

# Investigative Science Learning Environment (ISLE) Workshop

## Rutgers University June 26<sup>th</sup> – 30<sup>th</sup>

Rutgers invites **high school physics teachers, physical science teachers, and middle school physical science teachers** to spend a week in June learning how to help students learn and design lessons using the Investigative Science Learning Environment (ISLE).

Students learn physics by engaging in practices similar to that of physicists (and consistent with the NGSS) constructing and applying knowledge.

*Special focus* on mathematical reasoning that strengthens students' reasoning abilities in both math and physics.

Students learn to collect data and to represent them in multiple ways, to use proportional reasoning to find patterns in the data, to explain them and to test their explanations in new experiments.

Students work in groups designing their own experiments and have ample opportunities to pose and answer their own questions.

Students work to build knowledge together which helps teachers build a learning community in the classroom.

Integrated videos of concept-developing physics experiments and other resources from the ISLE Physics Website <http://www.islephysics.net>

Pervasive use of the award winning PhET simulations from the University of Colorado <http://phet.colorado.edu> and games and video resources from <http://www.universeandmore.com>

Teachers will join a community of over 2000 teachers from around the world implementing ISLE in their classroom.

***During the workshop*** the participants will:

- Improve their understanding of physics content, process, and specifically different productive representations such as motion diagrams, force diagrams, energy bar charts, graphs, and mathematical representations.
- Improve their understanding of student ideas and productive ways to help students learn.
- Learn about *ISLE* philosophy and how lessons are designed using *ISLE*.
- Experience lessons in kinematics, dynamics, momentum, and energy (including design labs) and reflect on the process.

***During the subsequent school year*** the participants will be able to:

- meet monthly for online workshops
- join a facebook group dedicated to ISLE to share their ideas, questions, etc.

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## Logistics

**Who:** The workshop will be led by R. Zisk (Rutgers University) and NJ high school teacher D. Bugge who use ISLE in their classrooms and train teachers to implement ISLE.

**When and Where:** The workshop will run from 9 am to 4 pm June 26<sup>th</sup> through June 30<sup>th</sup> at the Graduate School of Education in New Brunswick, NJ.

**Cost:** \$500

**Parking:** The participants will have a permit for the week of the workshop.

**Housing:** Low cost housing is available on site for those coming from out of town. Please email Rob Zisk for more details.

**Registration:** Please register at the following link: <https://forms.gle/XhMFxoDyNv9g1bxC8>

Your administration is welcome to visit any time but the best time is the morning of the first day of the workshop.

If you are interested and have questions, please contact Rob Zisk at [robert.zisk@gse.rutgers.edu](mailto:robert.zisk@gse.rutgers.edu)

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