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# 2022 ISU University Research Symposium

## DEPARTMENT OF PHYSICS

### Oral Presentations (April 2, 2022)

Physics Undergraduate Morning Zoom Sessions (meeting ID # 917 9005 4915)

Faculty mentors: Dr. M. Biswas; Dr. M. Caplan; Dr. N. Christensen;  
Dr. R. Grobe; Mr. R. Zich; and Dr. Q. Su

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Session 1

**8:00-8:15**

**Naomi Satoh**

INVESTIGATING THE EFFECTS OF MODIFIED ELECTRIC FIELD REPRESENTATIONS  
ON STUDENT INTERPRETATION OF ELECTRIC FIELD DIAGRAM

**8:15-8:30**

**Jeffrey Rosauer**

STUDENT ATTITUDE CHANGES AND CURRICULAR BENEFITS FROM TWO  
INSTRUCTIONAL INTERVENTIONS

**8:30-8:45**

**Jimmy DiCaro**

INCORPORATING COMPUTATIONAL ACTIVITIES IN A GENERAL EDUCATION  
ASTRONOMY COURSE

**8:45-9:00**

**Break**

*(See Session 2 presenters next pg.)*

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## Session 2

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**9:00–9:15**  
**Luis Rizo**

**MACHINE LEARNING APPROACH TO FINDING DIFFERENTIAL EQUATIONS**

**9:15-9:30**  
**Alex Furcoiu**

**EVOLUTIONARY SYMBOLIC REGRESSION FROM A PROBABILISTIC PERSPECTIVE**

**9:30-9:45**  
**Amelia Korveziroska**

**I NANOMETER SCALE MATERIAL GROWTH AND PATTERNING**

**9:45-10:00**  
**John Miles**

**GALAXY MERGER SIMULATIONS**

*(Session 2 presenters continued on next pg.)*

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Session 2 Cont.

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**10:00-10:15**  
**Dylan Chambers**

DYNAMICAL SYSTEMS MODELS FOR PLASMA DILUTION

**10:15-10:30**  
**Nevin Smith**

SIMULATING RESPIRATORY DROPLET TRAJECTORIES WITH  
ENVIRONMENTAL FACTORS

**10:30**  
**End of the Physics Department Oral Sessions**