



# The Center for Integrating Research and Learning at the National High Magnetic Field Laboratory

**Mission Statement:** To expand scientific literacy and to encourage interest in and the pursuit of scientific studies among educators and students of all ages through connections between the National High Magnetic Field Laboratory and the National Science Foundation, the community of Tallahassee, the State of Florida and the nation.



## Classroom Outreach

The NHMFL puts a high level of importance on creating the next generation of scientists and engineers. Because of this, classroom outreach is viewed as a pivotal part of the lab's outreach mission. During the school year, CIRL staff visit schools in the North Florida and South Georgia area to translate science concepts to K-12 students and teachers. Teachers are able to select from the 11 activities available on our website. These activities are then presented to students in a hands-on format by our outreach experts. Some examples are:

- Build an Electromagnet
- Electricity: Static & Current
- Lenz's Law
- Magnet Exploration
- Nature of Science
- Spectrum analysis
- Superconductivity

We reach over 10,000 students annually through these outreach efforts.



## Focus on Title 1

CIRL's outreach programs are aimed toward students and teachers from Title I schools. Because of this effort, close to 50% of the schools we reach are Title I.

### Middle School Mentorship

Since 2003, CIRL has facilitated a semester-long research program for middle school students. Local middle school students are selected by their school and paired with a scientist at the lab to work on a research project.



### High School and Undergraduate Programs

CIRL facilitates semester internships for high school and college students (~8 per semester). CIRL also facilitates the MagLab's Research Experience for Undergraduates program (~20 per summer).

### Online Resources and Community Events

The MagLab's Public Affairs team along with CIRL create a number of online resources for the public. Including a youtube channel with Science Demos, animations that feature our scientists, and interactive tutorials. Each year the MagLab holds an annual Open House that brings in 5000 people from the local community and a family science night that has on average ~100 participants.

## Summer Programs

CIRL offers summer programs for young scientists. The MagLab Summer Science Camp is offered twice during the summer. It is a one-week camp where students have the opportunity to participate in traditional summer camp activities with a distinct MagLab twist.



SciGirls is heading toward its 9<sup>th</sup> year. The goal of this program is to expose young women to hands-on relevant STEM activities and to STEM role models.



## Conference Presentations

Sharing the NHMFL's educational knowledge with the local community is just as important as spreading the message nationally. CIRL educators present lesson plans and activity ideas with teachers around the country by presenting at education conferences.

## Evaluation and Research

CIRL conducts evaluations of all of our programs. In addition CIRL staff conduct research on many of programs. CIRL's efforts have resulted in over 50 presentations at national conferences and 17 publications in international science education journals.