**Active Learning in Introductory Physics Courses: Research-Based Strategies that Improve Student Learning**

**Portland, OR June 19-21, 2018**

**Tentative Schedule**

Tuesday, June 19 (8:30 AM—6:15 PM)

8:00 am Coffee, etc.

8:30 am Welcome and Introductions

9:00 am Overview of *Activity-Based Physics Suite:* Active vs. Traditional Learning

9:15 am *Force and Motion Conceptual Evaluation (FMCE)*

9:45 am Break

10:00 am Hands-on with *RTP Mechanics* Labs 1 and 2

11:45 am Introduction to *The New Mechanics Sequence*

12:00 pm Lunch

1:00 pm Continued hands-on with *RTP Mechanics* Labs 3, 4 and 5

3:00 pm Introduction to Interactive Lecture Demonstrations (ILDs)

3:45 pm Clicker *ILDs*

4:00 pm Break

4:15 pm Formation of groups to prepare ILDs

4:30 pm Preparation for presentation of ILDs

6:15 pm Adjourn

Wednesday, June 20 (8:30 AM - 6:15 PM)

8:00 am Coffee, etc.

8:30 am Presentation of ILDs by Group 1

9:10 am Presentation of ILDs by Group 2

9:50 am Presentation of ILDs by Group 3

10:30 am Break

10:45 am Adaptation of RTP for use with IOLab in distance learning

11:15 am Introduction to *Workshop* *Physics (WP)*, *Analytic Mathematical* *Modeling* and *Physics w/ Video Analysis (PVA)*

11:30 am Hands-on with *Analytic Mathematical* *Modeling, PVA, RTP Mechanics* Lab 10 and/or *WP* activities

12:30 pm Lunch

1:30 pm Hands-on with *Analytic Mathematical* *Modeling, PVA, RTP Mechanics* Lab 10 and/or *WP* activities

2:30 pm Introduction to *Interactive Video Vignettes (IVV)* and discussion of the IVV homework assignment

3:15 pm Using *PVA* and *Modeling* for Student Projects

3:30 pm Break

3:45 pm Research on (1) *IVV* and (2) *PVA* and *Modeling* in *WP* and discussion

4:00 pm Active learning approach used in *RTP* and *WP* for Heat and Thermodynamics

4:15 pm Introduction to *RTP Electricity and Magnetism*

4:30 pm Hands on with *RTP Electricity and Magnetism* Labs 1-3

5:30 pm Research on the effectiveness of RTP and ILDs and discussion

6:15 pm Adjourn

Thursday, June 21 (8:15 AM - 12:00 NOON)

8:00 am Coffee, etc.

8:15 am Hands on with *RTP Electricity and Magnetism* Labs 4-6

9:00 am Hands on with *RTP Electricity and Magnetism* Lab 10

9:20 am Introduction to *RTP Light and Optics*

9:30 am Hands-on with *RTP Light and Optics* Labs 3 and 5

11:00 am Recitation and tutorial time: *Collaborative Problem-Solving Tutorials* and *Activity-Based Tutorials*

11:30 am Closing discussion on implementation issues with active learning

12:00 pm Adjourn