

Celebration of Student Achievement

Celebration of Student Achievement 2022

Join us on **Tuesday, April 26th** for the Celebration of Student Achievement. Throughout the day, students will present their work in papers, posters, video, panels, visual/ literary/ digital/ performing arts presentations and exhibitions, and other forms of scholarly or creative activity.

A reception will be held at the conclusion of the presentations on **Sundial Lawn (rain location: Education 212) from 5 – 6 p.m.**

Keynote Presentation: Brian Bridges



Presentation Topic: The value of undergraduate creative and scholarly work

Time: 11:15 a.m.

Location: Mayo Concert Hall

Brian Bridges, Ph.D., currently serves as Secretary of Higher Education for the state of New Jersey, a role he began on November 16, 2020 as part of Governor Phil Murphy's administration.

As Secretary, Bridges is responsible for policy development and coordination of higher education activities for the state, including supporting institutions amid the ongoing COVID-19 pandemic. He also coordinates initiatives to improve college affordability in New Jersey through the State Plan for Higher Education and enhance postsecondary opportunities while promoting equity and access for all through programs such as the state's Community College Opportunity Grant (CCOG).

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Schedule of Events

Please use the tabs below to navigate through the day's sessions. Use the **search bar** to browse for an individual student, presentation title, or use the **filter options** to navigate by topic. **Please note**, students marked with an asterisk will make multiple presentations.

View an [abridged schedule of events here](#).

Please note: Some details may change before the event.

All Sessions (8:45 a.m.-4:45 p.m.)	Session 1 (8:45-9:45 a.m.)	Session 2 (10-11 a.m.)	Department Events	Session 3 (2:15-3:15 p.m.)	Session 4 (3:30-4:30 p.m.)
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Filter presentations by topic:

All
 Management & Communications
 Environment & Health
 Global Perspectives
 Social Justice
 STEAM
 Human Experience

School of Science; Biology

HOME COSA 2022 FAQ'S FOR COSA ARCHIVED PRESENTATIONS AND SCHEDULES RESOURCES

<p>Arabidopsis thaliana metabolizes indole-3-carbinol to avoid its effects on plant growth - Poster</p> <p>Presenter(s): Maria Mathew</p> <p>School & Department: School of Science; Biology</p> <p>Honors Student: Yes</p>	<p>Mentor(s): Melkamu Woldemariam</p> <p>Course Number: BIO495-07</p>	BSC 100
<p>8:45 a.m. - 9:05 a.m.</p> <p>Descriptive Study of National Suicide Prevention Lifeline Calls from January 1, 2016, to October 20, 2019 - Paper</p> <p>Presenter(s): Harish Rajagopal*</p> <p>School & Department: School of Science; Biology</p> <p>Honors Student: Yes</p>	<p>Mentor(s): Joanna Herres</p> <p>Course Number: PSY 492-10</p>	Bliss 145
<p>9:15 a.m. - 9:35 a.m.</p> <p>Effects of COVID-19 Vaccination on SARS-CoV-2 Variants and Pediatric MIS-C Cases in the United States - Paper</p> <p>Presenter(s): Veronica Kan*</p> <p>School & Department: School of Science; Biology</p> <p>Honors Student: Yes</p>	<p>Mentor(s): Karen Gordon</p> <p>Course Number: PBH 240-02 (Fall 2021)</p>	Bliss 145
<p>10 a.m. - 11 a.m.</p> <p>"Investigating the Lonicera caerulea species complex using natural history collections and morphometrics." - Poster</p> <p>Presenter(s): Keshu Choksi</p> <p>School & Department: School of Science; Biology</p>	<p>Mentor(s): Wendy Clement</p> <p>Course Number: BIO 495-02</p>	Rec Center
<p>10 a.m. - 11 a.m.</p> <p>An Analysis of the Function of zsqdA in Zebrafish Embryogenesis - Poster</p> <p>Presenter(s): Lauren Rudolph</p> <p>School & Department: School of Science; Biology</p>	<p>Mentor(s): Marcia O'Connell</p> <p>Course Number: BIO 495</p>	Rec Center
<p>10 a.m. - 11 a.m.</p> <p>Biomechanical Properties of Inducible Defenses in the Eastern Oyster in Response to Predator Cues - Poster</p> <p>Presenter(s): Angela Mo</p> <p>School & Department: School of Science; Biology</p>	<p>Mentor(s): Gary Dickinson</p> <p>Course Number: BIO 493</p>	BSC 100
<p>10 a.m. - 11 a.m.</p> <p>Breathing Responses to Hyperoxia Following Developmental Nicotine Exposure in a Serotonin Deficient Context - Poster</p> <p>Presenter(s): Sruthi Kunamneni</p> <p>School & Department: School of Science; Biology</p>	<p>Mentor(s): Jeffery Erickson</p> <p>Course Number: BIO 494</p>	Rec Center
<p>10 a.m. - 11 a.m.</p> <p>Changes in FAOMeT Gene Expression in Carcinus maenas in Response to Salinity Change and Identification of FAOMeT Isoforms - Poster</p>		Rec Center

HOME COSA 2022 FAQ'S FOR COSA ARCHIVED PRESENTATIONS AND SCHEDULES RESOURCES

School & Department: School of Science; Biology

Course Number: BIO 496-05

Honors Student: Yes

10 a.m. - 11 a.m.

Comparing Herbivory in Native and Invasive Honeysuckles - Poster

Mayo Hall Lobby

Presenter(s): Santiago Cardenas

Mentor(s): Wendy Clement

School & Department: School of Science; Biology

Course Number: BIO 495, independent research capstone

Honors Student: Yes

10 a.m. - 11 a.m.

Comparison of microhardness between claws and carapaces of sand fiddler crabs (*Leptuca pugilator*) - Poster

Rec Center

Presenter(s): Calvin Grigal*

Mentor(s): Gary Dickinson

School & Department: School of Science; Biology

Course Number: BIO 495-01

10 a.m. - 11 a.m.

Congo Red Assay for the Detection of Amyloid Proteins under High and Low Nitrogen in *Pseudomonas aeruginosa* - Poster

BSC100

Presenter(s): Kevin Sajan

Mentor(s): Zaara Sarwar, Benjamin Lundgren

School & Department: School of Science; Biology

Course Number: BIO 493

10 a.m. - 11 a.m.

CYP72A349 Homology Modelling and Heterologous Expression to Test Gibberellin Inactivation - Poster

BSC100

Presenter(s): Christian Fang

Mentor(s): Leeann Thornton

School & Department: School of Science; Biology

Course Number: BIO 495-10

10 a.m. - 11 a.m.

Differential Evolution Between Isolated Stickleback Populations - Poster

Rec Center

Presenter(s): Lucia Castaneda

Mentor(s): Matthew Wund

School & Department: School of Science; Biology

Course Number: BIO 495

Honors Student: Yes

10 a.m. - 11 a.m.

Immune Checkpoint Protein Expression in Pancreatic Ductal Adenocarcinoma (PDAC) - Poster

Rec Center

Presenter(s): Jessica Damanski

Mentor(s): Jeffery Erickson

School & Department: School of Science; Biology

Course Number: BIO 399

Bonner Scholar: Yes

Honors Student: Yes

10 a.m. - 11 a.m.

Investigating deer browse effects on relationships in the forest herb layer using *Prunus serotina* as a basis of comparison - Poster

Rec Center

Presenter(s): Josie Basch

Mentor(s): Janet Morrison

School & Department: School of Science; Biology

Course Number: BIO 493-14

10 a.m. - 11 a.m.

Investigation of the thermal stability of the F pilus using molecular dynamic simulations - Poster

BSC100

Presenter(s): Mahnoor Ahmed**Mentor(s):** Joseph Baker**School & Department:** School of Science; Biology**Course Number:** CHE 493

10 a.m. - 11 a.m.

Is cardiac dysfunction associated with brain serotonin deficiency? - Poster

BSC100

Presenter(s): Nicole Lester**Mentor(s):** Jeffery Erickson**School & Department:** School of Science; Biology**Course Number:** BIO 495

10 a.m. - 11 a.m.

Optimizing an Immunostaining Protocol for Colocalizing Serotonin with other Anatomical Markers in Mouse Brainstem Sections - Poster

Rec Center

Presenter(s): George Hart**Mentor(s):** Jeffery Erickson**School & Department:** School of Science; Biology**Course Number:** BIO 493

10 a.m. - 11 a.m.

PPAR δ Intensifies Anti-Tumor Immunity by Reinvigorating of Exhausted T-cells - Poster

Rec Center

Presenter(s): Vyom Shah**Mentor(s):** Jeffery Erickson**School & Department:** School of Science; Biology**Course Number:** Bio 399

10 a.m. - 11 a.m.

Seasonal and Site-based Variation in Wintering Waterbird Populations of the Lower Delaware River - Poster

Rec Center

Presenter(s): Erin Heddy**Mentor(s):** Luke Butler**School & Department:** School of Science; Biology**Course Number:** BIO 493-16

10 a.m. - 11 a.m.

The Immunohistochemical Analysis of ElRA Expression During Emryogenesis of Zebrafish - Poster

Rec Center

Presenter(s): Evan Ng, Rhea Amonkar**Mentor(s):** Marcia O'Connell**School & Department:** School of Science; Biology**Course Number:** BIO 495

10 a.m. - 11 a.m.

The maize IAA-amidosynthase enzyme is involved in conjugation of jasmonic acid with isoleucine mediating plant defense responses - Poster

Rec Center

Presenter(s): Nicholas Blount**Mentor(s):** Melkamu Woldemariam**School & Department:** School of Science; Biology**Course Number:** BIO 496**Honors Student:** Yes

10 a.m. - 11 a.m.

The Plants Are Listening - Poster

Rec Center

Presenter(s): Emily Behnke**Mentor(s):** Keith Pecor**School & Department:** School of Science; Biology**Course Number:** BIO 393-12

10 a.m. - 11 a.m.

The Role of CYP72A9 in Arabidopsis thaliana Experiencing Abiotic Stress - Poster

BSC 100

Presenter(s): Alisha Srivastava**Mentor(s):** Leeann Thornton**School & Department:** School of Science; Biology**Course Number:** BIO 495-10

10 a.m. - 11 a.m.

What is the cause of significantly varying rates of *Odocoileus virginianus* browse on *Fagus grandifolia* in North America? - Poster

Rec Center

Presenter(s): Eric Kubynin**Mentor(s):** Janet Morrison**School & Department:** School of Science; Biology**Course Number:** BIO 495

10:30 a.m. - 10:50 a.m.

A closer look into the Student Finance Board's funding practices - Paper

SSB 227

Presenter(s): Rishi Shah**Mentor(s):** Emilie Lounsberry**School & Department:** School of Science; Biology**Course Number:** JPW 370-01

10:30 a.m. - 10:50 a.m.

Investigating the Role of Chloroplast DNA in *Volvox powersii* Cellular Differentiation - Paper

BUS 122

Presenter(s): Belmarie Siverio**Mentor(s):** Zach Grochau-Wright**School & Department:** School of Science; Biology**Course Number:** BIO 393-10

10:30 a.m. - 10:50 a.m.

Monstrous Desire and the Social Currency of Bodies in "Her Body and Other Parties" - Paper

SSB 326

Presenter(s): Namya Nanda**Mentor(s):** Michael Dalpe**School & Department:** School of Science; Biology**Course Number:** WGS 341-01

2:15 p.m. - 3:15 p.m.

A complex story of translational control: the ElrA protein during zebrafish embryogenesis. - Poster

Rec Center

Presenter(s): Cajetan Ejianreh**Mentor(s):** Marcia O'Connell**School & Department:** School of Science; Biology**Course Number:** BIO 495

2:15 p.m. - 3:15 p.m.

A Novel Connection Between [PSI+] Prion Formation and RNA Splicing in *Saccharomyces cerevisiae* - Poster

Rec Center

Presenter(s): Elizabeth Jones**Mentor(s):** Tracy Kress**School & Department:** School of Science; Biology**Course Number:** BIO 495

2:15 p.m. - 3:15 p.m.

A Reverse Genetic Approach to Assess the Functions of the Maize Allene Oxide Synthase Gene (*AOS1*) - Poster

BSC 100

Presenter(s): Vasu Patel, Harish Rajagopal**Mentor(s):** Melkamu Woldemariam**School & Department:** School of Science; Biology**Course Number:** BIO 495-07

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<p>Cadmium and Cobalt Toxicity and Male Mating Efficiency in <i>C. elegans</i> - Poster</p> <p>Presenter(s): Charles Sorbanelli Mentor(s): Sudhir Nayak</p> <p>School & Department: School of Science; Biology Course Number: BIO 495-16</p>	Rec Center
<p>2:15 p.m. - 3:15 p.m.</p> <p>Coordinating two steps in gene expression: mutations in the NuA4 transcription regulator influence RNA splicing - Poster</p> <p>Presenter(s): Dominick Costanzo Mentor(s): Tracy Kress</p> <p>School & Department: School of Science; Biology Course Number: BIO 469-08</p>	Rec Center
<p>2:15 p.m. - 3:15 p.m.</p> <p>Cross-National Newspaper Coverage of Mental Health during COVID-19: Community Structure Theory and Privileged Health Access - Poster</p> <p>Presenter(s): Meghna Krishnamurthy*, Nicole Fenske Mentor(s): John Pollock</p> <p>School & Department: School of Science; Biology Course Number: COM 415</p> <p>Honors Student: Yes</p>	Rec Center
<p>2:15 p.m. - 3:15 p.m.</p> <p>Deer as a Potential Driver of Invasive <i>Euonymus alatus</i> Success in Two Suburban Forest Habitats - Poster</p> <p>Presenter(s): Lindsey Stiesi Mentor(s): Janet Morrison</p> <p>School & Department: School of Science; Biology Course Number: BIO 495</p>	Rec Center
<p>2:15 p.m. - 3:15 p.m.</p> <p>Effects of White-Tailed Deer Browse on <i>Liriodendron tulipifera</i> in Central NJ Suburban Forests - Poster</p> <p>Presenter(s): Jenna Delgado Mentor(s): Janet Morrison</p> <p>School & Department: School of Science; Biology Course Number: BIO 493-14</p>	Rec Center
<p>2:15 p.m. - 3:15 p.m.</p> <p>Functional analysis of duplicated Jasmonate Resistant (JAR) genes in maize (<i>Zea mays</i>). - Poster</p> <p>Presenter(s): Caroline Artymowicz, Umer Shah Mentor(s): Melkamu Woldemariam</p> <p>School & Department: School of Science; Biology Course Number: BIO 493</p>	BSC 100
<p>2:15 p.m. - 3:15 p.m.</p> <p>Gene Flow and Genetic Differentiation in the Invasive <i>Lycorma Delicatula</i> - Poster</p> <p>Presenter(s): Scott Cogan Mentor(s): Curt Elderkin</p> <p>School & Department: School of Science; Biology Course Number: BIO 495</p>	Rec Center
<p>2:15 p.m. - 3:15 p.m.</p> <p>Genetic analysis of acetoin catabolism in <i>Pseudomonas aeruginosa</i> - Poster</p> <p>Presenter(s): Brian Gaffney, Sophia Khan Mentor(s): Zaara Sarwar, Benjamin Lundgren</p> <p>School & Department: School of Science; Biology Course Number: BIO 493-07</p>	BSC 100

2:15 p.m. - 3:15 p.m.

Innate Habitat Preferences of Eastern Kingsnakes (*Lampropeltis g. getula*): An Experimental Assessment - Poster

Rec Center

Presenter(s): Jocelyn Walden, Kayla Suiter, Steven Mendez**Mentor(s):** Howard Reinert**School & Department:** School of Science; Biology**Course Number:** BIO 496**Honors Student:** Yes

2:15 p.m. - 3:15 p.m.

Investigating male mating response of double and triple *tll* mutants in *Caenorhabditis elegans* - Poster

Rec Center

Presenter(s): Danielle Ayoub, Naileny Rodriguez, Sachit Tadvai**Mentor(s):** Nina Peel**School & Department:** School of Science; Biology**Course Number:** BIO 495-17

2:15 p.m. - 3:15 p.m.

Optimization of the Virus-Induced-Gene-Silencing technique to silence IAA-Amidosynthetase gene in Maize. - Poster

BSC100

Presenter(s): Sadhvi Mohankumar, Deep Patel**Mentor(s):** Melkamu Woldemariam**School & Department:** School of Science; Biology**Course Number:** BIO 493

2:15 p.m. - 3:15 p.m.

Role determination of CYP72A11 and CYP72A13 in plant stress response through analysis of gene expression, growth and protein structure - Poster

BSC100

Presenter(s): Akshad Thirugnanam**Mentor(s):** Leeann Thornton**School & Department:** School of Science; Biology**Course Number:** BIO-495-10

2:15 p.m. - 3:15 p.m.

The effects of hyperglutamylaton on the brood size and germline organization of *C. elegans* - Poster

BSC100

Presenter(s): Abigail Klimas, Olivia Hiltke**Mentor(s):** Nina Peel**School & Department:** School of Science; Biology**Course Number:** BIO 393

2:15 p.m. - 3:15 p.m.

The Impact of Mindfulness Meditation on Problem Solving Skills Through Quantitative Data Analysis - Poster

BSC100

Presenter(s): Erika Marshyti**Mentor(s):** Jeffery Erickson**School & Department:** School of Science; Biology**Course Number:** BIO 399-A

2:15 p.m. - 3:15 p.m.

The NuA4 Acetyltransferase, Acetylation of Histone H4 and the H2A.Z Variant Histone are Required for Appropriate RNA Splicing in *Saccharomyces cerevisiae* - Poster

Rec Center

Presenter(s): Christopher Snyder, Camila Bolle**Mentor(s):** Tracy Kress**School & Department:** School of Science; Biology**Course Number:** BIO 496

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<p>The potential role of CeA in Sex Difference in anxiety in response to Acute Stress - Poster</p> <p>Presenter(s): Ana Caro Del Castillo* Mentor(s): Jeffery Erickson</p> <p>School & Department: School of Science; Biology Course Number: BIO 399</p>	Rec Center
<p>2:15 p.m. - 3:15 p.m.</p> <p>Using Herbarium Species to Study Leaf Shape Variation across the Circumboreal Range of the <i>Lonicera caerulea</i> Species Complex - Poster</p> <p>Presenter(s): Shania Welch Mentor(s): Wendy Clement</p> <p>School & Department: School of Science; Biology Course Number: BIO 495-02</p>	BSC 100
<p>2:15 p.m. - 3:15 p.m.</p> <p>Using morphometric analysis to determine an overlap in lanceolate <i>Elliptio</i> spp. - Poster</p> <p>Presenter(s): Bhavi Patel, Nishi Patel Mentor(s): Curt Elderkin</p> <p>School & Department: School of Science; Biology Course Number: BIO 495</p>	BSC 100
<p>2:15 p.m. - 3:15 p.m.</p> <p>Virus-inspired transfection of a marine alga: net surface charge of the viral envelope - Poster</p> <p>Presenter(s): Shreya Krishnan Mentor(s): Donald Hirsh</p> <p>School & Department: School of Science; Biology Course Number: BIO 495-11</p>	BSC 100
<p>2:45 p.m. - 3:05 p.m.</p> <p>Connecting Forensics to Nature: An Interactive Simulation - Paper</p> <p>Presenter(s): Jessica Donovan Mentor(s): Destiny De La Rosa</p> <p>School & Department: School of Science; Biology Course Number: Bonner Program</p> <p>Bonner Scholar: Yes</p>	Bliss 151
<p>3:30 p.m. - 4:30 p.m.</p> <p>Assessing the Effects of Developmental Nicotine Exposure on Respiratory Responses to Hypercapnia in Serotonin-Deficient <i>Pet-1</i> Knockout Mice - Poster</p> <p>Presenter(s): Meghna Krishnamurthy* Mentor(s): Jeffery Erickson</p> <p>School & Department: School of Science; Biology Course Number: BIO 495</p> <p>Honors Student: Yes</p>	Rec Center
<p>3:30 p.m. - 4:30 p.m.</p> <p>Investigating redundancy in <i>tll</i> genes of <i>C. elegans</i> - Poster</p> <p>Presenter(s): Zion Lee, Maria Hannoush (hannoum1@tcnj.edu) Mentor(s): Nina Peel</p> <p>School & Department: School of Science; Biology Course Number: BIO 393-02</p> <p>Bonner Scholar: Yes</p>	Rec Center
<p>3:30 p.m. - 4:30 p.m.</p> <p>Kepler-305: A System of New Discoveries - Poster</p> <p>Presenter(s): Skylar D'Angiolillo Mentor(s): Mariah MacDonald</p> <p>School & Department: School of Science; Biology Course Number: BIO 393</p>	Rec Center

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3:30 p.m. - 4:30 p.m.

Meta-analysis suggests variable, but pCO₂-specific, effects of ocean acidification on crustacean biomaterials - Poster

Rec Center

Presenter(s): Muskanjot Kaur**Mentor(s):** Gary Dickinson**School & Department:** School of Science; Biology**Course Number:** BIO 495

3:30 p.m. - 4:30 p.m.

Shell Growth, Mechanics, and Structural Properties of Adult & Juvenile Barnacles - Poster

Rec Center

Presenter(s): Callie Triano, Yeram Kang, Jazmine Shaw**Mentor(s):** Gary Dickinson**School & Department:** School of Science; Biology**Course Number:** BIO 493

3:30 p.m. - 4:30 p.m.

Stress tests of *Pseudomonas aeruginosa* - Poster

Rec Center

Presenter(s): Veronica Kan*, Daniella Gurovich**Mentor(s):** Zaara Sarwar**School & Department:** School of Science; Biology**Course Number:** BIO 494-02**Honors Student:** Yes

3:30 p.m. - 4:30 p.m.

The Role of Body Size in Threespine Stickleback Mating Preferences and its Implications for Ecological Speciation - Poster

Rec Center

Presenter(s): Seana Cleary***Mentor(s):** Matthew Wund**School & Department:** School of Science; Biology**Course Number:** BIO 495-01**Honors Student:** Yes

3:30 p.m. - 4:30 p.m.

Virus-inspired transfection of a marine alga: Persistence of the antibiotic G418 in cell culture - Poster

Rec Center

Presenter(s): Purvi Shakelly**Mentor(s):** Donald Hirsh**School & Department:** School of Science; Biology**Course Number:** BIO 393-09

3:30 p.m. - 4:30 p.m.

What is Intelligence? - Poster

Rec Center

Presenter(s): Ashley Fernandez**Mentor(s):** Mariah MacDonald**School & Department:** School of Science; Biology**Course Number:** BIO 393

4 p.m. - 4:30 p.m.

Effect of environmental heterogeneity on evolution of multicellularity - Paper

SSB 223

Presenter(s): Lakshmi Gurram*, Joseph Bellomia**Mentor(s):** Zach Grochau-Wright**School & Department:** School of Science; Biology**Course Number:** BIO 495

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