



COUNCIL ON UNDERGRADUATE RESEARCH

Research Experiences for Undergraduates (REU) Symposium 2021

October 25, 2021 | 11:00 AM – 4:15 PM ET

This symposium features lightning talk presentations by students from Research Experiences for Undergraduates programs (REUs) in all disciplines funded by the National Science Foundation (NSF), a practical skills tips session for students, and an informal networking hour.

Time	Agenda	Zoom Link
11:00 AM – 12:00 PM ET	Welcome + Soft Skills Tip Session	https://zoom.us/j/91579712449 Meeting ID: 915 7971 2449
1:00 – 3:00 PM ET	Student Presentations*	https://zoom.us/j/91552636836 Meeting ID: 915 5263 6836
3:15 – 3:45 PM ET	Overview of NSF Graduate Research Fellowships Program (GRFP) and Student Meet and Greet with NSF	https://zoom.us/j/96372111492 Meeting ID: 963 7211 1492
3:45 – 4:15 PM ET	Faculty Meet and Greet with NSF	

***View Presentations by time:**

1:00 – 1:30 PM ET PG 7
1:45 – 2:15 PM ET PG 15
2:30 – 3:00 PM ET PG 25

Below is a cheat sheet on presentations by presenter name.
 For more information on each presentation, please see a more detailed description via the page listings above.

Presenter Name	NSF Division	Breakout Room	Presentation Time
Abelson Abueg	Computer + Information Science and Engineering	8	1:00-1:30 pm, ET
Adira Cohen	Mathematical Sciences, Biological Sciences	47	2:30-3:00 pm, ET
Adriel Juarez	Computer + Information Science and Engineering	8	1:00-1:30 pm, ET
Ahmani Browne	Biological Sciences	1	1:00-1:30 pm, ET
Alana Ferris	Biological Sciences	53	2:30-3:00 pm, ET
Alex Nash	Mathematical Sciences	3	1:00-1:30 pm, ET
Alexandra Magee	Biological Sciences	53	2:30-3:00 pm, ET
Alexandra Minnard	Biological Sciences	20	1:45-2:15 pm, ET
Alexandria Dillon	Engineering, Chemistry	41	1:45-2:15 pm, ET
Alexis Coore	Engineering	13	1:00-1:30 pm, ET
Alikamanaekahi Napoleon	Computer + Information Science and Engineering	46	2:30-3:00 pm, ET
Alison Block	Materials Research	44	2:30-3:00 pm, ET
Aliza Brown	Social, Behavioral, and Economic Sciences	35	1:45-2:15 pm, ET
Alyssa Sharma	Earth Science	32	1:45-2:15 pm, ET
Amaya McNealey	Engineering	36	1:45-2:15 pm, ET
Amelia Norman (co-presenter)	Computer + Information Science and Engineering, Ocean Sciences, Social, Behavioral, and Economic Sciences, Chemistry	31	1:45-2:15 pm, ET
Anan Ghrayeb	Engineering	13	1:00-1:30 pm, ET
Andorra Mashka Bastien	Biological Sciences	20	1:45-2:15 pm, ET
Angela Meyer	Biological Sciences	20	1:45-2:15 pm, ET
Anis Chihoub	Computer + Information Science and Engineering	49	2:30-3:00 pm, ET
Anisa McKenzie Callis	Computer + Information Science and Engineering	49	2:30-3:00 pm, ET
Aniyah Woodley	Biological Sciences	45	2:30-3:00 pm, ET
Anjelina King	Biological Sciences	45	2:30-3:00 pm, ET
Annie DeForge	Computer + Information Science and Engineering	49	2:30-3:00 pm, ET
Antonio C Villanueva	Biological Sciences	45	2:30-3:00 pm, ET
Ariella Kornfeld	Biological Sciences	1	1:00-1:30 pm, ET
Arielle Hershkovich	Social, Behavioral, and Economic Sciences	12	1:00-1:30 pm, ET
Ashraf Moumou	Biological Sciences	1	1:00-1:30 pm, ET
Aston Salviejo Ramos	Earth Science	32	1:45-2:15 pm, ET
Ayah Halab	Earth Science	32	1:45-2:15 pm, ET
Aysha Gisbat	Social, Behavioral, and Economic Sciences	35	1:45-2:15 pm, ET
Bailey McKenna	Biological Sciences	18	1:00-1:30 pm, ET
Benjamin Abraham Diamond	Computer + Information Science and Engineering, Ocean Sciences, Social, Behavioral, and Economic Sciences, Chemistry	31	1:45-2:15 pm, ET
Benjamin Thomas Givens	Computer + Information Science and Engineering	23	1:45-2:15 pm, ET

Berkay Dean	Engineering	52	2:30-3:00 pm, ET
Brandon Duran	Earth Science	14	1:00-1:30 pm, ET
Briana Bumgardner	Computer + Information Science and Engineering	23	1:45-2:15 pm, ET
Caitlin Petro	Computer + Information Science and Engineering	15	1:00-1:30 pm, ET
Caleb Ukaonu	Mathematical Sciences, Biological Sciences, Earth Science, Atmospheric Sciences and Geospace	48	2:30-3:00 pm, ET
Caroline Stuart	Biological Sciences	7	1:00-1:30 pm, ET
Carrie Bishop	Biological Sciences, Computer and Information Science and Engineering	18	1:00-1:30 pm, ET
Cecilia Pilar Guerrero	Social, Behavioral, and Economic Sciences	4	1:00-1:30 pm, ET
Chelsea Patterson	Social, Behavioral, and Economic Sciences	4	1:00-1:30 pm, ET
Chevon Jordan	Biological Sciences	7	1:00-1:30 pm, ET
Christina Larson	Biological Sciences	6	1:00-1:30 pm, ET
Christopher Ryzowicz	Earth Science	14	1:00-1:30 pm, ET
Connor Daniel Flick	Computer + Information Science and Engineering	27	1:45-2:15 pm, ET
Connor Shrader	Mathematical Sciences	3	1:00-1:30 pm, ET
Courtney Marian Tally	Biological Sciences	6	1:00-1:30 pm, ET
Daniel Gruszka	Computer + Information Science and Engineering, Mathematical Sciences, Biological Sciences, Social, Behavioral, and Economic Sciences	10	1:00-1:30 pm, ET
Daniel Novoa	Biological Sciences	30	1:45-2:15 pm, ET
Darius Desnoes	Physics	37	1:45-2:15 pm, ET
DaVonte Lewis	Physics	37	1:45-2:15 pm, ET
Declan Freeman-Gleason	Computer + Information Science and Engineering	17	1:00-1:30 pm, ET
Drey Diggs	Social, Behavioral, and Economic Sciences	4	1:00-1:30 pm, ET
Elizabeth King	Mathematical Sciences, Biological Sciences	48	2:30-3:00 pm, ET
Emily Costanza	Biological Sciences	56	2:30-3:00 pm, ET
Emily Warren	Computer + Information Science and Engineering	17	1:00-1:30 pm, ET
Emma Case	Biological Sciences	56	2:30-3:00 pm, ET
Emma Joy Layton	Atmospheric Sciences and Geospace	57	2:30-3:00 pm, ET
Emma Rogers	Astronomical Sciences	5	1:00-1:30 pm, ET
Erica Solis	Social, Behavioral, and Economic Sciences	54	2:30-3:00 pm, ET
Gedrick Mangual	Biological Sciences	30	1:45-2:15 pm, ET
Grace Chiodo	Astronomical Sciences	5	1:00-1:30 pm, ET
Griffin Thomas Goodwin	Physics	37	1:45-2:15 pm, ET
Hani Samamah (co-presenter)	Mathematical Sciences	3	1:00-1:30 pm, ET
Hannah Peeples	Biological Sciences	21	1:45-2:15 pm, ET
Hebah Shaukat Goderya	Physics, Earth Science	51	2:30-3:00 pm, ET
Hetkumar Ghadia	Engineering	33	1:45-2:15 pm, ET
Ibrohim Nosirov	Computer + Information Science and Engineering	59	2:30-3:00 pm, ET
Jacob Buckelew	Engineering	34	1:45-2:15 pm, ET
Jake Pierson	Engineering	34	1:45-2:15 pm, ET
Janavi Mehta	Biological Sciences	21	1:45-2:15 pm, ET

Jane Kavounas	Computer + Information Science and Engineering	59	2:30-3:00 pm, ET
Jared D Hamton	Materials Research, Chemistry	44	2:30-3:00 pm, ET
Jaya Nagarajan-Swenson	Biological Sciences	21	1:45-2:15 pm, ET
Jeffrey Tucker	Mathematical Sciences, Biological Sciences	47	2:30-3:00 pm, ET
Jermaine Austin	Biological Sciences	9	1:00-1:30 pm, ET
Jessica Fisher	Engineering	52	2:30-3:00 pm, ET
Jessica Luo	Computer + Information Science and Engineering	59	2:30-3:00 pm, ET
Jessica Towns	Computer + Information Science and Engineering	8	1:00-1:30 pm, ET
John Howard	Biological Sciences	9	1:00-1:30 pm, ET
Joia Wendy Zhang	Mathematical Sciences	3	1:00-1:30 pm, ET
Jordan Williams	Computer + Information Science and Engineering	46	2:30-3:00 pm, ET
Joshua Blue Mayo	Biological Sciences	9	1:00-1:30 pm, ET
Joshua Walters	Computer + Information Science and Engineering, Mathematical Sciences, Cyberinfrastructure, Social, Behavioral, and Economic Sciences, Education and Human Resources	10	1:00-1:30 pm, ET
Julia Elizabeth Vallier	Engineering	33	1:45-2:15 pm, ET
Justice Radler	Engineering	13	1:00-1:30 pm, ET
Ka Ying Chan	Computer + Information Science and Engineering	27	1:45-2:15 pm, ET
Katherine Keegan (co-presenter)	Mathematical Sciences	26	1:45-2:15 pm, ET
Kathryn Enriquez	Mathematical Sciences, Social, Behavioral, and Economic Sciences	47	2:30-3:00 pm, ET
Katie Ko	Social, Behavioral, and Economic Sciences	54	2:30-3:00 pm, ET
Kayla Fericy	Engineering	36	1:45-2:15 pm, ET
Kaylee Grace	Physics	16	1:00-1:30 pm, ET
Keefer Li	Biological Sciences	11	1:00-1:30 pm, ET
Kevin Li	Engineering	36	1:45-2:15 pm, ET
Kiah Da Viega (co-presenter)	Physics	16	1:00-1:30 pm, ET
Kirby T Lam	Biological Sciences	11	1:00-1:30 pm, ET
Kristen Alipio	Social, Behavioral, and Economic Sciences	54	2:30-3:00 pm, ET
Laura Guck	Biological Sciences	11	1:00-1:30 pm, ET
Lauren Prudholm	Biological Sciences	6	1:00-1:30 pm, ET
Layla Devlin	Mathematical Sciences	26	1:45-2:15 pm, ET
Lila S Nassar	Physics	16	1:00-1:30 pm, ET
Lin L Lu	Biological Sciences	30	1:45-2:15 pm, ET
Lindsay Grose	Earth Science	14	1:00-1:30 pm, ET
Lizbeth Gonzalez	Biological Sciences	56	2:30-3:00 pm, ET
Lyn Miranda Portillo	Biological Sciences	55	2:30-3:00 pm, ET
Madeleine Tan	Earth Science	60	2:30-3:00 pm, ET
Madison Seefeld	Engineering	22	1:45-2:15 pm, ET
Marcus Bedeau	Computer + Information Science and Engineering	46	2:30-3:00 pm, ET

Marina Ellis	Biological Sciences, Social, Behavioral, and Economic Sciences	24	1:45-2:15 pm, ET
Marisela Madrid	Earth Science	60	2:30-3:00 pm, ET
Marissa Scott	Ocean Sciences	18	1:00-1:30 pm, ET
Mary Clare Greenlees	Astronomical Sciences	5	1:00-1:30 pm, ET
Mason Clobes	Chemistry	38	1:45-2:15 pm, ET
Mason Lovett	Computer + Information Science and Engineering	27	1:45-2:15 pm, ET
Matthew Dobson	Engineering	22	1:45-2:15 pm, ET
Maxwell Poster	Engineering, Physics	41	1:45-2:15 pm, ET
Maya Mazen Murry	Biological Sciences	55	2:30-3:00 pm, ET
Megan Giacobbi	Engineering	22	1:45-2:15 pm, ET
Michael McGrone	Biological Sciences	55	2:30-3:00 pm, ET
Michael Nightingale	Engineering	2	1:00-1:30 pm, ET
Mikhayla Clothier	Chemistry	43	2:30-3:00 pm, ET
Miracle Etim-Andy	Engineering	42	2:30-3:00 pm, ET
Miranda Wu	Biological Sciences	58	2:30-3:00 pm, ET
Molly Isabel Rothschild	Materials Research	40	1:45-2:15 pm, ET
Mugen Blue	Computer + Information Science and Engineering	17	1:00-1:30 pm, ET
Myat Win	Computer + Information Science and Engineering	15	1:00-1:30 pm, ET
Myra Arshad	Biological Sciences	58	2:30-3:00 pm, ET
Natalie Celt	Engineering	42	2:30-3:00 pm, ET
Natasha Jones	Astronomical Sciences	57	2:30-3:00 pm, ET
Nebiyat Kebede Eskndir	Biological Sciences	58	2:30-3:00 pm, ET
Do Thanh Ngan	Computer + Information Science and Engineering	23	1:45-2:15 pm, ET
Nyvia Lyles	Engineering	39	1:45-2:15 pm, ET
olivia anderson	Social, Behavioral, and Economic Sciences	12	1:00-1:30 pm, ET
Olivia Armendarez	Biological Sciences	28	1:45-2:15 pm, ET
Oluwatosin Banjo	Biological Sciences	25	1:45-2:15 pm, ET
Paula Espinoza	Biological Sciences	25	1:45-2:15 pm, ET
Peter Opara-nadi	Biological Sciences	28	1:45-2:15 pm, ET
Priscilla Santini	Engineering, Astronomical Sciences	2	1:00-1:30 pm, ET
Priyanka Sarangabany	Engineering	39	1:45-2:15 pm, ET
Rachel Guevara	Earth Science	60	2:30-3:00 pm, ET
Rachel Lee Huynh	Biological Sciences	25	1:45-2:15 pm, ET
Rachel Miller	Computer + Information Science and Engineering	31	1:45-2:15 pm, ET
Rebecca Barry	Engineering	39	1:45-2:15 pm, ET
Rebecca Potoff	Engineering	44	2:30-3:00 pm, ET
Rebekah Bogle	Chemistry	43	2:30-3:00 pm, ET
Ria Holloman	Biological Sciences	28	1:45-2:15 pm, ET
Richard C. Smith III	Engineering	40	1:45-2:15 pm, ET
Robert Snuggs	Physics	16	1:00-1:30 pm, ET
Roman Robledo	Biological Sciences	50	2:30-3:00 pm, ET

Samuel Walsh	Computer + Information Science and Engineering, Engineering	10	1:00-1:30 pm, ET
Saurav Kiri	International Science and Engineering, Biological Sciences, Chemistry, Education and Human Resources	41	1:45-2:15 pm, ET
Sean Jordan (co-presenter)	Computer + Information Science and Engineering, Ocean Sciences, Social, Behavioral, and Economic Sciences, Chemistry	31	1:45-2:15 pm, ET
Seth Jacob Dennison	Engineering	40	1:45-2:15 pm, ET
Sheridan Ingram (co-presenter)	Computer + Information Science and Engineering	29	1:45-2:15 pm, ET
Shreya Soman	Computer + Information Science and Engineering	29	1:45-2:15 pm, ET
Spencer Westfall	Engineering	19	1:45-2:15 pm, ET
Stanley Ossyra	Engineering, Biological Sciences	2	1:00-1:30 pm, ET
Stefanie Davis	Astronomical Sciences	57	2:30-3:00 pm, ET
Stuart Waller	Computer + Information Science and Engineering	29	1:45-2:15 pm, ET
Sunaina Butler	Mathematical Sciences, Biological Sciences, Earth Science	48	2:30-3:00 pm, ET
Sylvia Lupa,	Engineering	19	1:45-2:15 pm, ET
Syntyche Kane	Biological Sciences	50	2:30-3:00 pm, ET
Tania Nguyen	Engineering	42	2:30-3:00 pm, ET
Tessa Gebert	Biological Sciences	50	2:30-3:00 pm, ET
Tessa McNamee	Physics, Materials Research	51	2:30-3:00 pm, ET
Thu Thu Hlaing	Earth Science	61	2:30-3:00 pm, ET
Tra-Vaughn James	Biological Sciences	24	1:45-2:15 pm, ET
Vera Alevnicheva	Chemistry	38	1:45-2:15 pm, ET
William Welch (co-presenter)	Engineering	19	1:45-2:15 pm, ET
Xufei Liu	Mathematical Sciences	26	1:45-2:15 pm, ET
Yihua Xu	Mathematical Sciences	26	1:45-2:15 pm, ET
Zanti Rains	Earth Science	61	2:30-3:00 pm, ET

Student Presentations Session 1: 1:00-1:30 pm, ET

NSF Division: Astronomical Sciences

Breakout Room: 5

Title: Understanding Equatorial Gully Erosion on Mars: A Case Study on Krupac Crater

Presenter(s): Emma Rogers

REU Site: Life in the Universe - Astronomy and Planetary Science at the SETI Institute

Host Institution: SETI Institute

Grant Number: 2051007

Principal Investigator / Faculty Mentor: Matthew Tiscareno | Virginia Gulick

Title: Calibrating DESI Tully-Fisher Measurements with MaNGA

Presenter(s): Grace Chiodo

REU Site: REU Site in Physics, Astrophysics, and Optics at Rochester

Host Institution: University of Rochester

Grant Number: PHY1757062

Principal Investigator / Faculty Mentor: Arie Bodek | Kelly Douglass

Title: Following Iapetus's Footsteps: An Analysis of Organic Material on Rhea

Presenter(s): Mary Clare Greenlees

REU Site: Life in the Universe - Astronomy and Planetary Science at the SETI Institute

Host Institution: SETI Institute

Grant Number: 2051007

Principal Investigator / Faculty Mentor: Matthew Tiscareno | Cristina Dalle Ore and Rachel Mastrapa

NSF Division: Biological Sciences

Breakout Room: 1

Title: Sex-Specific Differences in Non-Consumptive Predator Effects across Multiple Prey Populations

Presenter(s): Ahmani Browne

REU Site: REU Site Mystic Aquarium: Collaborative Research: Plankton to Whales, Consequences of Global Change within Marine Ecosystems

Host Institution: Mystic Aquarium and University of Connecticut

Grant Number: 1950415

Principal Investigator / Faculty Mentor: Tracy Romano and Michael Finiguerra | Catherine Matassa

Title: Characterization of Single-Stranded Binding Protein Interaction with DNA in *Staphylococcus aureus*

Presenter(s): Ariella Kornfeld

REU Site: Networked Projects in Cell and Molecular Biology at the Wadsworth Center

Host Institution: Wadsworth Center

Grant Number: 1757170

Principal Investigator / Faculty Mentor: Matthew Kohn | Janice Pata

Title: Sex and Latitudinal Differences in Inducible Anti-Herbivore Defenses of *Fucus vesiculosus*

Presenter(s): Ashraf Moumou

REU Site: REU Site Mystic Aquarium: Collaborative Research: Plankton to Whales, Consequences of Global Change within Marine Ecosystems

Host Institution: Mystic Aquarium and University of Connecticut

Grant Number: 1950415

Principal Investigator / Faculty Mentor: Tracy Romano and Michael Finiguerra | Catherine Matassa

Breakout Room: 6

Title: Dancing Through Virtual Life: A Comparison of Current Motion Capture Systems

Presenter(s): Christina Larson

REU Site: Teamwork in Biological Inquiry: From Molecules to Organisms

Host Institution: Mystic Aquarium and University of Connecticut

Grant Number: 1757443

Principal Investigator / Faculty Mentor: Wendy Smith | Dagmar Sternad

Title: Development of Successful Methodology to Isolate Antimicrobial Compounds from *Photobacterium* and *Xenorhabdus*

Presenter(s): Courtney Marian Tally

REU Site: Teamwork in Biological Inquiry: From Molecules to Organisms

Host Institution: Northeastern University

Grant Number: 1757443

Principal Investigator / Faculty Mentor: Wendy Smith | Anthony D'Onofrio

Title: Isolation and Characterization of Antimicrobial Compounds from Entomopathogenic Nematode Worms

Presenter(s): Lauren Prudholm

REU Site: Teamwork in Biological Inquiry: From Molecules to Organisms

Host Institution: Northeastern University

Grant Number: 1757443

Principal Investigator / Faculty Mentor: Wendy Smith | Anthony D'Onofrio

Breakout Room: 7

Title: Characterizing the Metabolic Fluxes in Lipid Biosynthesis of High Oil Tobacco (*Nicotiana glauca*)

Lines with Computational Modeling

Presenter(s): Caroline Stuart

REU Site: Research Experiences for Undergraduates in Plant Science at the Donald Danforth Plant Science Center

Host Institution: Donald Danforth Plant Science Center

Grant Number: 2050394

Principal Investigator / Faculty Mentor: Sona Pandey

Title: DNA Barcoding of Ayurvedic Herbal Supplements used for Alleged Treatment of SARS-CoV-2

Presenter(s): Chevon Jordan

REU Site: Summer Undergraduate Research Fellowship in Earth and Environmental Sciences (SURFEES)

Host Institution: Chapman University

Grant Number: 1757991

Principal Investigator / Faculty Mentor: Christopher Kim | Rosalee Hellberg

Breakout Room: 9

Title: Regulation of the Notch1 Signaling Pathway by the Ubiquitin Ligase Cblb in T-cells

Presenter(s): Jermaine Austin

REU Site: Research Experience for Undergraduates in Genomics and Biochemistry

Host Institution: Louisiana State University - New Orleans

Grant Number: 1659752

Principal Investigator / Faculty Mentor: Fern Tsien | Lucio Miele

Title: The Effect of Environmental History and Genotype on Thermal Stress Tolerance in *Acropora cervicornis* Corals

Presenter(s): John Howard

REU Site: Understanding Coastal Ecosystems - From the Everglades to the Coral Reefs

Host Institution: Florida International University

Grant Number: 1852123

Principal Investigator / Faculty Mentor: Rita Teutonico | Jose M. Eirin-Lopez

Title: Do Cryptoniscans Wait for the Right Hosts or do They Die Trying?

Presenter(s): Joshua Blue Mayo

REU Site: From Estuaries to the Deep Sea

Host Institution: Oregon State University - Hatfield Marine Science Center

Grant Number: 1758000

Principal Investigator / Faculty Mentor: Itchung Chung | John Chapman and Brett Dumbauld

Breakout Room: 11

Title: Quantification of Protein Translation in Developmentally Arrested *Caenorhabditis elegans* Using O-Propargyl-Puromycin and Fluorescent Imaging

Presenter(s): Keefer Li

REU Site: Exploring 21st Century Careers in the Biological Sciences: A Comparative Regenerative Biology Approach

Host Institution: MDI Biological Laboratory

Grant Number: 1851962

Principal Investigator / Faculty Mentor: Jane E. Disney | Jarod Rollins

Title: Not Just a Cog: Novel Ambulatory EEG Reliability & Traumatic Brain Injury Applications

Presenter(s): Kirby T. Lam

REU Site: Summer Research Experiences in Interdisciplinary Mind & Brain Studies

Host Institution: University of Pennsylvania

Grant Number: 2050803

Principal Investigator / Faculty Mentor: Florian Schwarz | Michael Louis Platt

Title: Stimulus and Response to Stretch in a Contractile System

Presenter(s): Laura Guck

REU Site: Teamwork in Biological Inquiry: From Molecules to Organisms

Host Institution: Northeastern University

Grant Number: 175443

Principal Investigator / Faculty Mentor: Wendy Smith | Erin Cram

Breakout Room: 18

Title: Furthering the Usage of Genetic Material from Blow Samples for Beluga Health Monitoring

Presenter(s): Bailey McKenna

REU Site: REU Site Mystic Aquarium: Collaborative Research: Plankton to Whales: Consequences of Global Change within Marine Ecosystems

Host Institution: Mystic Aquarium

Grant Number: 1950480

Principal Investigator / Faculty Mentor: Tracy Romano

Title: The Fungal Composition of the Chimpanzee Gut Microbiome

Presenter(s): Carrie Bishop

REU Site: BioTechnology Sequencing-based Undergraduate Research Experience (BIT SURE)

Host Institution: North Carolina State University

Grant Number: 1659225

Principal Investigator / Faculty Mentor: Robert R. Dunn | Carlos Goller

NSF Division: Computer and Information Science and Engineering

Breakout Room: 8

Title: Speaker Recognition with MFCC and GFCC Features

Presenter(s): Abelson Abueg

REU Site: Software and Data Analytics

Host Institution: East Carolina University

Grant Number: 2050883

Principal Investigator / Faculty Mentor: Nasseh Tabrizi

Title: Emotional Empathy and Facial Mimicry Reactions to Avatar Faces

Presenter(s): Adriel Juarez

REU Site: Computational Sensing for Human-Centered AI

Host Institution: Rochester Institute of Technology

Grant Number: 1851591

Principal Investigator / Faculty Mentor: Cecilia O. Alm | Joe Geigel, Reynold Bailey and Cecilia O. Alm

Title: Evaluation of Equipment-Mounted Sensors to Assess Head Kinematics by Contact Surface in Football

Presenter(s): Jessica Towns

REU Site: Imaging and Mechanics-based Projects on Accidental Cases of Trauma (IMPACT)

Host Institution: Wake Forest School of Medicine

Grant Number: 1950281

Principal Investigator / Faculty Mentor: Ashley Weaver | Jillian Urban

Breakout Room: 15

Title: Predictive Modeling to Forecast Temperature Changes in a Smart Home

Presenter(s): Caitlin Petro

REU Site: Research Experiences on Internet of Things (IoT)

Host Institution: University of Central Florida

Grant Number: 1852002

Principal Investigator / Faculty Mentor: Damla Turgut and Ladislau Boloni

Title: IoT-Enabled Smart Mobility Devices for Aging and Rehabilitation

Presenter(s): Myat Win

REU Site: Research Experiences on Internet of Things (IoT)

Host Institution: University of Central Florida

Grant Number: 1852002

Principal Investigator / Faculty Mentor: Damla Turgut and Ladislau Boloni

Breakout Room: 17

Title: Baboons on the Move

Presenter(s): Declan Freeman-Gleason

REU Site: Engineers for Exploration

Host Institution: University of California, San Diego

Grant Number: 1852403

Principal Investigator / Faculty Mentor: Ryan Kastner

Title: Analyzing Differences in Symptom Tracking and Terminology in Menstrual Tracking Apps

Presenter(s): Emily Warren

REU Site: Program for Access to Training in Health Informatics (PATHI)

Host Institution: Vanderbilt University Medical Center

Grant Number: 2050895

Principal Investigator / Faculty Mentor: Kim Unertl

Title: Understanding Ecosystems through Passive Acoustic Monitoring
Presenter(s): Mugen Blue
REU Site: Engineers for Exploration
Host Institution: University of California, San Diego
Grant Number: 1852403
Principal Investigator / Faculty Mentor: Ryan Kastner

Breakout Room: 10

Title: Kalman Filter and Extended Kalman Filter-Based Short-Term Prediction Model of COVID-19 Spread
Presenter(s): Daniel Gruszka
REU Site: Mathematical Modeling in Environmental, Biological and Other Sciences
Host Institution: Bethune Cookman University
Grant Number: 1755561
Principal Investigator / Faculty Mentor: Seenith Sivasundaram

Title: Mathematical Model of Computer Viruses Spread on a Closed Network
Presenter(s): Joshua Walters
REU Site: Mathematical Modeling in Environmental, Biological and Other Sciences
Host Institution: Bethune Cookman University
Grant Number: 1755561
Principal Investigator / Faculty Mentor: Seenith Sivasundaram

Title: Autonomous Robot Fleet Management for Energy-Efficient Task Allocation, Battery Preservation, and Maintenance
Presenter(s): Samuel Walsh
REU Site: Summer Academy in Sustainable Manufacturing
Host Institution: Wayne State University
Grant Number: 1950192
Principal Investigator / Faculty Mentor: Jeremy L. Rickli | Marco Brocanelli

NSF Division: Earth Science

Breakout Room: 14

Title: PIDGM: Paleo Isotopic Dynamics with a Global Model
Presenter(s): Brandon Duran
REU Site: Earth Science on Volcanic Islands REU
Host Institution: University of Hawaii at Manoa
Grant Number: 1950941
Principal Investigator / Faculty Mentor: Bridget Smith-Konter | Sloan Coats

Title: Ciguatera Fish Poisoning in Florida
Presenter(s): Christopher Ryzowicz
REU Site: Statistical Models with Applications to Geoscience
Host Institution: Florida Institute of Technology
Grant Number: 1950768
Principal Investigator / Faculty Mentor: Nezamoddin Nezamoddini-Kachouie | Michael Splitt

Title: Compound Extremes in the Southeast US: Storm Surge and Fluvial Floods
Presenter(s): Lindsay Grose
REU Site: Resilience and Adaptation to Coastal Change Across Virtual Communities
Host Institution: East Carolina University
Grant Number: 2041425
Principal Investigator / Faculty Mentor: Stephen Moysey | Ashok Mishra

NSF Division: Engineering

Breakout Room: 2

Title: Collaboration between Multiple UAVs for Coordinated Search and Rescue Missions

Presenter(s): Michael Nightingale

REU Site: Research Experience for Undergraduates in UAV Technologies

Host Institution: California State Polytechnic University at Pomona

Grant Number: 1950612

Principal Investigator / Faculty Mentor: Zekeriya Aliyazicioglu and Subodh Bhandari

Title: Autonomous Trajectory Generation for Multiple UAV Operations for Search and Rescue Missions

Presenter(s): Priscilla Santini

REU Site: Research Experience for Undergraduates in UAV Technologies

Host Institution: California State Polytechnic University, Pomona

Grant Number: 1950612

Principal Investigator / Faculty Mentor: Zekeriya Aliyazicioglu and Subodh Bhandari

Title: Tangent-Based Method for Collision Detection and Avoidance System for UAVs using ADS-B Transponder

Presenter(s): Stanley Ossyra

REU Site: Research Experience for Undergraduates in UAV Technologies

Host Institution: California State Polytechnic University, Pomona

Grant Number: 1950612

Principal Investigator / Faculty Mentor: Subodh Bhandari

Breakout Room: 13

Title: Mimicking Bioimpedance of Vocal Folds Through Phantom Models

Presenter(s): Alexis Coore

REU Site: Engineering Sensors Systems and Signal Processing for Speech Pathology

Host Institution: The University of Alabama

Grant Number: 1852161

Principal Investigator / Faculty Mentor: Todd Freeborn and Memorie Gosa

Title: Force Dynamics of Fibroblasts: 2D vs. 3D

Presenter(s): Anan Ghrayeb

REU Site: An Ultra-sensitive Micro Sensor for Biophysical Studies of Single Cells Cultured in 3D Extracellular Matrix

Host Institution: University of Illinois at Urbana Champaign

Grant Number: 1934991

Principal Investigator / Faculty Mentor: Taher Saif

Title: Characterizing and Measuring Error Propagation in the Digital Thread of Additive Remanufacturing Using Laser Metal Deposition

Presenter(s): Justice Radler

REU Site: Summer Academy in Sustainable Manufacturing

Host Institution: Wayne State University

Grant Number: 1950192

Principal Investigator / Faculty Mentor: Jeremy Rickli

NSF Division: Mathematical Sciences

Breakout Room: 3

Title: Diameter of Algebraically Defined Graphs and Nonisomorphic Real Projective Planes

Presenter(s): Alex Nash | Hani Samamah

REU Site: Research Challenges of Computational and Experimental Mathematics

Host Institution: Moravian University

Grant Number: 1852378

Principal Investigator / Faculty Mentor: Nathan Shank | Wing Hong Tony Wong

Title: An Analysis of Penalized Regression in High-Dimensional Scenarios

Presenter(s): Connor Shrader

REU Site: North Carolina A&T State University and Elon University Joint REU in Mathematical Biology

Host Institution: Elon University

Grant Number: 1851981/1851957

Principal Investigator / Faculty Mentor: Nicholas Luke and Karen Yokley | Seongtae Kim

Title: Mitigating Lack of Trust in Quantitative Randomized Response Techniques Models

Presenter(s): Joia Wendy Zhang

REU Site: Complex Data Analysis using Statistical and Machine Learning Tools

Host Institution: University of North Carolina at Greensboro

Grant Number: DMS-1950549

Principal Investigator / Faculty Mentor: Sat Gupta

NSF Division: Ocean Sciences

Breakout Room: 18

Title: Contribution of the Gut Microbiome to Overall Gut Health in Blue Mussels (*Mytilus edulis*)

Presenter(s): Marissa Scott

REU Site: Plankton to Whales: Consequences of Global Change within Marine Ecosystems

Host Institution: Mystic Aquarium

Grant Number: 1950480

Principal Investigator / Faculty Mentor: J. Evan Ward | Tyler W. Griffin

NSF Division: Physics

Breakout Room: 16

Title: How Many Bubbles are too Many Bubbles in IceCube Upgrade Sensors

Presenter(s): Kaylee Grace | Kiah Da Viega

REU Site: Research In Neutrino Astrophysics at the University of Wisconsin-River Falls

Host Institution: University of Wisconsin - River Falls

Grant Number: 1757517

Principal Investigator / Faculty Mentor: Surujhdeo Seunarine

Title: Cellular Responses to Patterned Laser Wounding

Presenter(s): Lila S. Nassar

REU Site: Vanderbilt University Research Experiences for Undergraduates in Physics & Astronomy

Host Institution: Vanderbilt University

Grant Number: 1852158

Principal Investigator / Faculty Mentor: David Ernst and Keivan Stassun | M. Shane Hutson

Title: Transitions in S II including Diagnostic Techniques in Atomic Physics
Presenter(s): Robert Snuggs
REU Site: Research Experiences for Undergraduates in Physics and Astronomy at the University of Toledo
Host Institution: University of Toledo
Grant Number: 1950785
Principal Investigator / Faculty Mentor: Richard E. Irving

NSF Division: Social, Behavioral, and Economic Sciences

Breakout Room: 4

Title: Cross-Linguistic Transfer in Chinese-English and Spanish-English Bilinguals with Reading Impairments
Presenter(s): Cecilia Pilar Guerrero
REU Site: Michigan Summer Program in Cognition and Early Development
Host Institution: University of Michigan - Ann Arbor
Grant Number: 2050471
Principal Investigator / Faculty Mentor: Rachel Eggleston | Ioulia Kovelman

Title: Quantitative Content Analysis of Maine's Newsprint Media Coverage of Browntail Moth Outbreaks
Presenter(s): Chelsea Patterson
REU Site: REU Accelerating New Environmental Workskills (ANEW)
Host Institution: University of Maine
Grant Number: 1849802
Principal Investigator / Faculty Mentor: Anne Lichtenwalner | Angela Mech

Title: Impacts of Italian Language and Heritage on DH-Stopping Rates in Philly English
Presenter(s): Drey Diggs
REU Site: Summer Research Experiences in Interdisciplinary Mind & Brain Studies
Host Institution: University of Pennsylvania
Grant Number: 2050803
Principal Investigator / Faculty Mentor: Florian Schwarz | Meredith Tamminga

Breakout Room: 12

Title: The Struggle of the Lone Soldiers: Who They Are and What We Can Do to Help
Presenter(s): Arielle Hershkovich
REU Site: Intensive Mentored Research Experiences for Undergraduates (REU) in Psychology and Neuroscience at an Urban Public College
Host Institution: Brooklyn College of CUNY
Grant Number: 1757560, 2050755
Principal Investigator / Faculty Mentor: Laura Rabin | Faigy Mandelbaum

Title: Dogs Attend to Their Owner's Attention to Them
Presenter(s): Olivia Anderson
REU Site: Michigan Summer Internship in Cognition and Early Development: MSPICED
Host Institution: University of Michigan
Grant Number: 2050471
Principal Investigator / Faculty Mentor: Felix Warneken | Henry Wellman

Student Presentations Session 2: 1:45-2:15 PM ET

NSF Division: Biological Sciences

Breakout Room: 20

Title: The Role of Lipid Mediators Maresin 1, RvD1 and RvD5 in the Activation of Microglia

Presenter(s): Alexandra Minnard

REU Site: Research Experience for Undergraduates in Genomics and Biochemistry

Host Institution: Louisiana State University - New Orleans

Grant Number: 1659752

Principal Investigator / Faculty Mentor: Fern Tsien | Jorgelina Calandria

Title: Clinically Relevant Bacteriophage Adsorption to Mycobacterium smegmatis

Presenter(s): Andorra Mashka Bastien

REU Site: Summer Undergraduate Research Experience in Biological Mechanisms at the University of North Carolina at Chapel Hill

Host Institution: University of North Carolina at Chapel Hill

Grant Number: 2048087

Principal Investigator / Faculty Mentor: Miriam Braunstein and Mark Peifer

Title: Evaluating the Effects of Drought on Four Diverse Lines of Sorghum Bicolor at Physiological and Molecular Levels

Presenter(s): Angela Meyer

REU Site: Research Experiences for Undergraduates in Plant Science at the Donald Danforth Plant Science Center

Host Institution: Donald Danforth Plant Science Center

Grant Number: 2050394

Principal Investigator / Faculty Mentor: Sona Pandey

Breakout Room: 21

Title: Analyzing Neural Spikes from a Memory-Guided Saccade Task

Presenter(s): Hannah Peebles

REU Site: Summer Research Experiences in Interdisciplinary Mind & Brain Studies

Host Institution: University of Pennsylvania

Grant Number: 2050803

Principal Investigator / Faculty Mentor: Florian Schwarz | Joshua Gold

Title: Using Fountain Code to Store and Retrieve Image and Text File Data on DNA

Presenter(s): Janavi Mehta

REU Site: REU in Synthetic Biology at NC A&T State University

Host Institution: North Carolina A&T State University

Grant Number: DBI-1852319

Principal Investigator / Faculty Mentor: Reza Zedagen | Robert H. Newman

Title: It's (on) the Bee's Knees: The Effect of Local Habitat on Pollen Foraging Efficiency in *Bombus impatiens*

Presenter(s): Jaya Nagarajan-Swenson

REU Site: Ecology and Evolutionary Biology at Virginia's Blandly Experimental Farm

Host Institution: Blandly Experimental Farm

Grant Number: DBI 1659816

Principal Investigator / Faculty Mentor: Kyle J. Haynes | David E. Carr

Breakout Room: 24

Title: Archaeobotanical Impact Of Pre-Colonial Andean Mining: Investigating Crop Phytoaccumulation of Lead and Mercury

Presenter(s): Marina Ellis

REU Site: Natural History Research Experiences

Host Institution: Smithsonian Institution's National Museum of Natural History

Grant Number: OCE-1560088

Principal Investigator / Faculty Mentor: Elizabeth Cottrell | Logan Kistler

Title: Using Fountain Code to Store and Retrieve Image and Text File Data on DNA

Presenter(s): Tra-Vaughn James

REU Site: REU in Synthetic Biology at NC A&T University

Host Institution: North Carolina A&T State University

Grant Number: DBI-1852319

Principal Investigator / Faculty Mentor: Reza Zadegan | Robert H. Newman

Breakout Room: 25

Title: Both Catalase Positive and Catalase Negative Bacteria are Common in Natural Habitats of the Nematode *C. elegans*

Presenter(s): Oluwatosin Banjo

REU Site: Teamwork in Biological Inquiry: From Molecules to Organisms

Host Institution: Northeastern University

Grant Number: 1757443

Principal Investigator / Faculty Mentor: Wendy Smith | Javier Apfeld

Title: Defining the Spatial Patterning of Spinal Cord Regeneration in Axolotl Salamanders

Presenter(s): Paula Espinoza

REU Site: Teamwork in Biological Inquiry: From Molecules to Organisms

Host Institution: Northeastern University

Grant Number: 1757443

Principal Investigator / Faculty Mentor: Wendy Smith | Justin Crane

Title: Look Where You're Going: Visuomotor Control of Human Walking

Presenter(s): Rachel Lee Huynh

REU Site: Teamwork in Biological Inquiry: From Molecules to Organisms

Host Institution: Northeastern University

Grant Number: 1757443

Principal Investigator / Faculty Mentor: Wendy Smith | Jon Matthis

Breakout Room: 28

Title: Construction of UniRap-Kinase Variants of ERK2 and PKC iota for Tight Spatiotemporal Control of Cellular Signaling Pathways

Presenter(s): Olivia Armandarez | Ria Holloman

REU Site: REU in Synthetic Biology at NC A&T University

Host Institution: North Carolina A&T State University

Grant Number: DBI-1852319

Principal Investigator / Faculty Mentor: Robert H. Newman

Title: Development of a Genetically-Targetable NEK Activity Reporter to Track Spatiotemporal Changes in NEK Activity in Living Cells
Presenter(s): Peter Opara-nadi
REU Site: REU in Synthetic Biology at NC A&T University
Host Institution: North Carolina A&T State University
Grant Number: DBI-1852319
Principal Investigator / Faculty Mentor: Robert H. Newman

Breakout Room: 30

Title: Development of Image Classification Model for Use with a Study on the Effects of Recreational Trail Use on Small Mammal Species Richness and Activity
Presenter(s): Daniel Novoa
REU Site: Field Research in Ecology and Evolutionary Biology at the Rocky Mountain Biological Laboratory
Host Institution: Rocky Mountain Biological Laboratory
Grant Number: 1755522
Principal Investigator / Faculty Mentor: Jennifer Reithel | Rosemary Smith

Title: Comparative Proteomics of Stomatal Immunity against *Pseudomonas syringae* in Wild Type and a Myrosinase Mutant
Presenter(s): Gedrick Mangual
REU Site: Undergraduate Research Experience in Genomics, Proteomics, and Bioinformatics
Host Institution: Florida A&M University
Grant Number: 1560049
Principal Investigator / Faculty Mentor: Ramesh Katam | Sixue Chen

Title: Metabolomics of Pathogen Immune Responses of *Arabidopsis* Wild Type and Vam3
Presenter(s): Lin L. Lu
REU Site: Undergraduate Research Experience in Genomics, Proteomics, and Bioinformatics
Host Institution: Florida A&M University
Grant Number: 1560049
Principal Investigator / Faculty Mentor: Ramesh Katam | Sixue Chen

NSF Division: Chemistry

Breakout Room: 38

Title: Comprehensive Characterization of Technical Lignins Based on Carbon Speciation
Presenter(s): Mason Clobes
REU Site: Interdisciplinary Renewable and Environmental Collaborative REU Program
Host Institution: University of North Dakota
Grant Number: 1757922
Principal Investigator / Faculty Mentor: Frank Bowman | Alena Kubatova

Title: Conversion of Waste Biomass Derived Lignin
Presenter(s): Vera Alevnicheva
REU Site: Interdisciplinary Renewable and Environmental Collaborative - IREC
Host Institution: University of North Dakota
Grant Number: 1757922
Principal Investigator / Faculty Mentor: Frank Bowman | Alena Kubatova

NSF Division: Computer and Information Science and Engineering

Breakout Room: 23

Title: Testing Compiler Error Messages through Program Mutation

Presenter(s): Benjamin Thomas Givens

REU Site: Software and Data Analytics

Host Institution: East Carolina University

Grant Number: 2050883

Principal Investigator / Faculty Mentor: Nasseh Tabrizi | Mark Hills

Title: Drug-Drug Interaction Prediction Using a Purely SMILES Based Approach

Presenter(s): Briana Bumgardner

REU Site: Big Data Analytics at Oklahoma State University

Host Institution: Oklahoma State University

Grant Number: 1659645

Principal Investigator / Faculty Mentor: Esra Akbas

Title: Enforcing Individually Fair Graph Neural Networks via a Fairness Graph from Human Judgement

Presenter(s): Do Thanh Ngan

REU Site: Research Experience for Undergraduates (REU) Combinatorics and Algorithms for Real Problems (CAAR)

Host Institution: University of Maryland

Grant Number: 1852352

Principal Investigator / Faculty Mentor: William Gasarch | Furong Huang

Breakout Room: 27

Title: Measuring User Experiences of Interactions between Digital and Physical Objects through Augmented Reality and Internet of Things Devices

Presenter(s): Connor Daniel Flick

REU Site: Research Experiences on Internet of Things (IoT)

Host Institution: University of Central Florida

Grant Number: 1852002

Principal Investigator / Faculty Mentor: Damla Turgut | Greg Welch and Gerd Bruder

Title: Private Blockchain for Visitor Authentication and Access Control

Presenter(s): Ka Ying Chan | Mason Lovett

REU Site: Security and Privacy for Mobile Sensing and the Internet of Things

Host Institution: Columbus State University

Grant Number: 1950416

Principal Investigator / Faculty Mentor: Alfredo Perez | Yesem Kurt Peker

Breakout Room: 29

Title: Integrating Safety and Functional Requirement Analysis for Effective Detection of Faults in Safety-Critical Systems

Presenter(s): Shreya Soman | Sheridan Ingram

REU Site: Software Safety and Reliability: Research, Practice, and Innovation

Host Institution: University of Texas at Dallas

Grant Number: 2050869

Principal Investigator / Faculty Mentor: W. Eric Wong

Title: Improving the Identification of Substance Use from Clinical Notes with BERT
Presenter(s): Stuart Waller
REU Site: Program for Access to Training in Health Informatics
Host Institution: Vanderbilt University Medical Center
Grant Number: 2050895
Principal Investigator / Faculty Mentor: Kim Unertl | Cosmin (Adi) Bejan

Breakout Room: 31

Title: Recurrent Variational Open Set Recognition: Recognizing Unknown Classes in Smartphone Sensor Data
Presenter(s): Benjamin Abraham Diamond | Amelia Norman | Sean Jordan
REU Site: Data Science Research for Healthy Communities in the Digital Age
Host Institution: Worcester Polytechnic Institute
Grant Number: CNS-1852498
Principal Investigator / Faculty Mentor: Elke Rundensteiner

Title: Perceptions of Human and AI-generated Stories by News Consumers
Presenter(s): Rachel Miller
REU Site: Computational Sensing for Human-centered AI
Host Institution: Rochester Institute of Technology
Grant Number: 1851591
Principal Investigator / Faculty Mentor: Cecilia O. Alm (PI), Ammina Kothari, and Reynold Bailey

NSF Division: Earth Science

Breakout Room: 32

Title: The Impact of Benthic Organisms on Water Filtration in the Indian River Lagoon
Presenter(s): Alyssa Sharma
REU Site: Statistical Models with Applications to Geoscience
Host Institution: Florida Institute of Technology
Grant Number: 1950768
Principal Investigator / Faculty Mentor: Nezamoddin Nezamoddini-Kachouie | Kelli Hunsucker

Title: Submarine Groundwater Discharge and Related Contaminant Fluxes in Shark's Cove Kapo'o Tide Pools
Presenter(s): Aston Salviejo Ramos
REU Site: Earth Science on Volcanic Islands REU
Host Institution: University of Hawaii at Manoa
Grant Number: 1950941
Principal Investigator / Faculty Mentor: Bridget Smith-Konter | Henrietta Dulai

Title: Dynamics of Air Pollution in Lebanon and its Impacts
Presenter(s): Ayah Halabi
REU Site: Summer Undergraduate Research Fellowship in Earth and Environmental Sciences (SURFEES)
Host Institution: Chapman University
Grant Number: 1757991
Principal Investigator / Faculty Mentor: Christopher Kim | Ramesh Singh

NSF Division: Engineering

Breakout Room: 19

Title: Total Ionizing Dose Effects in Physical Unclonable Functions

Presenter(s): Shane Smith

REU Site: An Interdisciplinary CubeSat Research and STEM Education Platform at the University of Tennessee at Chattanooga (UTChattSat)

Host Institution: University of Tennessee at Chattanooga

Grant Number: 1757777

Principal Investigator / Faculty Mentor: Daniel Loveless

Title: Radiation Effects in Cryogenic Electronics

Presenter(s): Spencer Westfall

REU Site: An Interdisciplinary CubeSat Research and STEM Education Platform at the University of Tennessee at Chattanooga (UTChattSat)

Host Institution: University of Tennessee at Chattanooga

Grant Number: 1757777

Principal Investigator / Faculty Mentor: Daniel Loveless

Title: Evaluation of Sodium Nanoparticles for Implementation in Photonic Automotive Sensors and Circuits

Presenter(s): Sylvia Lupa | William Welch

REU Site: Automotive and Energy Research and Industrial Mentorship Research Experience for Undergraduates

Host Institution: Oakland University

Grant Number: EEC-1852112

Principal Investigator / Faculty Mentor: Laila Guessous | Ankun Yang

Breakout Room: 22

Title: Spatial Mapping of Nanoparticle Confinement in Living Cells

Presenter(s): Madison Seefeld

REU Site: Frontiers in Biomedical Imaging

Host Institution: University of Illinois at Urbana-Champaign

Grant Number: 1757837

Principal Investigator / Faculty Mentor: Andrew M. Smith

Title: Quantum Neural Network Benchmarking with the MNIST Dataset

Presenter(s): Matthew Dobson

REU Site: Sensor, Signal and Information Processing (SenSIP) Devices and Algorithms

Host Institution: Arizona State University

Grant Number: 1659871

Principal Investigator / Faculty Mentor: Andreas Spanias

Title: Studying the Dielectrophoretic Behavior of the Trypanosoma brucei Parasite

Presenter(s): Megan Giacobbi

REU Site: Nature's Machinery through the Prism of Physics, Biology, Chemistry, and Engineering

Host Institution: Clemson University

Grant Number: 1757658

Principal Investigator / Faculty Mentor: Rodrigo Martinez-Duarte

Breakout Room: 33

Title: Collision Detection and Avoidance System for a Multicopter UAV using Stereovision and LiDAR
Presenter(s): Hetkumar Ghadia
REU Site: Research Experience for Undergraduates in UAV Technologies
Host Institution: California State Polytechnic University, Pomona
Grant Number: 1950612
Principal Investigator / Faculty Mentor: Subodh Bhandari (PI) and Amar Raheja

Title: Separation of R-410A Using Fluorinated Polymeric Membranes
Presenter(s): Julia Elizabeth Vallier
REU Site: IDEA Incubator for Porous Materials: Integrating Discovery, Engineering, and Art
Host Institution: University of Kansas
Grant Number: 1852308
Principal Investigator / Faculty Mentor: Mark B. Shiflett

Breakout Room: 34

Title: Predictive Modeling of Drop Impact Force on a Concave Substrate Using Machine Learning
Presenter(s): Jacob Buckelew
REU Site: Research Experiences on the Internet of Things (IoT)
Host Institution: University of Central Florida
Grant Number: 1852002
Principal Investigator / Faculty Mentor: Damla Turgut | Andrew Dickerson

Title: Design of a Virtual Reality Training System for Human-Robot Collaboration in Manufacturing Tasks
Presenter(s): Jake Pierson
REU Site: Summer Academy in Sustainable Manufacturing
Host Institution: Wayne State University
Grant Number: 1950192
Principal Investigator / Faculty Mentor: Jeremy Rickli | Sara Masoud

Breakout Room: 36

Title: A Case for Solar Energy System Dashboards to Validate Performance Warranties
Presenter(s): Amaya McNealey
REU Site: Growing Entrepreneurially-Minded Undergraduate Researchers with New Product Development in Applied Energy
Host Institution: Purdue University
Grant Number: 2050451
Principal Investigator / Faculty Mentor: Lisa Bosman

Title: Optimizing Return on Investment for Solar Energy Systems
Presenter(s): Kayla Fericy
REU Site: Growing Entrepreneurially-Minded Undergraduate Researchers with New Product Development in Applied Energy
Host Institution: Purdue University
Grant Number: 2050451
Principal Investigator / Faculty Mentor: Lisa Bosman

Title: Ultranarrow Optical Modes for Sensing Degradation in Quasi-2D Layered Perovskite
Presenter(s): Kevin Li
REU Site: The Summer Undergraduate Fellowship in Sensor Technologies (SUNFEST)
Host Institution: University of Pennsylvania
Grant Number: 1950720
Principal Investigator / Faculty Mentor: Deep Jariwala

Breakout Room: 39

Title: The Effects of Geometry, Materials, and Voltage on the Temperature Rise of a Microheater
Presenter(s): Nyvia Lyles
REU Site: Singh Center/NNCI REU
Host Institution: University of Pennsylvania
Grant Number: NNCI-2025608
Principal Investigator / Faculty Mentor: Daeyeon Lee

Title: Generative Adversarial Networks for Topology Optimization of Piezoelectric Energy Harvesters
Presenter(s): Priyanka Sarangabany
REU Site: Power Optimization of Electro-Thermal Systems (POETS) REU
Host Institution: University of Illinois at Urbana-Champaign
Grant Number: 1659794
Principal Investigator / Faculty Mentor: Andrew Alleyne | Kai James

Title: Measurement of TID and Temperature Effects in Semiconductor Devices
Presenter(s): Rebecca Barry
REU Site: An Interdisciplinary CubeSat Research and STEM Education Platform at the University of Tennessee at Chattanooga (UTChattSat)
Host Institution: University of Tennessee at Chattanooga
Grant Number: 1757777
Principal Investigator / Faculty Mentor: Daniel Loveless

Breakout Room: 40

Title: Research in Sustainable Alternative Fischer-Tropsch Aerospace Fuels using Low-Temperature Combustion for Reduction of Green House Gasses
Presenter(s): Richard C. Smith III
REU Site: Propulsion, Aerodynamics, Materials and Controls of Aerial Vehicles
Host Institution: Georgia Southern University
Grant Number: 1950207
Principal Investigator / Faculty Mentor: Valentin Soloiu

Title: Low-Temperature Ion Conductor Processing Strategies for Solid Oxide Fuel Cells
Presenter(s): Seth Jacob Dennison
REU Site: Growing Entrepreneurially-Minded Undergraduate Researchers with New Product Development in Applied Energy
Host Institution: Purdue University
Grant Number: EEC-2050451
Principal Investigator / Faculty Mentor: Sunghwan Lee

Breakout Room: 41

Title: Effect of Percolation Ratio on the Electrical Conductivity of Cyanoacrylate Bound Carbon Graphite Electrodes
Presenter(s): Alexandria Dillon
REU Site: Research Experience for Undergraduates in Nanomaterials for Energy and Biological Applications
Host Institution: Indiana University - Purdue University Indianapolis
Grant Number: 1950672
Principal Investigator / Faculty Mentor: Mangilal Agarwal | Ken Yoshida

Title: An Investigation of the Quantum Magic Square Game in Realistic Scenarios
Presenter(s): Maxwell Poster
REU Site: Applying the Tools of Physics to Explore the Macroscopic, Microscopic, and Quantum Worlds
Host Institution: University of Illinois Urbana-Champaign
Grant Number: 1950744
Principal Investigator / Faculty Mentor: Taylor Hughes | Eric Chitambar

NSF Division: Materials Research

Breakout Room: 40

Title: The Effect of Carrier Density-Tunable Work Function Buffer on the Amorphous InZnO-Based Thin Film Transistors
Presenter(s): Molly Isabel Rothschild
REU Site: P-type Oxides for CMOS Devices: Thermodynamics-based In-situ Synthesis and In-Situ Integration
Host Institution: Purdue University
Grant Number: ECCS-1931088
Principal Investigator / Faculty Mentor: Sunghwan Lee

NSF Division: Mathematical Sciences

Breakout Room: 41

Title: Role of Aquaporins in Gastric Cancer and Promotion of Cancer Cell Stemness
Presenter(s): Saurav Kiri
REU Site: Mathematical Modeling in Environmental, Biological and Other Sciences
Host Institution: Bethune Cookman University
Grant Number: 1755561
Principal Investigator / Faculty Mentor: Seenith Sivasundaram | Raphael Isokpehi

Breakout Room: 26

Title: An Application of Cooperative Game Theory to Study the Economic Behavior of Illicit Operators
Presenter(s): Layla Devlin
REU Site: Security Printing and Anti-Counterfeiting Technology
Host Institution: South Dakota School of Mines and Technology
Grant Number: 1852336
Principal Investigator / Faculty Mentor: Grant Crawford | Saurav Kumar Dubey

Title: On the Girth of Assignment Graphs Generated from Digraphs
Presenter(s): Xufei Liu
REU Site: Research Challenges of Computational and Experimental Mathematics
Host Institution: Moravian University
Grant Number: 1852378
Principal Investigator / Faculty Mentor: Nathan Shank | Eugene Fiorini

Title: Tensor-Based Approaches to fMRI Classification
Presenter(s): Yihua Xu | Katherine Keegan
REU Site: Computational Mathematics for Data Science
Host Institution: Emory University
Grant Number: 2051019
Principal Investigator / Faculty Mentor: Lars Ruthotto | Elizabeth Newman

NSF Division: Physics

Breakout Room: 37

Title: Characterization and Optimization of a Magneto-Optical Trap in Miami University's Bose-Einstein Condensation Setup

Presenter(s): Darius Desnoes

REU Site: Physics at Miami University

Host Institution: Miami University

Grant Number: 1757575

Principal Investigator / Faculty Mentor: Herbert Jaeger | Edward Carlo Samson

Title: Simulating Quantum Transport Phenomena in Synthetically Coupled Mechanical Lattices

Presenter(s): DaVonté Lewis

REU Site: Applying the Tools of Physics to Explore the Macroscopic, Microscopic, and Quantum Worlds

Host Institution: University of Illinois at Urbana-Champaign

Grant Number: 1950744

Principal Investigator / Faculty Mentor: Taylor Hughes | Bryce Gadway

Title: Mapping Milky Way Halo Substructure

Presenter(s): Griffin Thomas Goodwin

REU Site: Summer Research Experience for Undergraduates in Physics

Host Institution: Rensselaer Polytechnic Institute

Grant Number: 1852309

Principal Investigator / Faculty Mentor: Peter Persans | Heidi Newberg

NSF Division: Social, Behavioral, and Economic Sciences

Breakout Room: 35

Title: The Moderating Roles of Resilience and Coping in Intimate Partner Violence among Veterans with PTSD

Presenter(s): Aliza Brown

REU Site: Training Diverse Undergraduate Teams of Veterans and non-Veterans to Conduct Trauma Research with Veterans

Host Institution: Syracuse University

Grant Number: 1852104

Principal Investigator / Faculty Mentor: Karen Wolford | Samara Rice

Title: When to Warn: When are Warnings for Misinformation Most Effective?

Presenter(s): Aysha Gisbat

REU Site: Summer Research Experiences in Interdisciplinary Mind and Brain Studies

Host Institution: University of Pennsylvania

Grant Number: 2050803

Principal Investigator / Faculty Mentor: Florian Schwarz | Joseph Kable

Student Presentations Session 3: 2:30 – 3:00 PM ET

NSF Division: Astronomical Sciences

Breakout Room: 57

Title: Searching for White Dwarf Star Transits using the New Van Vleck 24" Telescope
Presenter(s): Natasha Jones
REU Site: Keck Northeast Astronomy Consortium
Host Institution: Wesleyan University
Grant Number: 1950797
Principal Investigator / Faculty Mentor: Seth Redfield

Title: Solar Soft X-ray Irradiance Obtained with Hinode/XRT Full-Sun Images
Presenter(s): Stefanie Davis
REU Site: Solar Physics Program at Montana State University
Host Institution: Montana State University
Grant Number: AGS-1851822
Principal Investigator / Faculty Mentor: Jiong Qiu | Aki Takeda

NSF Division: Atmospheric Sciences and Geospace

Breakout Room: 57

Title: Detecting Organization of Shallow Cumulus Clouds in the Central Pacific using Artificial Intelligence
Presenter(s): Emma Joy Layton
REU Site: Earth Science on Volcanic Islands REU
Host Institution: University of Hawaii at Manoa
Grant Number: 1950941
Principal Investigator / Faculty Mentor: Bridget Smith-Konter | Giuseppe Torri and Alison D. Nugent

NSF Division: Biological Sciences

Breakout Room: 45

Title: Effects of Water Hardness and Road Salt Concentration on Zooplankton Survival and Reproduction
Presenter(s): Aniyah Woodley
REU Site: Addressing Environmental Challenges and Proposing Sustainable Solutions at the Lake Erie Land-Lake Interface
Host Institution: University of Toledo
Grant Number: DBI-1852245
Principal Investigator / Faculty Mentor: Jeanine Refsnider | Bill Hintz

Title: Regulation of Downstream Genes by Leaderless small Open Reading Frames in Mycobacterium smegmatis
Presenter(s): Anjelina King
REU Site: Networked Projects in Cell and Molecular Biology at the Wadsworth Center
Host Institution: Wadsworth Center
Grant Number: 1757170
Principal Investigator / Faculty Mentor: Matthew Kohn | Todd Gray

Title: The Study of Axolotl Spinal Cord Patterning using mRNA Localization
Presenter(s): Antonio C. Villanueva
REU Site: Teamwork in Biological Inquiry: From Molecules to Organisms
Host Institution: Northeastern University
Grant Number: 1757443
Principal Investigator / Faculty Mentor: Wendy Smith | James Monaghan

Breakout Room: 50

Title: Microbial Communities from the Ground to the Canopy: Assessing Assembly Processes and Decomposition in a Tropical Forest

Presenter(s): Roman Robledo

REU Site: Translational Ecology for Undergraduates

Host Institution: Cary Institute of Ecosystem Studies

Grant Number: DBI-1559769

Principal Investigator / Faculty Mentor: Alan Berkowitz | Evan Gora and Jane Lucas

Title: Ants on Plants: Costs and Benefits of Extrafloral Nectaries in Black-Eyed Peas, *Vigna unguiculata* Walp. (Fabaceae)

Presenter(s): Syntyche Kane

REU Site: Blandy REU Program in Ecology and Evolution

Host Institution: University of Virginia

Grant Number: 1659816

Principal Investigator / Faculty Mentor: Kyle Haynes | Mary McKenna

Title: Cryo-EM Structure of an Assembly Intermediate of the Ribosomal Small Subunit from *Leishmania tarentolae* Mitochondria

Presenter(s): Tessa Gebert

REU Site: Networked Projects in Cell and Molecular Biology at the Wadsworth Center

Host Institution: Wadsworth Center

Grant Number: 1757170

Principal Investigator / Faculty Mentor: Matthew Kohn | Rajendra Agrawal

Breakout Room: 53

Title: The Occurrence of G Quadruplex DNA in the Cytoplasm of the Human Lung Adenocarcinoma Cell Line A549

Presenter(s): Alana Ferris

REU Site: Teamwork in Biological Inquiry: From Molecules to Organisms

Host Institution: Northeastern University

Grant Number: 1757443

Principal Investigator / Faculty Mentor: Wendy Smith | Tovah Day

Title: Run Faster, Jump Higher: The Influence of Limb Symmetry on Anole Locomotion

Presenter(s): Alexandra Magee

REU Site: Research Experience for Undergraduates in Genomics and Biochemistry

Host Institution: Louisiana State University - New Orleans

Grant Number: 1659752

Principal Investigator / Faculty Mentor: Fern Tsien | Brandon Hedrick

Breakout Room: 55

Title: Visualizing BYN-1/GLH-1 Proximity Interactions in *C. elegans* to Understand the Activation of Signaling Cascades during Human Embryonic Implantation

Presenter(s): Lyn Miranda Portillo

REU Site: Exploring 21st Century Careers in the Biological Sciences: A Comparative Regenerative Biology Approach

Host Institution: MDI Biological Laboratory

Grant Number: 1851962

Principal Investigator / Faculty Mentor: Jane Disney | Dustin Updike

Title: Expanding the Horizons of Rehabilitative Neuroscience with Deep Neural Networks
Presenter(s): Maya Mazen Murry
REU Site: Scientific computing for structure in big or complex datasets
Host Institution: University of Miami
Grant Number: 1949972
Principal Investigator / Faculty Mentor: Burton Rosenberg | Vance Lemmon

Title: Utilizing PlantCV to Measure the Lodging of Teff (*Eragrostis tef*)
Presenter(s): Michael McGrone
REU Site: Research Experiences for Undergraduates in Plant Science at the Donald Danforth Plant Science Center
Host Institution: Donald Danforth Plant Science Center
Grant Number: 2050394
Principal Investigator / Faculty Mentor: Sona Pandey

Breakout Room: 56

Title: Construction of a Synthetic Mycobacterium Phage Genome using Transformation-Associated Recombination (TAR) Cloning in *Saccharomyces cerevisiae*
Presenter(s): Emily Costanza
REU Site: A Multisite REU in Synthetic Biology
Host Institution: Simmons University
Grant Number: 1852150
Principal Investigator / Faculty Mentor: Jennifer Roecklein-Canfield

Title: Using Synthetic Biology Methods to Construct an Estrogen Biosensor using the Dimerization-Dependent Red Fluorescent Protein, ddRFP
Presenter(s): Emma Case
REU Site: A Multisite REU in Synthetic Biology
Host Institution: Simmons University
Grant Number: 1852150
Principal Investigator / Faculty Mentor: Jennifer Roecklein-Canfield

Title: Tracking Fine Scale Habitat Use and Interactions between Grey Snapper and Goliath Grouper in a Refuge Habitat
Presenter(s): Lizbeth Gonzalez
REU Site: Understanding Coastal Ecosystems - From the Everglades to the Coral Reefs
Host Institution: Florida International University
Grant Number: DBI-1852123
Principal Investigator / Faculty Mentor: Rolando Santos

Breakout Room: 58

Title: Exploring Capsule Synthesis as a Point of Weakness in Multi-Drug Resistant *Acinetobacter baumannii*
Presenter(s): Miranda Wu
REU Site: Teamwork in Biological Inquiry: From Molecules to Organisms
Host Institution: Northeastern University
Grant Number: 1757443
Principal Investigator / Faculty Mentor: Wendy Smith | Edward Geisinger

Title: A Preliminary Look at Carbohydrate Pathways in the Camel Rumen Metatranscriptome on Three Different Diets

Presenter(s): Myra Arshad

REU Site: REU Accelerating New Environmental Workskills (ANEW)

Host Institution: University of Maine

Grant Number: 1849802

Principal Investigator / Faculty Mentor: Anne Lichtenwalner | Suzanne L. Ishaq

Title: The Master Regulator of Biofilm Development SlrR Undergoes Cleavage in the Presence of DNA Damage

Presenter(s): Nebiyat Kebede Eskndir

REU Site: Teamwork in Biological Inquiry: From Molecules to Organisms

Host Institution: Northeastern University

Grant Number: 1757443

Principal Investigator / Faculty Mentor: Wendy Smith | Yunrong (Win) Chai

NSF Division: Chemistry

Breakout Room: 43

Title: Influence of an Ar atom on the Structures, Energetics and Vibrational Frequencies of the Water Hexamer

Presenter(s): Mikhayla Clothier

REU Site: Ole Miss Chemistry Summer Research Program

Host Institution: The University of Mississippi

Grant Number: CHE-1757888

Principal Investigator / Faculty Mentor: Gregory Tschumper

Title: Optimization of Carbon Paste Formulation for Electrochemical Tape-and-Paper-Based Oral pH Sensors

Presenter(s): Rebekah Bogle

REU Site: Multidisciplinary Research for Undergraduates in Nanomaterials for Energy and Biological Applications

Host Institution: Indiana University Purdue University Indianapolis

Grant Number: 950672

Principal Investigator / Faculty Mentor: Mangilal Agarwal | Frederique Deiss

NSF Division: Computer and Information Science and Engineering

Breakout Room: 46

Title: The Consumption of Predatory Pelagic Fish and the Incidence of Diabetes in Modern Kanaka Maoli (Native Hawaiians)

Presenter(s): Aliikamanaekahi Napoleon

REU Site: Cyberinfrastructure Research 4 Social Change

Host Institution: The University of Texas at Austin

Grant Number: 1852538

Principal Investigator / Faculty Mentor: Rosalia Gomez | Kelly Gaither

Title: U.S. Rental Moratorium: A Visual Analysis of the Likelihood of Eviction in the Next Two Months

Presenter(s): Jordan Williams

REU Site: Cyberinfrastructure Research 4 Social Change

Host Institution: The University of Texas at Austin

Grant Number: 1852538

Principal Investigator / Faculty Mentor: Rosalia Gomez | Kelly Gaither

Title: Using a Graph Database for COVID-19 Data Analysis
Presenter(s): Marcus Bedeau
REU Site: Cyberinfrastructure Research 4 Social Change
Host Institution: The University of Texas at Austin
Grant Number: 1852538
Principal Investigator / Faculty Mentor: Rosalia Gomez | Kelly Gaither

Breakout Room: 49

Title: Privacy Preserving Deep Learning for Facial Recognition
Presenter(s): Anis Chihoub
REU Site: Undergraduate Research Experiences in Big Data Security and Privacy
Host Institution: California State Polytechnic University Pomona
Grant Number: 2050826
Principal Investigator / Faculty Mentor: Tingting Chen

Title: Assessing Performance Differences on False-Belief Tasks through Human and Robot Facilitators
Presenter(s): Anisa McKenzie Callis
REU Site: Computational Sensing for Human-centered AI
Host Institution: Rochester Institute of Technology
Grant Number: 1851591
Principal Investigator / Faculty Mentor: Cecilia O. Alm (PI), Jamison Heard, Zhi Zheng and Reynold Bailey

Title: Modeling Cortical Neural Surround Effects Using Deep Neural Networks
Presenter(s): Annie DeForge
REU Site: Scientific computing for structure in big or complex datasets
Host Institution: University of Miami
Grant Number: 1949972
Principal Investigator / Faculty Mentor: Burton Rosenberg | Odelia Schwartz

Breakout Room: 59

Title: Machine Learning-Based Framework for Behavior Tracking
Presenter(s): Ibrohim Nosirov
REU Site: Cyberinfrastructure Research 4 Social Change
Host Institution: The University of Texas at Austin
Grant Number: 1852538
Principal Investigator / Faculty Mentor: Rosalia Gomez | Huiliang (Evan) Wang and Ethan Ho

Title: AR: Know Where You are, Know Where You're Safe
Presenter(s): Jane Kavounas
REU Site: Cyberinfrastructure Research 4 Social Change
Host Institution: The University of Texas at Austin
Grant Number: 1852538
Principal Investigator / Faculty Mentor: Rosalia Gomez | Anne Bowen

Title: Binaural Audio Quality Evaluation using a Binaural Dummy Head and a Spherical Microphone Array
Presenter(s): Jessica Luo
REU Site: Computational Methods for Understanding Music, Media, and Minds
Host Institution: University of Rochester
Grant Number: 1950460
Principal Investigator / Faculty Mentor: Ajay Anand | Ming-Lun Lee

NSF Division: Earth Science

Breakout Room: 60

Title: Receiver Function Analysis of the Magmatic Plumbing System beneath Okmok Volcano

Presenter(s): Madeleine Tan

REU Site: Earth Science on Volcanic Islands REU

Host Institution: University of Hawaii at Manoa

Grant Number: 1950941

Principal Investigator / Faculty Mentor: Bridget Smith-Konter | Helen Janiszewski

Title: Modeling Sea Level Rise in Florida: An Exploratory Study

Presenter(s): Marisela Madrid

REU Site: Statistical Models with Applications to Geoscience

Host Institution: Florida Institute of Technology

Grant Number: 1950768

Principal Investigator / Faculty Mentor: Nezamoddin Nezamoddini-Kachouie | Steven Lazarus

Title: Seasonal Changes in Fate and Transport of Pharmaceuticals and Personal Care Products Due to the Efficacy of Onsite Wastewater Treatment Systems in a Sinkhole Lake Environment

Presenter(s): Rachel Guevara

REU Site: REU Program in Earth Sciences: Water sustainability in the urban environment: Improving the sustainable use of water through interdisciplinary research

Host Institution: University of South Florida

Grant Number: 1950458

Principal Investigator / Faculty Mentor: Philip van Beynen

Breakout Room: 61

Title: Statistical Modeling for Estimating Mountain Glacier Variations through Landsat Satellite Imagery

Presenter(s): Thu Thu Hlaing

REU Site: Statistical Models with Applications to Geoscience

Host Institution: Florida Institute of Technology

Grant Number: 1950768

Principal Investigator / Faculty Mentor: Nezamoddin Nezamoddini-Kachouie

Title: Community Outreach on the Erosion of the East Bay Marsh

Presenter(s): Zanti Rains

REU Site: Sustainable Land & Water Resources

Host Institution: Salish Kootenai College

Grant Number: 2054175

Principal Investigator / Faculty Mentor: Peter Gillard | Antony Berthelote

NSF Division: Engineering

Breakout Room: 42

Title: Cross-Sectional Associations between Thigh Muscle Imaging and Function in Older Adults

Presenter(s): Miracle Etim-Andy

REU Site: Imaging and Mechanics-based Projects on Accidental Cases of Trauma (IMPACT)

Host Institution: Wake Forest School of Medicine

Grant Number: 1950281

Principal Investigator / Faculty Mentor: Ashley Weaver | Kristen Beavers

Title: Yap and Piezo1 Signaling Control Macrophage Mechanotransduction in 2D and 3D environments
Presenter(s): Natalie Celt
REU Site: Mechanobiology at VCU
Host Institution: Virginia Commonwealth University
Grant Number: 1852116
Principal Investigator / Faculty Mentor: Rene Olivares-Navarrete

Title: Communicative vs Transitional Features in American Sign Language
Presenter(s): Tania Nguyen
REU Site: Engineering Sensors Systems and Signal Processing for Speech Pathology
Host Institution: The University of Alabama
Grant Number: 1852161
Principal Investigator / Faculty Mentor: Todd Freeborn | Sevgi Gurbuz and Evie Malaia

Breakout Room: 44

Title: Sustainability Assessment of Electroplating Systems: A Methodological Study
Presenter(s): Rebecca Potoff
REU Site: Summer Academy in Sustainable Manufacturing
Host Institution: Wayne State University
Grant Number: 1950192
Principal Investigator / Faculty Mentor: Jeremy Rickli | Yinlun Huang

Breakout Room: 52

Title: Single Event Transient Analysis with Machine Learning
Presenter(s): Berkay Dean
REU Site: An Interdisciplinary CubeSat Research and STEM Education Platform at the University of Tennessee at Chattanooga (UTChattSat)
Host Institution: University of Tennessee at Chattanooga
Grant Number: 1757777
Principal Investigator / Faculty Mentor: Daniel Loveless

Title: A CubeSat Reaction-Wheel-Based Attitude Controller Testbed
Presenter(s): Jessica Fisher
REU Site: An Interdisciplinary CubeSat Research and STEM Education Platform at the University of Tennessee at Chattanooga (UTChattSat)
Host Institution: University of Tennessee at Chattanooga
Grant Number: 1757777
Principal Investigator / Faculty Mentor: Daniel Loveless

NSF Division: Materials Research

Breakout Room: 44

Title: Room-Temperature Fabrication of Dielectric Ceramics
Presenter(s): Alison Block
REU Site: Materials for Society
Host Institution: Boise State University
Grant Number: 1950305
Principal Investigator / Faculty Mentor: Rick Ubic

Title: Photodoping of n-Type Organic Semiconductors using Tertiary Amines
Presenter(s): Jared D. Hamton
REU Site: Collaborative Undergraduate Experience in Energy
Host Institution: University of Massachusetts Amherst
Grant Number: 1659266
Principal Investigator / Faculty Mentor: Kevin R Kittilstved

NSF Division: Mathematical Sciences

Breakout Room: 47

Title: Optimal Impulse Control of West-Nile Virus
Presenter(s): Adira Cohen
REU Site: Computational Modeling and Simulation in Applied Sciences
Host Institution: Middle Tennessee State University
Grant Number: 1757493
Principal Investigator / Faculty Mentor: Wandu Ding (PI) and Rachel Leander

Title: Mathematical Modeling of a Potential Malaria Vaccine
Presenter(s): Jeffrey Tucker
REU Site: (AM)² REU
Host Institution: Arizona State University
Grant Number: DMS-1757663
Principal Investigator / Faculty Mentor: Wenbo Tang | Abba Gumel

Title: M-Shwari Comparisons: An Investigation of Income
Presenter(s): Kathryn Enriquez
REU Site: Rose-Hulman Mathematics REU
Host Institution: Rose-Hulman Institute of Technology
Grant Number: 1852132
Principal Investigator / Faculty Mentor: Wayne Tarrant

Breakout Room: 48

Title: Mathematical Modeling, Dynamics, and Control of Atmospheric Carbon Dioxide Emissions Reduction to Slow and Reverse Global Warming Using
Presenter(s): Caleb Ukaonu
REU Site: Mathematical Modeling in Environmental, Biological and Other Sciences
Host Institution: Bethune Cookman University
Grant Number: 1755561
Principal Investigator / Faculty Mentor: Seenith Sivasundaram

Title: Coronavirus Disease 2019 (COVID-19) is an Acute Infectious Disease of the Respiratory System that is Caused by the SARS-CoV-2 Virus Infection
Presenter(s): Elizabeth King
REU Site: Mathematical Modeling in Environmental, Biological and Other Sciences
Host Institution: Bethune Cookman University
Grant Number: 1755561
Principal Investigator / Faculty Mentor: Seenith Sivasundaram

Title: Mathematical Model of Algal Bloom with Time Delay
Presenter(s): Sunaina Butler
REU Site: Mathematical Modeling in Environmental, Biological and Other Sciences
Host Institution: Bethune Cookman University
Grant Number: 1755561
Principal Investigator / Faculty Mentor: Seenith Sivasundaram

NSF Division: Physics

Breakout Room: 51

Title: Algorithm that Recovers Hamiltonian Parameters in Imprecisely Characterized Systems
Presenter(s): Hebah Shaukat Goderya
REU Site: Applying the Tools of Physics to Explore the Macroscopic, Microscopic, and Quantum Worlds
Host Institution: University of Illinois at Urbana-Champaign
Grant Number: 1950744
Principal Investigator / Faculty Mentor: Wolfgang Pfaff

Title: Properties of Superconductivity in BaSbTeS₂ using X-Ray Diffraction and Raman Spectroscopy
Presenter(s): Tessa McNamee
REU Site: An Inclusive REU Program in Physics and Astronomy at the University of Utah
Host Institution: University of Utah
Grant Number: 1950785
Principal Investigator / Faculty Mentor: Jordan Gerton | Shanti Deemyad

NSF Division: Social, Behavioral, and Economic Sciences

Breakout Room: 54

Title: The Role of Speaker Identity in Literal Versus Pragmatic Interpretation
Presenter(s): Erica Solis
REU Site: Summer Research Experiences in Interdisciplinary Mind & Brain Studies
Host Institution: University of Pennsylvania
Grant Number: 2050803
Principal Investigator / Faculty Mentor: Florian Schwarz

Title: Enter at Your Own Risk: The Impacts of Joining a Hateful Subreddit
Presenter(s): Katie Ko
REU Site: Human Communication in a Connected World
Host Institution: University of Southern California
Grant Number: 2051101
Principal Investigator / Faculty Mentor: Jelena Mirkovic

Title: Sex-Related Dental Wear Patterns in an Alaskan Population
Presenter(s): Kristen Alipio
REU Site: Natural History Research Experiences
Host Institution: National Museum of Natural History, Smithsonian Institution
Grant Number: OCE-1560088
Principal Investigator / Faculty Mentor: Elizabeth Cottrill | Erica B. Jones