. She has participated in several REUs and has presented at conferences and published papers. Cristina is Latina. How can you help her see your graduate program as a place where she can thrive?

Mathematics and statistics departments are being asked by their administrations or have decided themselves to improve equity, diversity, and inclusivity (EDI) among their members. However, the resources to support such goals are scarce. To help departments achieve these goals, TPSE Math ([tpsemath.org/](http://tpsemath.org/)) created a set of resources to guide a department in an evidence-based self-assessment

*Graduate students at the University of Hawai'i at Mānoa.*

of its policies and practices that impact equity, diversity, and inclusion, and then identify actions to address any concerns they uncover. The tool is called COME-IN (Creating Opportunities in Mathematics through Equity and INclusion)

## A look inside COME-IN

A key feature of COME-IN is that a department's use of the COME-IN tool is entirely self-guided. Department leaders identify their priorities, collect data to learn more about outcomes in these areas, and develop action plans to address any issues discovered. The tool is comprised of questions in categories such as recruitment, evaluation, flexibility, or mentoring, with some questions specific to undergraduate students, graduate students, postdoctoral scholars, faculty, or staff. These questions can help the department leaders consider situations and issues that they might be unaware of as they work to assess and improve their EDI efforts. Some sample questions are:

- Does the department have programs to prepare students for success in the workforce or graduate studies?
- How are students encouraged to take courses beyond those required for their degree program? How are students encouraged to consider STEM disciplines for their majors?
- How does the department assess the effectiveness of student placement in required courses and ensure continuous improvement?
- Are advisors trained to respond to cultural differences?
- What supports are available to ensure that students who start with entry-level courses can be successful in mathematics, statistics, or in other STEM majors?
- Are course materials accessible to students with vision, hearing, or other disabilities?
- How do the demographics of students who take advantage of these opportunities compare with the undergraduate population overall?

## Creation of COME-IN

COME-IN was created by a working group of 17 diverse mathematicians who

- Teach at different types of institutions (e.g., 2-year and 4-year colleges, R2 and R1 universities, and Minority Serving Institutions),
- Are active in different organizations (e.g., AMS, MAA, ASA, SIAM, AMATYC, TPSE, Indigenous Mathematicians, SACNAS, Lathisms, NAM, Spectra, AWM);
- Have diverse racial, ethnic, and gender identities; and
- Include mid- and late-career faculty; a graduate student; and various leadership and administrative roles.

The members were Ed Aboufadel, Ron Buckmire, Erika Tatiana Camacho, Michael Dorff, Carrie Diaz Eaton, Ruth

Haas, Abbe Herzig, Alexis Knaub, Dave Kung, David Manderscheid, Amaury Miniño, Nancy Rivers, Julia Sharp, Dylan Thurston, Cristina Villalobos, Talithia Williams, and Kamuela (Wela) Yong.

The working group adapted resources from the AAAS STEMM Equity Achievement (SEA) Change initiative ([seachange.aaas.org/](http://seachange.aaas.org/)) to the needs and challenges of the mathematical and statistical sciences. The resulting resources, COME-IN, provide a structured yet flexible process for collecting and interpreting quantitative and qualitative data to inform action in a way that is relevant to the different contexts, priorities, and needs of departments in the mathematical and statistical sciences.

## Next Steps

TPSE is in the final stages of refining the COME-IN resources and creating a website to house them ([tpsemath.org/comein](http://tpsemath.org/comein)). Also, we are in the process of making departments aware of COME-IN resources and how to use them.

COME-IN has the potential for profound impacts on students, faculty, and others who are members of groups traditionally underrepresented in the mathematical and statistical sciences. Departments testing COME-IN is the first step, and TPSE is planning to run a pilot test to help refine COME-IN.

To be fully effective in creating systemic change, COME-IN must lead to outcome-oriented action plans, and departments

*John Cortinas and Cristina Villalobos*





Tatiana Camacho, Roberto Alvarez, and Danielle Brager.

need to hold themselves accountable for those plans. One avenue for this action and accountability is AAAS SEA Change, which was designed to provide support and recognition for institutions and STEM departments to progress through a systemic transformation in support of EDI. SEA Change consists of an Institute of resources, research, convenings, and trainings; a Community of allied organizations and individuals; and a three-tier Awards system to recognize departments for their progress. A SEA Change award can be a clear signal to the community of a department's commitment to and progress toward an inclusive and equitable culture.

A SEA Change process of departmental self-assessment, peer review, and action planning is led by a coalition of professional societies. If societies in the mathematical and statistical sciences chose to form such a coalition, then COME-IN may be an ideal foundation for SEA Change Departmental Awards program. The first step in developing this program is for a few departments to pilot test the framework described

## Are you interested in

- Learning more about COME-IN?
- Pilot testing the COME-IN resources within your department or program?
- Working with TPSE to further develop these resources?
- Becoming a coach to help mathematics and statistics departments improve their EDI efforts with COME-IN?
- Participating in a planning conference to further develop COME-IN?
- Being part of an advisory committee to lead COME-IN into its next stages?

Then contact us!

[JEDI@tpsemath.org](mailto:JEDI@tpsemath.org)

by COME-IN, and provide feedback on how it can evolve further.

TPSE has been working closely with Shirley Malcom and Beth Ruedi of AAAS, and Alexis Knaub, who works with the physics & astronomy pilot of SEA Change, to determine what TPSE needs to do to run a pilot program using the COME-IN resources and to integrate our efforts with AAAS' SEA Change. We envision having mathematics and statistics departments apply to use the COME-IN resources, conduct a pilot of the self-assessment, and improve their department's culture for EDI. TPSE will supply the COME-IN material and EDI consultants from the mathematics and statistics communities, who will work with the departments in this effort and will assess the impact of this work.

---

*Michael Dorff is a professor of mathematics at Brigham Young University and is the director of strategy & implementation at TPSE Math. Abbe Herzig is the TPSE-Math EDI Consultant, and has participated with AAAS on the development of SEA Change materials.*



**MAA MATHFEST**  
PHILADELPHIA | AUGUST 3-6, 2022

**Panel Session**  
Register at [cvent.me/9eryWV](https://cvent.me/9eryWV)

## Creating Systemic Transformation in Higher Education to Achieve Equity

Access to quality mathematics education is a civil rights issue, directly affecting access to future careers. Many mathematics students and faculty face obstacles tied to their social, racial, ethnic, and gender identities. Panelists will lead a discussion about creating systemic transformation of mathematics departments to become places where diverse perspectives are intrinsic to excellence in mathematics.

**Organizers:** Abbe Herzig, *TPSE-Math (Transforming Post-Secondary Education in Mathematics)*  
Edward Aboufadel, *Grand Valley State University*  
Michael Dorff, *TPSE Math and Brigham Young University*  
Shirley Malcom, *AAAS (American Association for the Advancement of Science)*  
Deirdre Longacher Smeltzer, *MAA*