



## Modeling Mobility

*Masters of Mobility meets Modeling Instruction to integrate a Connected and Automated Vehicle Challenge into High School Physical Science*

**August 11-13, 2020 – Location:** TBD (Oakland County area)

Modeling in Michigan and the MiSTEM Network are partnering with the Square One Education Network to provide experienced *Modeling in Physics* or Physical Science teachers with an engaging Problem Based Learning module called: **Masters of Mobility**. This established Square One challenge will be woven into the Modeling in HS Physical Science framework to deploy a wave model utilizing Arduino, Bluetooth, and sensor technology in an engaging classroom challenge with a connected and autonomous vehicle theme.

### What's included?

- A detailed instructional module using Modeling pedagogy will be provided. This will be an appendix to the High School Modeling in Physical Science Framework. The module will equip teachers with technical explanations, classroom activities and instructions on how to conduct a classroom challenge as well as an invitation to participate in a Square One sponsored challenge event.
- Classroom set of materials for student use: 10 programmable Arduinos boards, 4 robotic vehicle platforms, and a host of sensors.
- An understanding of the societal issues implied by the “mobility” revolution, the crossroads of automotive and information technology!
- Facilitated instruction in Arduino IDE and constructing a robotic vehicle system.
- A real-world deployment of wave phenomena especially as it relates to digital communication.
- New connections to STEM professionals who are contributing to the mobility revolution in Michigan.

### Other benefits:

**Stipends for participation (\$90 per day)**

**15 SCECHs**

Application Process and Timeline: Applications are accepted through June 19th, **BUT** first application review begins by Friday April 30<sup>th</sup> with announcements beginning soon after.



**To apply, complete this survey: <https://bit.ly/3ctyJAw>**

Funded in part by the MiSTEM Regions and the Square One Education Network

**About the MiSTEM Network:** The MiSTEM Network connects education, business and community partners across the state and is working to transform the way Michigan does STEM. MiSTEM Network supports opportunities for every student to experience problem-based learning that allows them to use STEM skills to address authentic challenges in their communities.

**About Square One Education Network:** The Square One Education Network is a STEM focused educational non-profit organization serving K-12 teachers and students. We offer unique professional development workshops for teachers and innovative vehicle engineering challenges for students, all focused on building skills and interests in pursuit of technical careers in the mobility industry.

**About Modeling Instruction in Michigan:** The Modeling Instruction in Michigan program provides professional development to Michigan secondary science teachers in Modeling Instruction. It is a comprehensive statewide program conceived and organized by lead members of MiSTEM Network, Michigan Math-Science Network and partnered with Eastern Michigan University, Detroit Metro Area Physics Teachers, and American Modeling Teachers Association.