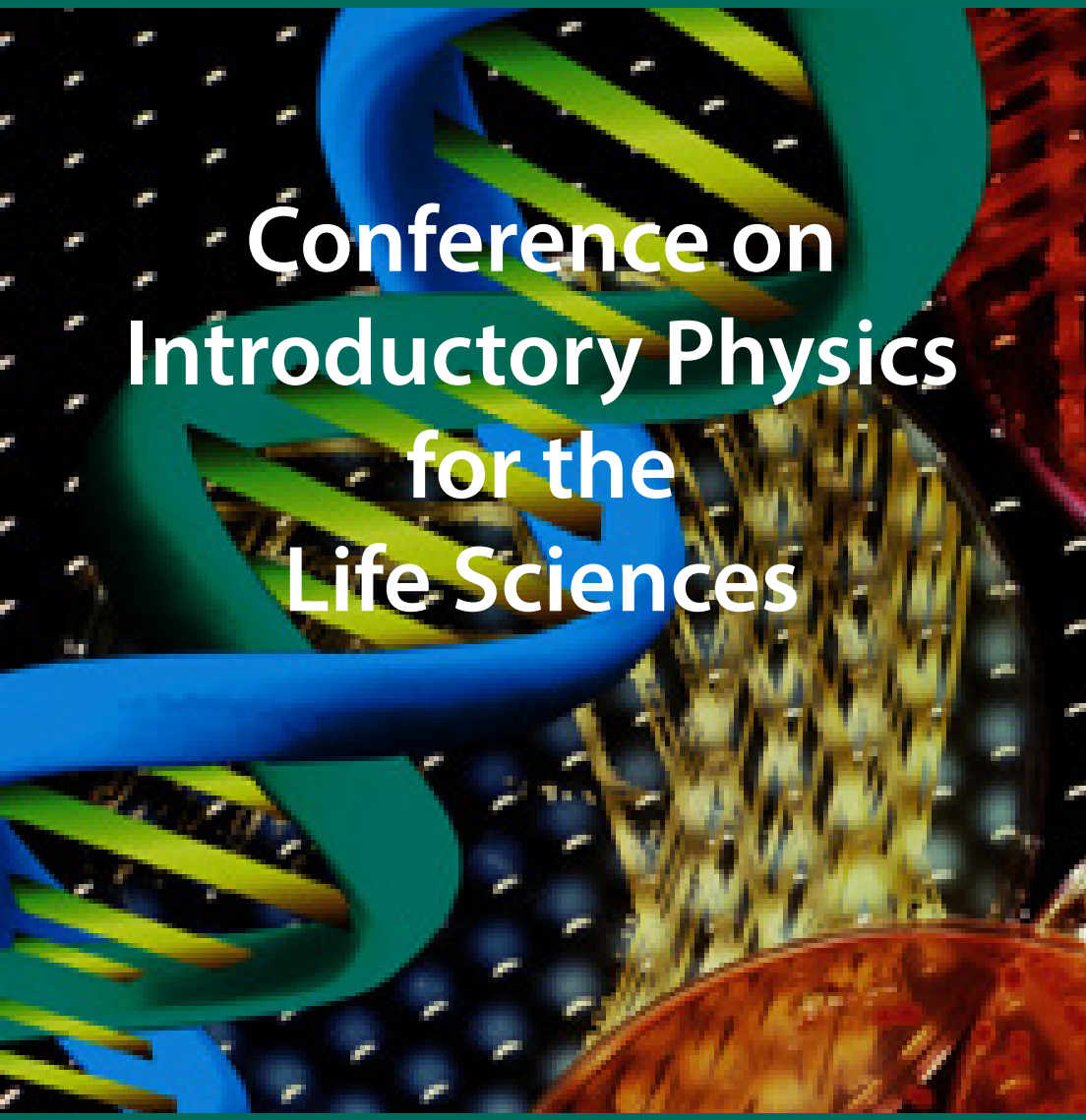

Conference on Introductory Physics for the Life Sciences

March 14-16, 2014

Key Bridge Marriott

Arlington, VA

Conference Planning Committee

Eric Brewe, Florida International University
Juan Burciaga, Mt. Holyoke College
Catherine Crouch, Swarthmore College
Paul Gueye, Hampton University
Robert Hilborn, American Association of Physics Teachers, Grant PI
Dawn Meredith, University of New Hampshire
Tom O'Kuma, Lee College
Wendell Potter, University of California-Davis
Mark Reeves, George Washington University
Patricia Soto, Creighton University

Stephanie Chasteen, External Evaluator, Universisty of Colorado-Boulder

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American Association of Physics Teachers

National Science Foundation

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Friday, March 14

noon–4:00 p.m. **Registration and Poster Set Up**

3:00–4:00 p.m. **Reception in poster area,** Capital View Ballroom Foyer

4:00 p.m. **Welcoming Remarks and Introductions,** Potomac Ballroom

Beth Cunningham, *AAPT Executive Officer*
Bob Hilborn, *AAPT Associate Executive Officer*

4:15-6:25 p.m. **Plenary I**: **The View from Biology, Chemistry, and Medicine**
Potomac Ballroom, Moderator: Bob Hilborn

4:15-4:45 p.m. **A new biology education for the 21st century**
Susan Rundell Singer, *Division of Undergraduate Education, National Science Foundation*

4:45-5:15 p.m. **Developing a learning progression for understanding energy changes at the atomic–molecular level**
Melanie M. Cooper and Nicole M. Becker, *Department of Chemistry, Michigan State University*

5:15–5:25 p.m. **Short Break**

5:25-5:55 p.m. **An overview of the new MCAT® exam**
Marc Kroopnick, *Association of American Medical Colleges*

5:55- 6:25 pm **Daunting challenges and golden opportunities for teaching physics to biology students**
Todd J. Cooke, *Department of Cell Biology and Molecular Genetics, University of Maryland*

6:30–7:30 p.m. **Dinner**, Capital Ballroom

7:30-8:30 p.m. **Plenary II: Case Studies from the Pedagogical Interface between Biology and Physics**
Potomac Ballroom, Moderator: Catherine Crouch

7:30–8:00 p.m. **IPLS Reform: still plenty of questions**
Dawn Meredith, *Department of Physics, University of New Hampshire*

8:00-8:30 p.m. **NEXUS/Physics: an interdisciplinary repurposing of physics for life science students**
Edward F. Redish, *Department of Physics, University of Maryland*

8:30-9:30 p.m. **Posters**, Capital View Ballroom Foyer

Saturday, March 15

8:00-9:00 a.m. **Plenary III: Laboratories for Introductory Physics for the Life Sciences**
Potomac Ballroom, Moderator: Paul Gueye

- 8:00-8:30 a.m. **Overview of IPLS labs: where are we now and where should we be going?**
  Nancy Beverly, *Department of Physics, Mercy College*
- 8:30-9:00 a.m. **Designing and implementing a sustainable laboratory as a coherent part of an IPLS course**
  Ken Heller, *School of Physics and Astronomy, University of Minnesota*

9:00-10:15 a.m. **Working Groups Session I: Course Transformation and Learning Goals**

At the end of my physics course, a biology student should be able to….
Michelle Smith, *School of Biology and Ecology, Maine Center for Research in STEM Education, University of Maine*

10:15-10:45 a.m. **Break in Poster Area**

10:45-11:45 a.m. **Plenary IV: Case Studies of IPLS Courses**
Potomac Ballroom, Moderator: Patricia Soto

- 10:45-11:15 a.m. **Reforming physics for the life sciences at the University of Michigan**
  Tim McKay, *Department of Physics, University of Michigan*
- 11:15-11:45 a.m. **Physics of medicine – my field of dreams**
  Nancy L. Donaldson, *Department of Physics, Rockhurst University*

11:45-12:30 p.m. **Working Groups II: Defining Strategies and Resources for IPLS Course Transformation**

12:30-1:30 p.m. **Lunch**, Capital Ballroom

1:30-2:45 p.m . **Plenary Panel I: More Views from Biology**
Potomac Ballroom, Moderator: Mark Reeves

Saturday, March 15 continued

1:30-2:30 p.m.	**Panelists Presentations** (20 minutes each) **Designing circulatory systems—evolution dances but physics calls the tunes** Steve Vogel, *Department of Biology, Duke University* **Using physics to turn biological cartoons into mathematical models of cells** Jané Kondev, *Department of Physics, Brandeis University* **What is the place of physics in a coherent, engaging, and effective biology curriculum?** Mike Klymkowsky, *Molecular, Cellular, and Developmental Biology, University of Colorado-Boulder*
2:30-2:45 p.m.	**Discussion**
2:45-3:15 p.m.	**Break and Posters**
3:15-4:15 p.m.	**Working Groups III: Take-home Ideas from Today's Presentations**
4:15-5:30 p.m.	**Plenary Panel II: Mathematics and IPLS Courses** Potomac Ballroom, Moderator: Juan Burciaga
4:15-5:15 p.m.	**Panelist Presentations** (20 minutes each) **IPLS in un-IPLS courses: project-based learning in a mixed enrollment course** David Weaver, *Physics, Chandler-Gilbert Community College* **University physics for the life sciences: calculus-based introductory physics re-imagined** Simon Mochrie, *Department of Physics, Yale University* **Mathematics: transcending the sciences** Scot Gould, *W.M. Keck Science Department, Claremont McKenna, Pitzer & Scripps Colleges*
5:15-5:30 p.m.	**Discussion**
5:30-6:15 p.m.	**Free Time**
6:15-7:15 p.m.	**Dinner**, Capital Ballroom
7:15-8:15 p.m.	**Posters**, Capital View Ballroom Foyer
8:15 p.m.	**Take down posters**

Sunday, March 16

	N. B. Hotel Check-out Before Noon
8:00-8:55 a.m.	**Working Groups IV: Formulating Recommendations for IPLS Courses**
9:00-10:00 a.m.	**Plenary VI: Course Transformation Revisited** Potomac Ballroom, Moderator: Eric Brewe **The intimate relationship between expertise, learning goals, pedagogy, and course transformation** Carl Wieman, *Department of Physics and Graduate School of Education, Stanford University*
10:00 -10:30 a.m.	**Refreshment Break**
10:30-11:30 a.m.	**Plenary Discussion: Reports from Breakouts** Potomac Ballroom, Moderators: Dawn Meredith and Tom O'Kuma
11:30 a.m.	**Final Remarks, Post-Conference Survey, Conference Report Development** Potomac Ballroom, Moderator: Bob Hilborn

American Association of Physics Teachers

Founded in 1930, The American Association of Physics Teachers (AAPT) is dedicated to enhancing the understanding of physics through teaching. For our members who serve physics students across the spectrum of schools, colleges, and universities, AAPT is a professional home that helps bring together knowledgeable and innovative colleagues who care deeply about physics teaching and education, and that offers valuable resources and benefits.

We serve our members through programs, publications, and networking, but also reach out to the larger community of physics and science teachers—current and future—and we look after issues of significance in science education. The national office works closely with our dedicated volunteers around the nation and beyond to promote a better understanding of physics at all levels. The association supports physics educators at all levels through our two publications, the *American Journal of Physics* and *The Physics Teacher*; NSF-funded programs including the Physics Teaching Resource Agents institutes; the digital physics library, ComPADRE (with APS and AIP); the Physics Teacher Education Coalition, PhysTEC (with APS and AIP); the Workshops for New Physics and Astronomy Faculty (with APS and AAS); two national annual meetings; and the student programs and scholarships that we administer, including the Lotze Scholarship for Future Teachers, the High School Physics Teacher Grants, the Physics Bowl, and the U.S. Physics Olympiad.

Beth Cunningham
Executive Officer

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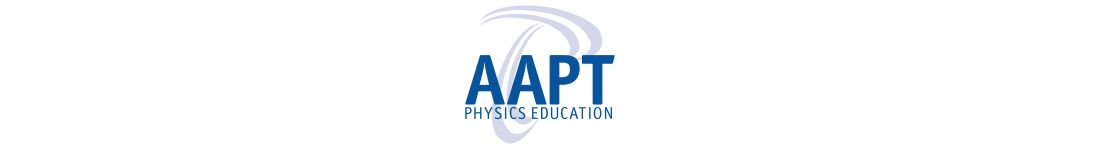

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