Towson University’s Center for STEM Excellence is excited to announce, iSTAR, a 9-day professional learning workshop for Maryland high school science teachers. During the iSTAR workshop up to 10 high school science teachers will engage in authentic research while exploring inclusive teaching practices that lead to student success in STEM.

Participants will consider how to effectively engage their students in the NGSS science and engineering practices as well as reflect on inclusive teaching practices that support the engagement of all students in STEM. The workshop will be facilitated by Dr. Matt Hemm, Associate Professor of Biology and Dr. Mary Stapleton, Director of Towson University's Center for STEM Excellence. Support for the iSTAR is provided by HHMI’s Inclusive Excellence initiative.

iSTAR workshop goals include:

- Engage teachers in authentic science research
- Increase teacher capacity to effectively engage their students in three-dimensional learning, with an emphasis on the NGSS science and engineering practices
- Increase teacher understanding of inclusive teaching practices
- Provide TU faculty and high school science teachers opportunities to share their experiences in engaging students in authentic research and their use of inclusive teaching practices
- Increase awareness among high school teachers and students about undergraduate research opportunities at Towson University

Participants are expected to:

- Complete a pre- and post-workshop survey and participate in all 9-days of the workshop
- Create/modify and implement a classroom lesson that effectively engages students in the NGSS science and engineering practices and incorporates inclusive teaching practices
- Share implementation experience/plan during fall meeting and complete a final written reflection

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**Summer Research Project**

Small proteins, defined as those containing 50 or fewer amino acids, are a poorly understood component of the cell. The short genes that encode these proteins are difficult to identify using standard bioinformatic techniques, and it is still unknown how many small proteins are encoded in any organism’s genome. The goal of this study is to identify new small proteins in the model bacteria *Escherichia coli*.

iSTAR participants will identify potential short genes that they hypothesize encode new small proteins, develop the bacteria strains needed to test this hypothesis, and then test for small protein expression. Ultimately, this work will not only identify new proteins, but will also provide information useful for improving small protein identification methods in the future.
Who can apply? This workshop is for high school science teachers in Maryland. While the research project will be bioscience based, teachers of all science disciplines are invited to apply. Preference may be given to teachers from schools in high-need school districts (as measured by FARMs).

Where: The summer portion of workshop will take place on Towson’s main campus, with the November 16 meeting occurring at the Towson University Center for STEM Excellence located at 701 E. Pratt St., Baltimore, MD, 21202. Parking will be provided at both sites. A limited number of overnight accommodations may be available for summer in dorms on Towson University campus. If you live > 60 miles from Towson University and would like to be considered for overnight housing, please notify Mary Stapleton prior to application deadline by emailing mkstapleton@towson.edu.

When: Participants will be expected to attend all days of the workshop:
- Summer: Tuesday – Friday, July 9-12 and July 16-19, 8:00 am – 3:00 pm,
- Fall: Saturday, November 16, 8:00 am – 2:00 pm

Why: All participants who successfully complete the workshop will:
- Receive a $900 stipend (must be a U.S. citizen or permanent resident alien to receive stipend)
- Receive 4 Continuing Professional Development Credits (CPD) from MSDE. Baltimore City teachers may be eligible for AU credit (pending application approval)
- Gain experience in authentic science research
- Learn more about effectively engaging their students in the science and engineering practices called for in the NGSS state science standards
- Learn more about inclusive teaching practices that promote success of all students in STEM

How:
- We are no longer accepting applications for this program.
- Acceptance notifications will be sent by April 19.

Questions?
Contact Dr. Mary Stapleton at mkstapleton@towson.edu.