



*a celebration of*  
**CREATIVE INQUIRY**

HONORS 2024 | FRIDAY, MAY 10

# WELCOME

**The Gustavus curriculum is designed to bring students to mastery of a particular area of study within a general framework that is both interdisciplinary and international in perspective. The College seeks to promote an open exchange of ideas and the independent pursuit of learning.**

- From the Gustavus Mission Statement

Welcome to the Celebration of Creative Inquiry! This annual event showcases the research, scholarship, and creative work of Gustavus Adolphus College students. The Celebration of Creative Inquiry is a campus-wide forum at which Gustavus students present their creative inquiry in a poster session or oral presentation. Creative Inquiry is an intentionally broad term that encompasses research and scholarship in all academic disciplines, which may be initiated as part of a class assignment or project, by the student or group of students, from experiences on or off campus, or by the faculty member as a collaboration with students.

The intent of creative inquiry varies by discipline but includes: asking a question that has not been asked before; a process that attempts to fill a gap or create new knowledge, information, or art; a process or product that requires the student to add ideas or imagination of their own; a project that is shaped by choices that the student made independently; and a component of critical reflection. This year, the event showcases student work conducted in 17 departments and programs. In addition, seven students will be presenting what they learned from their internships.

We hope you enjoy hearing more about about the creative inquiry our undergraduate students engage in every day at Gustavus, and that you will gain insights from projects in disciplines other than your own. As you will see, these kinds of projects provoke the intellect and stimulate the learning process—the heart of a true liberal arts education.

~ Sarah Peterson

Grants Administration Coordinator in Research and Sponsored Programs

*Thanks to the Provost's Office for supporting this event; the Office of Marketing and Communication and Print Services for design, layout and print; Physical Plant and Dining Service for their assistance in setting up and arranging this event; and all the faculty, staff, and student volunteers who helped to make this event possible!*

For abstracts and additional information, visit [gustavus.edu/go/cci](http://gustavus.edu/go/cci).



# 2024 CELEBRATION OF CREATIVE INQUIRY

## Oral Presentations

2:30–3 p.m.

Beck Hall Room 201

### **Prior Acquisition of Aneuploidy Initiates Antifungal Drug Tolerance in *Candida Albicans***

Kade Copple '24

Faculty Sponsor: Laura Burrack  
Department: Biology

### **Obstacles for Central Asian Unity: the Dismantling of Pan-Turkism**

Caroline Southworth '24

Faculty Sponsor: Annalise Rivas  
Department: Russian and Eastern European  
Studies

### **Analyzing the Flow of Human Thoughts on Glaciers Through Social Media Platforms**

Daniel Bies '24

Faculty Sponsor: Jeff La Frenierre  
Department: Environment, Geography, and  
Earth Sciences

### **Snow White and the American Dream: The Illustrations of Wanda Gág and Disney's Propaganda Films**

Becky LaCanne '24

Faculty Sponsor: Colleen Stockmann  
Department: Art and Art History

## Poster Presentations

2:30–3:30 p.m.

Beck Hall Atrium

### **Empire & Expanding Frontiers: How Arctic Policy Informs Geopolitical Conflicts**

Lauren Tillman '24

Faculty Sponsor: Jeff La Frenierre  
Department: Environment, Geography, and  
Earth Sciences

### **Mapping Tourism in Mount Kilimanjaro Using Flickr Data**

Amad Jalloh '24

Faculty Sponsor: Jeff La Frenierre  
Department: Environment, Geography, and  
Earth Sciences

### **A Comparison of Crops Grown in Partially Glacier-Fed Watersheds and Non-Glaciated Watersheds in Canada and the Northwest U.S.**

Lydia Gillis '25

Faculty Sponsor: Jeff La Frenierre  
Department: Environment, Geography, and  
Earth Sciences

## **Glacial Lake Risk Assessment in the Tamakoshi River Basin in Nepal and Tibet: A Looming Threat That Sees No Borders**

Dane Lewandowski '25

Faculty Sponsor: Jeff La Frenierre  
Department: Environment, Geography, and Earth Sciences

## **Conflict in Transboundary River Basins with Glaciers**

Ella Schwakopf '25

Faculty Sponsor: Jeff La Frenierre  
Department: Environment, Geography, and Earth Sciences

## **Understanding the Relationship Between Mindfulness and Digital Wellbeing Through Potential Mediating Factors**

Jacob Duncan '24

Faculty Sponsor: Patrick Heath  
Department: Psychological Science

## **“I am not a monster”: Efficacy of a Brief Video Intervention on Reducing Schizophrenia Stigma**

Anna Marie Riner '24

Faculty Sponsor: Patrick Heath  
Department: Psychological Science

## **Categorization of Magnetic Storms Using PyTorch ML Framework**

Zack Stordahl '25

Faculty Sponsor: Darsa Donelan  
Department: Physics

## **Optimizing T7 RNAP Purification through iCapTag Technology**

Claire Brings '25, Greta Dahlen '25,  
Taylor Johnson '24, Sam Just '24

Faculty Sponsors: Jeff Dahlseid and Janie Frandsen  
Department: Biochemistry and Molecular Biology

## **Fluorescent-UTP as New Method for Visualizing Electrophoresis Mobility Shift Assays**

Rachel Trebesch '25

Faculty Sponsor: Janie Frandsen  
Department: Biochemistry and Molecular Biology

## **Photodegradation of Tembotrione**

Luke Mueller '24

Faculty Sponsor: Amanda Nienow  
Department: Chemistry

## **Electrophoretic Mobility Shift Assay to Quantify Kinetochore Assembly in *S. Cerevisiae***

Teegan Jass '24, Katie Lillemon '24,  
Noah Meffert '24, Amelia Pluth '25,  
Maria Sylvestre '24

Faculty Sponsor: Jeff Dahlseid and Janie Frandsen  
Department: Biochemistry and Molecular Biology

## **Biological Control of Pest Using *Zelus Renardii* and *Chrysoperla Canea***

Jade Roland '26, Ari DeVries '24

Faculty Sponsor: Amy Kochsiek

Department: Biology

## **How Did Greeks Understand Non-Greek Culture**

Taylor Storlien '25

Faculty Sponsor: Seán Easton

Department: Greek, Latin, and Classical Studies

## **Mirrors & Windows: Reviewing Diverse Children's Literature**

Kate Hinz '27, Mackenzie Murphy '27,  
Calvin Weis '27

Faculty Sponsor: Valerie Walker

Department: Education

## **Identifying the Features Responsible for the NMD Properties of CEP3 mRNA**

Akwasi Amoah '26

Faculty Sponsor: Jeff Dahlseid

Department: Biochemistry and Molecular Biology

## **Plant Microbiomes in a Changing Climate**

Rachel Lester '25, Kade Copple '24

Faculty Sponsor: James Parejko

Department: Biology

## **Detecting Chemical Modifications of RNA**

Carter Henning '25, Ezedin Seid '24,  
Grace McFarlane '25, Alexander Johnson '25,  
Kimberly Hareland '24

Faculty Sponsor: Jeff Dahlseid and Janie Frandsen

Department: Biochemistry and

Molecular Biology

## **Degradation of Telomere-Related Gene mRNAs by the Nonsense Mediated Decay Pathway**

Samara Goltz '26

Faculty Sponsor: Jeff Dahlseid

Department: Biochemistry and Molecular Biology

## **Search for Heavy Resonance Decaying to a Pair of Higgs Bosons in $4\tau$ Final State**

Kirstin Poppen '25

Faculty Sponsor: Abdollah Mohammadi

Department: Physics at University of Wisconsin-Madison

## **Genome Engineering in *Arabidopsis Thaliana* to Investigate Environmental Stress Response Control by sOlinRNAs**

Kristin Simphoukham '24, Emma Stock '25

Faculty Sponsor: Katie Leehy

Department: Biology

### **“Strava is to me as Instagram is to teenage girls”: Athletes’ perceptions of Strava Use as Shared on Reddit**

Ellen Becken '25, Lucie Henrich '25,  
Kate Carlson '25

Faculty Sponsor: Hayley Russell  
Department: Exercise Physiology

### **Structural Regulation of Small Regulatory RNAs in Bacteria**

Lauren Williams '24

Faculty Sponsor: Janie Frandsen  
Department: Biochemistry and  
Molecular Biology

### **Assessing Glacial Mass Changes in the Fuegian Andes Through the Use of Digital Elevation Models**

Marit Isaacson '25

Faculty Sponsor: Jeff La Frenierre  
Department: Environment, Geography, and  
Earth Sciences

### **Green Marketing in Ski Resorts Across Geographies**

Benji Huff '24

Faculty Sponsor: Jeff La Frenierre  
Department: Environment, Geography, and  
Earth Sciences

### **Internship at Hennepin County Medical Center - Emergency Department**

Lauren Rocheford '26

Faculty Sponsor: Heather Banks  
Department: Health Professions

### **Internship at Mayo Clinic**

Aliyah Regenold '24

Faculty Sponsor: Lynnea Myers  
Department: Nursing

### **Internship at COPAL**

Monse Perez Barrios '24

Faculty Sponsor: Pam Kittelson  
Department: Biology

### **Internship at Active PT & Sports**

Ella Godfreds '24

Faculty Sponsor: Heidi Selzler-Bahr  
Department: Health Professions

### **Internship at Mankato Clinic**

Emma Berger '26

Faculty Sponsor: Heather Banks  
Department: Health Professions

### **Internship at Feeding Our Community Partners**

Kate Dario '24

### **Internship with Gustavus’ Office of Marketing and Communication**

Jaemin Park '25

Faculty Sponsor: Peter Stark  
Department: Business and Economics



