## Session Tracks

### 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