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Dear Clarkies and guests,

Welcome to ClarkFEST Fall 2023! Twice a year, the Clark community comes together to celebrate our students’ achievements, and to reaffirm our commitment to a well-rounded education grounded in experiential learning. ClarkFEST also allows us to recognize excellence in mentorship from faculty and staff members and to show appreciation for the generous financial support of university fellowships and donors. This event encapsulates what we know about the Clark experience: liberal education best prepares students to become citizen-scholars in the world, and it is a team effort.

We invite you to visit our exhibition of posters and creative works in Tilton Hall, paper presentations in ASEC 202, and Interactive Media exhibits at the new Center for Media Arts, Computing, and Design. Ask questions, connect with colleagues, and learn from the students, as we continue the Clark tradition of challenging conventions and changing our world.

Betsy Huang, Ph.D.
Associate Provost & Dean of the College

Steven Moon, Ph.D.
Director, Undergraduate Research and Fellowships Advising
General Information

Registration
Presenters and guests can check in at the entrance of Tilton Hall on the second floor of the Higgins University Center.

Interactive Media Exhibits
Interactive Media exhibits are located on the second floor of the brand-new Center for Media Arts, Computing, and Design from 2:30-4:30 PM. This is a participatory showcase, so stop by and play student-designed games!

Poster and Creative Works Exhibition
Our exhibition is located in Tilton Hall room and will be open from 12:30-2:30 PM. Please note that posters and creative works are listed by the student’s declared major or the major area within which the poster was completed (in the case of classes or groups). Some posters may reflect students’ research expertise and experience in other related areas of study.

Panels & Roundtables
Oral presentations will take place in ASEC 202 throughout the afternoon.

Networking Event
At the end of our busy day, join us in the Center for Media Arts, Computing, and Design for a networking event! Clark alumni and employers from several professional industries are eager to speak with students, faculty, and staff about preparing students for the work force.
Posters and Creative Works
Tilton Hall, 12:30-2:30 PM

Art History

*The Birth of a Venetian Venus in American Fine Arts Institutions*
**Emily Abney ‘24**
(Sara Bickman Music and Arts Summer Internship Award)
Sponsor: John Garton

Biochemistry & Molecular Biology

*Incorporation of an Unnatural Amino Acid into GFP*
**Siobhan Connolly ‘26**
(Penn Summer Research Award)
Sponsor: Arundhati Nag

*Synthesizing Cyclic Peptides as Scaffolds for Phosphate-Containing Metabolites*
**Bella DiChiara ‘24**
(Maurine H. Milburn Fund)
Sponsor: Arundhati Nag

*SPARC as a tool to visualize and manipulate single motor neurons in Drosophila*
**Krishna Gajjar ‘25**
Sponsor: Néva Meyer

*Amyloid Beta Aggregation*
**Ian MacCormack ‘25**
(Lise Anne and Leo E. Beavers II Fellowship)
Sponsor: Arundhati Nag

*Finding the hot spot in an AMP-sensing cyclic macropeptide*
**Ryan Ribeiro Lopes Soboia ‘26**
(Maurine H. Milburn Fund)
Sponsor: Arundhati Nag

*Understanding the Interaction Between MDC1 and HERC2*
**Marina Sako ‘26**
(James and Ada Bickman (39) Summer Science Fellowship)
Sponsor: Donald Spratt
Uncovering the Binding Affinity and Specificity of Transcription Factor Homeodomain UBX to DNA  
**Cristina Santo ’24**  
(Maurine H. Milburn Fund)  
Sponsor: Donald Spratt

The Enzymatic Degradation of A-beta and ApoE in the Presence of SUVs  
**Joseph Tramontozzi ’24**  
(Lise Anne and Leo E. Beavers II Fellowship)  
Sponsor: Noel Lazo

Effects of DnmA on Aspartate-Containing Protein Expression in *D. discoideum*  
**Elizabeth Zinno ’25**  
(M. Margaret Comer Memorial Award)  
Sponsor: Denis Larochelle

**Biology**

*Ants on a bog?! A comparison of biodiversity on restored cranberry bogs at different stages of restoration in Plymouth, MA*  
**Beatrice Altopp ’25**  
**Isabelle Appiah ’24**  
**Fengying Guo ’25**  
**Lauren Holmes ’23, ’24**  
**Ella Incantalupo ’25**  
**Lily Kaplan ’23, ’24**  
**Janet Lim ’24**  
**Sam Norton ’24**  
**Yuna Parrish ’24**  
**Kyliegh Souza ’24**  
**Annemaire Walsh ’25**  
**Emily Wells ’25**  
Sponsor: Elizabeth Bone

**Agricultural Regime and Microbial Physiology**  
**Tuqa Amer ’24**  
**Besma Nurhussien ’24**  
Sponsor: Chandra Jack

*Genomic Diversity of Secondary Metabolism in Animal-Associated Fungi*  
**Jasper Carleton ’24**  
(Edwin A. Weiller Summer Science Fellowship)  
Sponsor: Javier Tabima Restrepo
D. melanogaster Transcription Factor interactions within enhancers of the Twin of Eyeless gene
Lindsay Carlson ’24
(SURE Program)
Sponsor: Jacqueline Dresch

Isolation and Characterization of viruses in Narragansett Bay
Dukilda Hasanlari ’24
Sponsor: Nathan Ahlgren

Visualizing Brain Centers: Characterizing the Neurosecretory Brain Center and Optimizing the CLARITY Clearing Procedure in Capitella teleta
Matt O’Connell-Vale ’24
(Steinbrecher Fellowship)
Sponsor: Néva Meyer

Bats as a Micro Habitat
Nicholas Pontius ’24
(Operation Wallacea)
Sponsor: Elizabeth Bone

Incorporating unnatural amino acids in sfGFP and KRAS(G12V) proteins
Antonia Tollkuci ’25
(Maurine H. Milburn Research Fellowship)
Sponsor: Arundhati Nag

Chemistry

Reactor Engineering for Rust-Assisted Vapor-Phase Polymerization of PEDOT
Thomas Esdale ’25
(Edwin A. Weiller Summer Science Fellowship)
Sponsor: Julio D’Arcy

Di-chlorido bridged copper(II) dimers and molecular spin stairs
Mathew Graci ’24
(Fredrick M. and Alice Murdock Research Fund)
Sponsor: Mark Turnbull
Computer Science

*Basketball Data Analytics and Machine Learning*
*Dillon Remuck ’25*
*Shubham Kinger ’24*
*Kevin Braunwart ’25*
*Jeffery Tang ’24*
(Computer Science Summer Research)
Sponsor: Li Han

*Machine Learning of Lyrical Style*
*Isaac Schatia ‘24*
Sponsor: Li Han

*Mouse pointer movements in a target unaware environment*
*Jonah Scudere-Weiss ’24*
(LEEP Fellowship)
Sponsor: John Magee

*Analyzing how Health and Human Service Organizations Utilize Video-Meeting Platforms to Mitigate Social Isolation Post-Covid*
*Abigail Wilson ’24*
*Isaac Tomeho ’26*
Sponsor: John Magee

Data Science

*Quantifying Large Language Model Workflows*
*Alexander Vu ’26*
*Sarthak Chand ‘25*
*Yitao Wang ‘24*
(LEEP Fellowship)
Sponsor: Gary Holness

Environmental Science

*Risky Business: An Analysis of Municipal Climate Risk Disclosures in Bond Offerings*
*Samuel Cooper ‘24*
Sponsor: Mark Davidson

*Exploring the Relationship Between Small and Large Cyanobacteria in Worcester Waterbodies*
*Jackie Wallis ‘26*
(Penn Summer Research Award)
Sponsor: Nathan Ahlgren
Geography

*Resident Perceptions on Tree Planting Initiatives, Tree Stewardship, and Neighborhood Recovery following the 2008 Longhorned Beetle Outbreak*

Ksenia Smart ’24
Ramón Colón ’24
Amritha Pai ’24
(HERO Program)
Sponsor: John Rogan

Global Environmental Studies

*Addressing the Climate Crisis through Head, Heart, & Hands: Exploring Natural Farming Solutions*

Lily Attias-Inzano ’26
(Edwin A. Weiller Summer Science Fellowship)
Sponsor: Christopher Williams

*An Analysis of Tree Health and Structure in the Worcester, Massachusetts Longhorned Beetle Regulation Zone*

Adlai Nelson ’24
Aaron Richmond-Crosset ’25
Caleb Kluchman ’24
Tanner Honnelf ’24
(HERO Program)
Sponsors: John Rogan, Deborah Martin

History

*Curatorial Fellowship at the Martha’s Vineyard Museum: An Introduction to Museum Studies*

Peyton Dauley ’24
(History Department Internship Program)
Sponsor: Amy Richter

Media, Culture, & the Arts

*Dykes and their Phalluses (D&TP)*

Abby Rhodes ’24
(Sara Bickman Music and Arts Summer Internship Award)
Sponsor: Soren Sorensen
The Cape Media Center

Zee White ’24
(Barth Summer Internship Award)
Sponsor: Matthew Malsky

Physics

Resistivity Measurements of Charge Density Wave Compounds
Phoenix Beveridge ’26
(Erikson Research Award)
Sponsor: Michael Boyer

Is DC Power the Future?
Erron Cushnie ’24
(Edwin A. Weiller Summer Science Fellowship)
Sponsor: Charles Agosta

Magneto Elastic Robots in granular medium
Balaram Desai ’24
Lily Carey ’25
(Erikson Research Award)
Sponsor: Arshad Kudrolli

Obtaining Digital Output from Noisy Analog Signals for Wind Turbine Operation
Sydney Lyons ’26
(Erikson Research Award)
Sponsor: Charles Agosta

Studying Superconductors
Lily Quan ’24
Sponsor: Charles Agosta

Political Science

Building Identity Across the Luxembourg, Belgium, German, and French Borders
Katherine Jones ’25
(Lier Luxembourg Program)
Sponsor: Michael Bamberg

Flood Ready Neighborhoods Project
William Schechter ’24
(Doyle Fellowship through New Hampshire Sea Grant)
Sponsor: Morgan Ruelle
Internship at Shenker, Russo and Clark
Lily Summerfield ’26
(Harrington Fellowship)
Sponsor: Robert Boatright

Psychology

"This is Something I Have Never Thought About Before, But It Makes Sense": Cognitive Reflection and Building Upon College Student’s Intersectional Awareness.
Gwendolyn Arbetman ’24
Sponsor: Alena Esposito

Fraction Knowledge as a Partial Mediator between Inhibitory Control and Math Achievement
Guan Barretto ’25
Sponsor: Alena Esposito

Mindfulness-Guided Collaboration
Zachary Cooper ’24
Sponsor: Justin Laplante

The 3 C’s of Early Childhood Education
Justinne Katigbak ’24
Sponsor: Ana Kamille Marcelo

The Supports and Experiences of Disabled Clark Students
Angela Patric ‘24
(LEEP Fellowship)
Sponsor: Tyran Grillo

Spanish

CIMCiH ’23
Lindsay Piscitelli ‘23
Ellanora Lerner ‘24
David Franzen ‘24
Zachary Baranowski ‘25
Angeles Rodriguez ‘25
Cassie Mayer ‘24
Liliana Colon ‘25
Bela Walters ‘24
Sponsor: Dolores Juan-Moreno
Studio Art

African Fabrics
Amal Ahmed ‘24
(Steinbrecher Fellowship)
Sponsor: Sherry Freyermuth

Belonging: A Photographic Exploration
Carter Lee ‘24
(Sara Bickman Music and Arts Summer Internship Award, Tamara Gay Walker Memorial Fund, CGRAS Fellowship)
Sponsor: Caleb Cole

Bodies Reflect The Mind
Katie Rich ‘24
(Sara Bickman Music and Arts Summer Internship Award)
Sponsor: Sherry Freyermuth

Codex Root Kinetics
Ursula Zia ‘24
(Steinbrecher Fellowship)
Sponsor: Mandy Gutmann-Gonzalez
Paper Presentations
ASEC 202

12:30 PM  
*Strengthening Refugee Protection and Academic Freedom on Campus: Scholars at Risk at Clark University*

**Zoe Ellingwood ‘24**
(Holocaust & Genocide Studies Summer Stipend)
Sponsor: Anita Fabos

1:00 PM  
*Relation Oriented Programming*

**Darius Grauslys ‘24**
(Steinbrecher Fellowship)
Sponsor: Li Han

1:30 PM  
*How Big is a Mushroom?*

**Devon Rose Leaver ‘24**
(LEEP Fellowship, SURE Fellowship)
Sponsor: David Hibbett

2:00 PM  
*Exploring the Dual Nature of Habit Change*

**Artemiy Leonov ‘24**
(Steinbrecher Fellowship)
Sponsor: Justin Laplante

2:30 PM  
*Castellopera Al Mare - La Bohème in Italy 2023*

**Zoe Marinakos ‘24**
(Sara Bickman Music and Arts Summer Internship Award)
Sponsor: Cailin Manson

3:00 PM  
*Web of Lies: An experimental exploration of the effect of in-person social connections on misinformation*

**Max Rosenfeld ‘24**

3:30 PM  
*From Script to Screen: ASK THE BIRDS*

**Nicole Overbaugh ‘24**
(Sara Bickman Music and Arts Summer Internship Award)
Sponsor: Stephen DiRado
Interactive Media Exhibits
CMACD, 2:30-4:30

Portfolio
**RJ Anthony ’24**
Sponsor: {Terrasa} Ulm

New Blood Experience
**Alexia Cronin ’24**
Sponsor: {Terrasa} Ulm

Tend the Fire
**Lauren Gallagher ’26**
Sponsor: {Terrasa} Ulm

Portfolio
**Edward Greig ’24**
Sponsor: {Terrasa} Ulm

Portfolio
**Caden Loll ’25**
Sponsor: Paul Cotnoir

Portfolio
**Nathaniel Manfra**

Upheaveal
**Christopher Mattarelli ’24**
Sponsor: {Terrasa} Ulm

Portfolio
**Frankie Nolan ’27**

Portfolio
**Brien Rondeau ’25**
Sponsor: {Terrasa} Ulm

Production Deconstruction
**Alexander Supron ’25**
Sponsor: {Terrasa} Ulm

Portfolio
**Maxwell Xavier**
Research Awards

Each year, Clark University gives an estimated $250,000 in funding to undergraduate students for research experiences on campus, across the US, and abroad. Many of these awards are generously funded by alumni and their families, and advance students’ co-curricular education through applied and experiential learning. Recipients represented at ClarkFEST Fall 2023 are denoted in the program.

Atupem ’82 International Internship Award
*In memory of Gary S. Poor, supporting internships for student members of the Clark Global Scholars program from Ghana or another African nation.*

Barth Internship Award
*Funded by the Theodore Barth Foundation, providing support for unpaid internships at non-profits.*

ClarkCONNECT Summer Internship Program
*Provides support for students to complete an unpaid or low-paying summer internship with a Clark alum mentor.*

Edwin A. Weiller Summer Science Fellowship
*In memory of Edwin A. Weiller, III, given by Bruce H. Weiller (’81), Shari B.S. Weiller, and family*

Erickson Research Award
*Funds summer research for students majoring in Math or Physics.*

Goulandris Summer Internship Award
*Funds a summer internship in environmental sciences.*

Harrison Mackler ’07, Jason Pietrucha and Friends Summer Research Award
*Supports summer research for rising juniors or seniors in biology or biochemistry.*

Harrington Fellowship Program
*Supported by the Francis A. Harrington Public Affairs Fund, established 1963 for politics & policy research.*

History Department Internship Program
*Funds summer internships in public history or history fields beyond the academy.*

Human-Environment Regional Observatory (HERO) Program
*Funds undergraduate-graduate-faculty collaborative research on the human-environment relationship in Massachusetts* 

James (’39) and Ada Bickman Summer Science Research Internship
*Funds summer research in chemistry.*

June Patron ’65 Endowed Internship Award
*Funds a summer internship for political science students in Washington, D.C.*
LEEP Fellows Program
Funds projects or research during the summer that engages with the community outside of Clark, with a focus on problem-based inquiry and the application of course materials to real-world experiences.

Lois & Robert Green Summer Internship Award
Supports a summer internship as an assistant to a city official.

Maurine H. Milburn Research Fellowship
Established by Janice Culpepper (’77) in honor of Maurine Milburn to support student research in Chemistry, Biology, and Physics.

Penn Research Award
Established by Erica Penn (’84) and Kevin Penn, supporting summer research for women in STEM.

Peter J. Condakes ’78 Research Fellowship
Funds undergraduate summer research in geography and environmental studies and science.

Plave Family Research Fellowship
Established by Lee Plave (’80) and family to find research in neuroscience related to Amyotrophic Lateral Sclerosis (ALS).

Sara Bickman Music and Arts Summer Internship Award
The Sara Bickman Music and Arts Summer Internship Award was established by James Bickman, a member of the class of 1939, and his sons Martin and David Bickman, in memory of his wife and their mother, Sara Bickman. The fund is used to support summer internships for undergraduate students majoring in the visual and performing arts. Awards are made to students in their junior year for projects to be conducted between their junior and senior years.

Steinbrecher Fellowship Program

Tamara Gay Walker ’75 Award Memorial Fund
Established in memory of Tamara Gay Walker by her husband Dennis Dimitri ’75 to fund student study in languages, comparative literatures, and the arts.
Thank You

ClarkFEST Fall 2023 is sponsored by the Dean of the College Office and organized by the Office of Undergraduate Research & Fellowships Advising.

We thank the student presenters for their imagination, passion, and drive that make ClarkFEST such an exciting event. We thank the faculty and staff mentors who provide careful guidance to all Clark students throughout their educational journey.

Finally, we thank the faculty and staff across the university that have made this event happen:

**ATS**
Dorothy Erickson

**Becker School of Design & Technology**
Paul Cotnoir
Donald Desrochers
{TERRASA} Ulm

**Career Connections Center**
Lisa Chase
Angela Harris

**Dean of the College**
Betsy Huang
Evan Wilson

**Department of Psychology**
Kerri Stearns

**Dining Services**
Kim McElroy

**Division of Student Success**
Kamaro Abubakar
Campus Ambassadors

**Facilities Management**
Joseph Mogel

**Library**
Laura Robinson
Cynthia Shenette

**Marketing & Communications**
Meredith King
Jordan Aubin
Steven King

**Provost Office**
Sebastián Royo

**University Events**
Amy Joseph
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