

Unique ID #	Code	Day	Time (All times listed in EDT)	Preseation Type	Poster Session	Abstract Title	Author First	Author Last
2380	POS.A-MO.01	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Astronomy Poster	Web-browser Based Projects in the Hybrid Introductory Astronomy Courses	Tatiana	Krivosheev
2777	POS.A-MO.03	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Astronomy Poster	Activities for Visually Impaired Learners in Introductory Solar System Astronomy	Roger	Hart
3040	POS.A-MO.04	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Astronomy Poster	Comparing Two Scaffolds for Evaluating Scientific Explanations	Janelle	Bailey
3046	POS.A-MO.05	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Astronomy Poster	Student Understanding of Eclipses: Then and Now	Craig	Wiegert
2302	POS.B-MO.01	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Computer Modeling and Computation in Labs	Chromaticity Simulation Using Software Program	Shihong	Ma
2377	POS.B-MO.02	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Computer Modeling and Computation in Labs	Introducing Computation and Modeling Experience through Brownian Motion Experiment	Tatiana	Krivosheev
2844	POS.B-MO.04	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Computer Modeling and Computation in Labs	Radius of Earth from a photo of two distant bridges	Clinton	Lewis
2953	POS.B-MO.05	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Computer Modeling and Computation in Labs	Improving Students' Conceptions Combining Computational Modeling and Real-world Data	Jannis	Weber
2978	POS.B-MO.06	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Computer Modeling and Computation in Labs	Optimization of Two-phase Jet Impingement Cooling for High Power-Density Processors	Ethan	Zuo
3038	POS.B-MO.07	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Computer Modeling and Computation in Labs	Integrating Simulation and Experiment in the WKU University Physics Laboratory	Doug	Harper
3042	POS.B-MO.08	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Computer Modeling and Computation in Labs	Modern Physics Computation with Jupyter Notebooks	Troy	Messina
2379	POS.C-MO.01	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Integrating Computation During a Pandemic	Using Video Analysis to Perform Remote Experiments in Mechanics Laboratories	Tatiana	Krivosheev
2658	POS.C-MO.02	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Integrating Computation During a Pandemic	Integrating Computational Jupyter Notebook Lessons into High School Physics	Enrique	Arce-Larreta
3024	POS.C-MO.03	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Integrating Computation During a Pandemic	Computational Tasks for Intermediate Mechanics	Ernest	Behringer
3072	POS.C. SA.04	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Integrating Computation During a Pandemic	Entropy Change from Phase Transitions: Introducing Computation White Transitioning Online	Joshua	Qualls
2426	POS.D-MO.01	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Labs/Apparatus	Demonstrator of low frequency longitudinal standing wave	Xiangming	Kong
2458	POS.D-MO.02	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Labs/Apparatus	Projectile motion simulation, with a low-cost interactive Arduino/S4A based apparatus	Uriel	Rivera
2501	POS.D-MO.03	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Labs/Apparatus	Teaching Physics by Inquiry Remotely	Jennifer	Blue
2565	POS.D-MO.04	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Labs/Apparatus	Experiment activity of Student collaboration In Synchronous Distance Learning	H.S.	CHOI
2805	POS.D-MO.05	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Labs/Apparatus	Diverse strategies for design physics activity by investigating research-based activities	Amin	Bayat Barooni
2812	POS.D-MO.06	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Labs/Apparatus	Surface-Plasmon-Resonance Sensing in the Advanced Physics Laboratory	Eugenii	Donev
2866	POS.D-MO.07	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Labs/Apparatus	Some Cool Hands-On Experiments for a Remote Acoustics Lab	Milind	Kunchur
2917	POS.D-MO.08	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Labs/Apparatus	Real-time 3D Object Tracking for High School and Undergraduate Physics	Lori	Shaaban
2985	POS.D-MO.09	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Labs/Apparatus	Oscillations and Hooks Law For Fully Remote Introductory Physics Labs	Michael	Nichols
2993	POS.D-MO.10	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Labs/Apparatus	How agency and lab reports affected attitudes in remote labs	Nathan	Powers
2394	POS.E-MO.01	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Lecture/Classroom	Exploring Ways to Make a Remote Physics Classroom More Inclusive	Merideth	Frey
2794	POS.E-MO.02	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Lecture/Classroom	Group Activities to Synthesize Physics Understanding	Matt	Olmstead
2869	POS.E-MO.03	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Lecture/Classroom	Material Development for Teaching Electric Circuits with the Pressure Analogy	Thomas	Weatherby
2935	POS.E-MO.04	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Lecture/Classroom	Real-world Problems for AP® Physics 1 and AP® Physics 2	Eric	Strong
2964	POS.E-MO.05	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Lecture/Classroom	Supporting Gender-Equity in the STEM Classroom	Lynn	Jorgensen
3048	POS.E-MO.06	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Lecture/Classroom	Bernoulli's Equation and Continuity Equation in terms of Energy/Mass Conservation	Anne	Tabor-Morris
3067	POS.E-MO.07	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Lecture/Classroom	Kirchhoff's Laws of Electricity in terms of Conservation of Energy/Mass	Anne	Tabor-Morris
3158	POS.E-MO.08	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Lecture/Classroom	Bringing new life to open-world physics lab experiments	Chathuri	Silva

2555	POS.G-MO.01	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Other Poster	STEM Attrition at a Military Academy: Cadets' Experiences and Recommendations	Wilson	Gonzalez-Espada
2709	POS.G-MO.02	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Other Poster	STEM MILES: Mentoring Innovative Learning Experiences for Students	Leonardo	Hsu
2838	POS.G-MO.03	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Other Poster	Two Content Pathways in Presenting Electromagnetism in Introductory Physics Textbooks	Liang	Zeng
2911	POS.G-MO.04	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Other Poster	Do Students Actually Use the Textbook?	Sarah	Trallero
2307	POS.F-MO.01	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Student understanding of quantum mechanical observables and corresponding operators	Chandralekha	Singh
2308	POS.F-MO.02	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Quantum Interactive Learning Tutorial on Larmor Precession of Spin	Chandralekha	Singh
2309	POS.F-MO.03	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Quantum Interactive Learning Tutorial on Quantum Key Distribution	Chandralekha	Singh
2310	POS.F-MO.04	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Just-in-Time Teaching and Peer Instruction in a Quantum Mechanics Course	Chandralekha	Singh
2349	POS.F-MO.05	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	(Cancel) The Write Stuff: Does Writing on Exams Correl	Chadwick	Young
2356	POS.F-MO.06	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Who do students believe a growth mindset applies to?	Alysa	Malespina
2383	POS.F-MO.07	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Network Analysis of the CLASS	Christopher	Wheatley
2391	POS.F-MO.08	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Seeing Whiteness in Introductory Physics: A Case Study	Amy	Robertson
2400	POS.F-MO.09	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	How the learning environment predicts students' motivational beliefs in physics	Sonja	Cwik
2405	POS.F-MO.10	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Life and career planning of undergraduate students after graduation	Hien	Khong
2406	POS.F-MO.11	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	How perception of learning environment predicts students' physics motivational characteristics	Yangqiuting	Li
2407	POS.F-MO.12	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Who do students believe a growth mindset applies to?	Alysa	Malespina
2463	POS.F-MO.13	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Observing and Characterizing a Two-Year College Research Methods Course	Laura	Wood
2490	POS.F-MO.14	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Developing Essential Physics Skills through a Workshop-style Course	Joseph	Kozminski
2492	POS.F-MO.15	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Society's Educational Debts from Racism and Sexism in Science Disciplines	Jayson	Nissen
2519	POS.F-MO.16	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	How STEM faculty enter Discipline Based Education Research	Christopher	Hass
2610	POS.F-MO.17	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	How modeling informs students' engagement in sensemaking	AMOGH	SIRNOORKAR
2636	POS.F-MO.18	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	What factors predict FMCE post-test scores controlling for pretest scores?	Dona	Hewagallage
2652	POS.F-MO.19	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Embracing Subjectivity in Physics to Support Student Empowerment	Andrea	Wooley
2660	POS.F-MO.20	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Knowledge statements as a productive intervention to prompt reflective thinking	John	Kelly
2668	POS.F-MO.21	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Student Resources for Understanding Momentum	Brynna	Hansen
2669	POS.F-MO.23	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Exploring Student Conceptual Resources About Heat and Temperature	Yohannes	Abraham
2686	POS.F-MO.24	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Experiment of Model Train using Ultrasonic Sensor Connected to Smartphone	Akira	Adachi
2703	POS.F-MO.25	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Network analysis of collaboration in upper-division remote and hybrid courses	Nate	Crossette
2705	POS.F-MO.26	2-Aug	2:15 PM 3:45 PM	Poster Abstracts	Physics Education Research	Growth of Emerging Education Researchers in Virtual Professional Development Program	Shams	El-Adawy

Poster Session II

2756	POS.A-TU.01	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Using Ranking Questions to Assess Student Assistants' PCK-Q	Weston	Wegleitner
2761	POS.A-TU.02	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Planetarium Use in Introductory Astronomy Courses	Jason	Trump
2765	POS.A-TU.03	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Using Ensemble Machine Learning to Identify At-Risk Physics Students	John	Hansen
2787	POS.A-TU.04	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Development of an Instrument for Analysis of Student Assistants' PCK-Q	Beth	Thacker

2823	POS.A-TU.05	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Looking Beyond the Normalized Gain	Paul	Miller
2827	POS.A-TU.06	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Mechanistic Reasoning in the Context of Resource Oriented Instructional Materials	Clausell	Mathis
2855	POS.A-TU.07	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Use of physics simulations in supporting equity and student learning	Emily	Allen
2865	POS.A-TU.08	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Social-positioning correlates with consensus building in two contentious large-group meetings	Brant	Hinrichs
2914	POS.A-TU.09	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Student Engagement in the Practice of Developing and Using Models	Paul	Bergeron
2916	POS.A-TU.10	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Students' conceptions and ideas about "motion" during think-aloud problem-solving activities.	Cory	Ellis
2932	POS.A-TU.11	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Analysis of Computation Based Formative Feedback within the EMP-Cubed Classroom	Tyler	Stump
2934	POS.A-TU.12	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Using Deliberate Innovation to Understand Indifference in Graduate Advisor/Advisee Relationships	Erika	Cowan
2959	POS.A-TU.13	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Comparing NSF Funding Programs for Physics and Engineering Education	Rebecca	Rosenblatt
2974	POS.A-TU.14	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Students' Self-Efficacy in an Accelerated Remote Introductory Lab Sequence	Paul	DeStefano
2981	POS.A-TU.15	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Examining the dynamics of decision-making when designing curriculum in student-partnerships	Erin Ronayne	Sohr
2998	POS.A-TU.16	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Problem Solving as a Process of Translating Between Semiotic Modes	John	Thomas
3001	POS.A-TU.17	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	The effect of dual process theory instruction on student learning*	Alistair	McInerney
3011	POS.A-TU.18	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Measuring students' level of understanding in introductory physics courses	David	Waters
3030	POS.A-TU.19	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Personas of Student completing Online Instructions During the COVID-19 Pandemic	Nandana	Weliweriya Liyanage
3031	POS.A-TU.20	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Student Feedback: Transition to Online Instructions During the COVID-19 Pandemic	Nandana	Weliweriya Liyanage
3032	POS.A-TU.21	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Students' Problem-Solving Processes Associated with Representations in Pencasts.	Nandana	Weliweriya Liyanage
3035	POS.A-TU.22	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Social Semiotic Resources to Investigate STEM Problem Solving with Representations.	Nandana	Weliweriya Liyanage
3037	POS.A-TU.23	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	The impact of online college science courses on student anxiety	Tasneem	Mohammed
3064	POS.A-TU.24	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	AGEP Alliance Model for Underrepresented STEM Doctoral Candidates at HBCUs	Willie	Rockward
3071	POS.A-TU.25	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Physics Education Research	Optimum separation of two plates for maximum potential difference	Nityananda	Das
2296	POS.B-TU.01	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Pre-college/Informal and Outreach	Teaching physics using agricultural concepts.	Diedre	Young
2604	POS.B-TU.02	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Pre-college/Informal and Outreach	Development of Historical Vignettes in Teaching Physical Science in SHS	Voltaire	Mistades
2754	POS.B-TU.03	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Pre-college/Informal and Outreach	Grad students unite! Collaborations in virtual public engagement	Bryan	Stanley
2797	POS.B-TU.04	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Pre-college/Informal and Outreach	Gender Gap in Physics: An Important Initiation from Cameron University	Susmita	Hazra
3077	POS.C-TU.01	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Pre-college/Informal and Outreach	A Virtual Physics Camp for Middle School Girls during COVID	Roberto	Ramos
2643	POS.D-TU.01	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Teacher Training/Enhancement	Exploring Physical Phenomena: A Physics Course for Prospective Teachers	Emily	Van Zee
2656	POS.D-TU.02	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Teacher Training/Enhancement	Affordances of a Noyce Program -STEM Center partnership	Stephen	Robinson
2522	POS.E-TU.01	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Teaching the Introductory Physics for the Life Sciences (IPLS) course	Modeling Bite Pressure using Popcorn Kernels, a Lever, and iOLab	James	Vesenska
2864	POS.E-TU.02	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Teaching the Introductory Physics for the Life Sciences (IPLS) course	Development of dynamics questions for the Fluids Conceptual Evaluation (FCE)	Dawn	Meredith
2910	POS.E-TU.03	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Teaching the Introductory Physics for the Life Sciences (IPLS) course	Implementation of a biomedically relevant active-learning Physics curriculum	Mayuri	Gilhooly
2969	POS.E-TU.04	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Teaching the Introductory Physics for the Life Sciences (IPLS) course	Implementation of a Full Year Introductory Physics Sequence Pre-Health Students	Priya	Jamkhedkar
3008	POS.E-TU.05	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Teaching the Introductory Physics for the Life Sciences (IPLS) course	The absorption spectrum of organic molecules	David	Waters

3027	POS.E-TU.06	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Teaching the Introductory Physics for the Life Sciences (IPLS) course	Health/life Scenario Digital Worksheets with Student Choice of Details	Nancy	Beverly
3080	POS.E-TU.07	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Teaching the Introductory Physics for the Life Sciences (IPLS) course	Development of statics questions for the Fluids Conceptual Evaluation (FCE)	Doris	Wagner
2870	POS.F-TU.01	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Technologies	An Analogy-Based 3D-Simulation for Teaching Simple Electric Circuits	Jan-Philipp	Burde
2872	POS.F-TU.02	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Technologies	Beyond email: effective communication strategies to engage students of physics	Kristin	Poduska
3009	POS.F-TU.03	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Technologies	Energy in Magnetic Fields: A Hands-on Activity and Preliminary Assessment	Rebecca	Vieyra
2474	POS.G-TU.01	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Upper Division and Graduate	Online Tutorials for Middle-Division Quantum with Adaptive Guidance	Giacco	Corsiglia
2488	POS.G-TU.02	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Upper Division and Graduate	Improving the Communication Skills of STEM Graduate Students	Shannon	Willoughby
2553	POS.G-TU.03	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Upper Division and Graduate	Student difficulties with diagonal operators for degenerate perturbation theory	Christof	Keebaugh
2702	POS.G-TU.04	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Upper Division and Graduate	Comparing undergraduate and graduate student reasoning on conceptual entropy questionnaire	Nate	Crossette
2852	POS.G-TU.05	3-Aug	12:30 PM to 2:00 PM	Poster Abstracts	Upper Division and Graduate	A Knowledge-in-Use Assessment for Upper-Division Thermal Physics	Katherine	Rainey
2572	SPS.A.SA.02	SPS Session	3:30 PM to 4:30 PM	Poster Abstracts	SPS Undergraduate Poster Session	Muon Path Detection in a Magnetic Field	Henry	Seiden
2796	SPS.A.SA.02	SPS Session	3:30 PM to 4:30 PM	Poster Abstracts	SPS Undergraduate Poster Session	An Analytical Approximation of Gravitational Waves	Daniel	Hancock
2900	SPS.A.SA.03	SPS Session	3:30 PM to 4:30 PM	Poster Abstracts	SPS Undergraduate Poster Session	Physics Education Research as Preparation For a Future Physics Educator	Ian	Coburn