Partnership for the Integration of Computation into Undergraduate Physics

Lower Barriers

To Integrating Computational Activities Into Undergraduate Courses
The Birth of PICUP

Founders:

Norman Chonacky, Applied Physics, Yale U., Former Editor-in-Chief of *Computing in Science and Engineering*

David Winch, Physics, Kalamazoo College 1935-2013

* Survey Report:*

PICUP set out to address the conundrum:

*Why, if so many physicists concede the importance of computation, is there so little presence of computation in undergraduate physics courses?*
Through NSF funding...

1. **2016 PICUP/AIP National Survey Project**—survey of current computational use in the undergraduate physics curriculum in a national sample of colleges and universities offering the physics baccalaureate. *The results are in! Stay tuned...*

2. **Local Communities Project**—a regional AAPT section-centered faculty development model for fostering the integration of computation into the undergraduate physics curriculum

3. **National Scale Faculty Development and Community Building Project**—large scale faculty development activities coupled with an ambitious effort to build
   * a sustainable community of like-minded physics faculty across the country, and
   * a repository of useful and adaptable computational physics education resources

**PI's:**

Danny Caballero  
Michigan State U.  
Norman Chonacky  
Yale U.  
Larry Engelhardt  
Francis Marion U.  
Bob Hilborn  
AAPT  
Marie Lopez del Puerto  
U. St. Thomas  
K. Roos  
Bradley U.
Practical Operation of the PICUP Organization

- Community Building
- Faculty Support
  - Workshops / Synchronous Meetings
  - Faculty Opportunities/Rewards
  - Educational Materials Development

→ Repository of Adaptable Resources

→ Computing Environment/Language Agnostic
Workshop Coordinators

Walter Freeman
Syracuse University

Michelle Kuchera
Davidson College

Dava O’Neil
Bridgewater College

Todd Zimmerman
UW-Stout

Jordan McDonnell
Francis Marion University

Hunter Close
Texas State University

Josh Samani
UCLA

Brandon Lunk
Texas State University