

# Session Topics

## Committee on Apparatus

Exciting Demos & Equip in E&M  
PIRA Session - 3D Printing in Labs and Demonstrations

## Committee on Diversity in Physics

Coping Mechanisms for Physics Students from Underrepresented Groups  
Supporting Equity through Group Work and Collaboration

## Committee on Educational Technologies

Best Practices in Educational Technology  
Cultural Perspectives on Educational Technology  
Developing and Using Next-Generation Simulations  
Educational Applications of Drones, Augmented/Virtual Reality, and Other Emerging Technologies  
Effective Practices for Integrating Computation in Undergraduate Physics  
Effective Practices in Educational Technology  
Use of Online Presence to Enhance Instruction

## Committee on Graduate Education in Physics

Multiple Career Paths in PER

## Committee on History and Philosophy in Physics

History and Philosophy in Physics Courses  
Science and Religion

## Committee on the Interests of Senior Physicists

conFUSION about Units: Mass/Weight, Weightlessness and Others  
Defining Units: Old and New

## Committee on International Physics Education

Citizen Science and International Collaboration  
Creating Inclusive Diverse Classrooms

## Committee on Laboratories

Designing Labs with Low-Cost Embedded Computers: Raspberry PI, BeagleBone, and Galileo  
Lab Recommendations Focus Area 5: Technical and Practical Skills  
Optics Labs at All Levels: Rainbows to Raman Spectroscopy

## Committee on Modern Physics

Neutrino Physics Investigations for Students and Teachers

## Committee on Physics in High Schools

Designing Curriculum for Social Justice in the HS Physics Classroom  
K-12 PER  
Modeling Instruction at All Levels  
NGSS Evidence Statements  
Teaching AP Physics with Big Ideas, Writing, & Calculations  
Writing in HS Physics Classes

## **Committee on Physics in Pre-High School Education**

Constructing Learning Cycles Using the Evidence Statements of the NGSS  
Electricity, Energy, and Particles: Squishy Circuits, Scribble Bots, and the Particle Zoo  
Make, Play, Learn  
Opportunities for K-12 Teacher Leadership and Engagement

## **Committee on Physics in Two-Year Colleges**

Adjunct Faculty  
Current Space/Astronomy/Physics News Used in the Classroom  
Going Public: How to Get Published  
Highlights of TYC New Faculty Experience  
Impact and Reflections on the 20+ years of TYC Physics Workshop Projects

## **Committee on Physics in Undergraduate Education**

Jupyter: VPython/GlowScript  
Learning Outcomes and Assessment in the IPLS Course  
New Developments in Introductory Physics for Life Science Dissemination  
PER Innovations for Reducing DFW Rates and Improving Retention in Introductory Physics Sequences  
PER-Based Innovations in Upper Division Physics Classes  
Phys21  
Results of a Comprehensive National Survey of the Uses of Computation in Undergraduate Physics Programs  
The Art and Science of Teaching

## **Committee on Professional Concerns**

Panel on First Year Teacher Concerns  
Panel on Public Affairs - Physics Teacher Recruitment  
Physicists with Disabilities  
Survival Skills for New High School Teachers

## **Committee on Research in Physics Education**

Engineering Education  
Graduate Student Topical Discussion  
Interactive Lecture Demonstrations: What's New? ILDs Using Clickers and Video Analysis  
Professional Skills for Graduate Students  
Race and Gender Performance Gaps: Problems and Alternatives  
Research on the Impacts of the Learning Assistant Model  
Solo PER  
The Physics of the NSF IUSE Program  
The Use of IOLab for Introductory Laboratory Reform

## **Committee on Science Education for the Public**

Climate Change

## **Committee on Space Science and Astronomy**

Avenues for Publishing in Astronomy Education  
Frontiers in Astronomy  
Improving Student Learning With the Use of Popular Media  
Multi-Messenger Astronomy in the Age of GR and Gravitational Waves  
Preparing the Community for the August 21st Solar Eclipse

## **Committee on Teacher Preparation**

30 Demos in 60 Minutes  
Innovative Models of Physics Teacher Preparation

Research on Physics Teacher Preparation

## **Committee on Women in Physics**

Developing Successful Mentoring Relationships

Making Change through Science Policy