Summer Undergraduate Research Symposium

Friday, July 23, 2021











Summer Undergraduate Research Fellowship Program (SURF)
NSF Research Experience for Undergraduates (REU)

University of Miami Summer 2021

Morning Session

9:30 AM – 10:00 AM Opening Remarks from Program Directors, Dr.

Priyamvada Rai and Dr. Burton Rosenberg

10:00 AM - 11:45 AM SURF Student Oral Presentations

See Next Page for Presenters

11:45AM - 12:00 PM Break

12:00 PM - 1:15 PM REU Student Oral Presentations

See Next Page for Presenters

Afternoon Session

1:15 PM - 1:55 PM Lunch Break

2:00 PM - 3:00 PM Keynote Speaker: Janaki Sharma, M.D.

"A Brief Primer for Stumbling into a Research

Career"

3:10 PM - 3:30 PM Awards & Closing Remarks



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SURF Student Oral Presentations

10:00 AM - 10:10 AM

Nisa Ilsin

"THE FUNCTION OF STAT3 AND STAT5 IN NORMAL AND TRANSFORMED LYMPHOCYTES"

Mentor: Dr. Alejandro Villarino

Department of Microbiology & Immunology

10:10 AM - 10:20 AM

Yoland Victor

"DETERMINING THE ROLE OF THE mTOR PATHWAY IN THE ENDOSYMBIOTIC RELATIONSHIP BETWEEN ACYRTHOSIPHON PISUM AND BUCHNERA APHIDICOLA BY CHARACTERIZING MUTRIENT SENSORS"

BY CHARACTERIZING NUTRIENT SENSORS"

Mentors: Dr. Daniel Isom/Dr. Alexandra Wilson

Departments of Molecular & Cellular Pharmacology (Dr. Isom) &

Biology (Dr. Wilson)

10:20 AM - 10:30 AM

Christopher Zeuthen

"UNDERSTANDING THE SUBCELLULAR MECHANISMS OF ACUTE TREATMENT WITH GROWTH HORMONE ON

MOUSE CARDIOMYOCYTES"

Mentors: Drs. Wayne Balkan & Joshua Hare

Department of Medicine

 $10:30 \, AM - 10:40 \, AM$

Helena Raposo

"UNCOVERING SEX-RELATED DIFFERENTIAL GENE EXPRESSION PATHWAYS IN DOPAMINERGIC NEURONS"

Mentor: Dr. Luis Tuesta

Department of Psychiatry & Behavioral Sciences

10:40 AM - 10:50 AM

Abraham Profeta

"EVALUATING THE EFFECTS OF PCK2 KNOCKDOWN ON RAD51 FOCI FORMATION AND ITS ROLE IN OVARIAN CANCER"

Mentor: Dr. Sophia George

Department of Obstetrics, Gynecology & Reproductive Sciences



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SURF Student Oral Presentations

10:55 AM - 11:05 AM **Juana Quirno Costa**

"EVALUATION OF RETINAL LAYERS AND QUANTIFICATION OF RETINAL GANGLION CELLS IN HYPERTENSIVE AND

NORMOTENSIVE DBA/2J MICE" Mentor: Dr. Sanjoy Bhattacharya Department of Ophthalmology

11:05 AM - 11:15 AM **Douglas Obenrader**

"TOWARD PREDICTING GPCR COUPLING TO Ga SUBUNIT

SUBTYPES"

Mentor: Dr. Daniel Isom

Department of Molecular & Cellular Pharmacology

11:15 AM - 11:25 AM **Ashlee Sealy**

"UTILIZING COMPUTATIONAL METHODS TO IDENTIFY POTENTIAL SMALL MOLECULE KINASE INHIBITORS OF

THE BUB1B KINASE"

Mentor: Dr. Stephan Schürer

Department of Molecular & Cellular Pharmacology

11:25 AM - 11:35 AM Laura Misiara Lincheta

"PROFILING THE REDOX CHANGES ASSOCIATED WITH PROGRESSION TO INCURABLE PROSTATE CANCER"

Mentor: Dr. Priyamvada Rai

Department of Radiation Oncology

11:35 AM – 11:45 AM Robert DiCaprio

"AN ATTENTUATED INTERFERON RESPONSE INHIBITS ISGYLATION IN INDUCED PLURIPOTENT STEM CELLS"

Mentor: Dr. Emmanuel Thomas

Department of Pathology & Laboratory Medicine



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REU Student Oral Presentations

12:00 PM - 12:10 PM

Annie DeForge

"MODELING CORTICAL NEURAL SURROUND EFFECTS

USING DEEP NEURAL NETWORKS"

Mentor: Dr. Odelia Schwartz Department of Computer Science

12:10 PM - 12:20 PM

Christian Jerry

"LANGUAGE DURING COVID-19: THE EFFECTS OF

MASKS ON PRESCHOOLERS PROXIMITY &

VOCALIZATIONS"

Mentor: Dr. Daniel Messinger Department of Psychology

12:20 PM - 12:30 PM

Maya Murry

"EXPANDING THE HORIZONS OF REHABILITATIVE NEUROSCIENCE WITH DEEP NEURAL NETWORKS"

Mentor: Dr. Vance Lemmon

The Miami Project to Cure Paralysis

12:40 PM - 12:50 PM

Nestor Orozco-Llamas

"DENOISING OF RFID RECORDINGS USING KALMAN

FILTERS"

Mentor: Dr. Daniel Messinger Department of Psychology

12:50 PM - 1:05 PM

Santiago Cortes & Thomas Spangler

"INCORPORATING THE GAMESS PROGRAM INTO THE

GAML SOFTWARF"

Mentor: Dr. Orlando Acevedo Department of Chemistry



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REU Student Oral Presentations

1:05 PM - 1:15 PM

Kevin Wu

"INTEGRATED COMPUTATIONAL GESTURAL AND TIMBRAL MAPPING FOR MUSICAL EXPRESSIONS"

Mentor: Dr. Mitsunori Ogihara Department of Computer Science

Keynote Speaker

Summer Undergraduate Research Fellowship Program (SURF)
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Janaki Sharma, M.D.



"A Brief Primer for Stumbling into a Research Career"

Dr. Janaki Sharma is an oncologist and assistant professor of medicine specializing in the treatment of genitourinary malignancies. Her clinical and research interests are in development of novel therapeutics for prostate cancer. She currently holds the Paul Calabresi Career Development Award (K12). She completed medical school at the University of Kansas followed by internal medicine residency at Albert Einstein College of medicine in New York. She also pursued advanced training in oncology and geriatrics there.

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Robert DiCaprio

University of Miami
Mentor: Dr. Emmanuel Thomas
Department of Pathology & Laboratory
Medicine







Laura Misiara Lincheta

University of Miami

Mentor: Dr. Priyamvada Rai

Department of Radiation Oncology

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Douglas Obenrader
University of Michigan-Ann Arbor
Mentor: Dr. Daniel Isom
Department of Molecular & Cellular
Pharmacology





Abraham Profeta

Cornell University

Mentor: Dr. Sophia George

Department of Obstetrics, Gynecology &

Reproductive Sciences

Juana Quirno Costa
Florida International University
Mentor: Dr. Sanjoy Bhattacharya
Department of Ophthalmology



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Helena Raposo

Oregon State University

Mentor: Dr. Luis Tuesta

Department of Psychiatry & Behavioral

Sciences



University of Miami Mentor: Dr. Stephan Schürer Department of Molecular & Cellular Pharmacology





Yoland Victor

University of Miami

Mentors: Dr. Daniel Isom/ Dr. Alexandra Wilson

Departments of Molecular & Cellular

Pharmacology (Dr. Isom) & Biology (Dr. Wilson)

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Christopher Zeuthen

Emory University

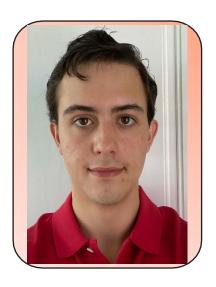
Mentors: Dr. Wayne Balkan/ Dr. Joshua Hare

Department of Medicine



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Santiago Cortes
Johns Hopkins University
Mentor: Dr. Orlando Acevedo

Department of Chemistry

Annie DeForge

Bentley University

Mentor: Dr. Odelia Schwartz

Department of Computer Science



Christian Jerry
Indiana University
Mentor: Dr. Daniel Messinger
Department of Psychology

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Maya Murry

Cornell University

Mentor: Dr. Vance Lemmon

The Miami Project to Cure Paralysis

Nestor Orozco-Llamas

Middlebury College Mentor: Dr. Daniel Messinger Department of Psychology





Thomas Spangler

University of North Carolina Wilmington

Mentor: Dr. Orlando Acevedo

Department of Chemistry

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Kevin Wu University of Miami Mentor: Dr. Mitsunori Ogihara Department of Computer Science

Thanks and Acknowledgements

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The SURF team

Dr. Priyamvada Rai (Program Director), Mr. Santos Cayetano, Ms. Sarah Sandiford, Ms. Theresa Votolato, Ms. Rositsa Kalinova, Ms. Maya Kono

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