

THE CHARLES PROTEUS  
STEINMETZ  
SYMPOSIUM

MAY 6, 2016

# UNDERGRADUATE RESEARCH AT UNION

## A CELEBRATION OF DISCOVERY

Hands-on, faculty-mentored undergraduate research is at the heart of a Union education.

Liberal arts colleges draw students who are restless to learn. Union students are also restless to do. They transform their learning, ingenuity and personal discoveries into meaningful contributions.

Working closely with their professors in every academic department—in classrooms, labs, studios, archives and in the field—Union students delve into topics that inspire and challenge them intellectually and creatively.

Each spring, our students share their academic interests and talents with peers, parents and professors at the campuswide Steinmetz Symposium.

Held yearly since 1991, the symposium features an extensive array of oral presentations, posters, performances and exhibits, with concurrent sessions held all day in lieu of regularly scheduled classes. It is an integral part of Union's recognition weekend, which includes Prize Day, a tribute to student achievement in all fields.

Join us as we celebrate a culture of personal discovery that brings together coursework, faculty mentorship and teamwork to deepen our students' understanding of self and subject.



Charles Proteus  
Steinmetz

ELECTRICAL ENGINEER  
EDUCATOR  
INVENTOR

The Steinmetz Symposium is named for one of the College's most renowned faculty members, Charles Proteus Steinmetz (1865-1923), who taught electrical engineering and applied physics. Also a chief engineer for the General Electric Company, he was widely regarded as America's leading electrical engineer.

Born Carl August Steinmetz in Breslau, Germany (now Wroclaw, Poland), Steinmetz studied in Breslau, Zurich and Berlin, pursuing a broad course of scholarship that included astronomy, biology, chemistry, electricity, physics and political economy.

He received his Ph.D. in 1888 and was forced to flee Germany after writing a paper critical of the German government. He then settled in New York City, where he developed the law of hysteresis, which enabled engineers to design better electric motors for use in industry. He joined GE in 1892 and relocated to Schenectady.

Among his many other contributions to electrical engineering, Steinmetz also fostered the development of alternating current, which made possible the expansion of the nation's electric power industry. In 1902, he became professor of electrical engineering at Union. Three years later, he took charge of Union's new electrical engineering program.

After World War I, Steinmetz ceased lecturing at Union, but he remained an active friend of the College for the rest of his life. A superior 1914 "Duplex Drive Brougham" Detroit Electric automobile that belonged to Steinmetz is on permanent display in the first-floor corridor between the Wold and Olin buildings.

# SCHEDULE OF EVENTS

## FRIDAY, MAY 6: STEINMETZ SYMPOSIUM

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**9 A.M. – 5 P.M.**

■ **THE CHARLES PROTEUS STEINMETZ SYMPOSIUM**

Presentations on student creative, scholarly and research achievement. Programs and information available in Schaffer Library, inside the north entrance to Karp Hall, inside the north entrance to Lippman Hall and inside the entrance to the Wold Center.  
STUDENT PRESENTATION SESSIONS BEGIN AT 9 A.M.

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**9 A.M. – 5 P.M.**

■ **EXHIBIT: PROTEUS! CHARLES STEINMETZ: UNION'S "WIZARD" OF THUNDERBOLTS**  
**SCHAFFER LIBRARY AUDITORIUM**

The exhibit includes samples of Steinmetz's unique shorthand, photographs and other ephemera. It also includes class notes taken by a former Steinmetz student, Peter W. Traynor Class of 1907. The materials were generously donated by his grandson, Frank Traynor, with the assistance of Professor Cherrice Traver, the David Falk and Elynor Rudnick-Falk Professor of Computer Engineering

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**5:30 P.M. – 7 P.M.**

■ **STEINMETZ SYMPOSIUM RECEPTION**

**LALLY READING ROOM, SCHAFFER LIBRARY**

Cash Bar and light refreshments.  
For presenters, their parents, alumni, guests and faculty sponsors.

■ **EXHIBITS: AN ADIRONDACK CELEBRATION**

Preview exhibits opening during the Kelly Adirondack Center's Adirondack Week, May 8–13.

"GRASSROOTS ACTIVISM AND THE AMERICAN WILDERNESS: PIONEERS IN THE 20TH CENTURY ADIRONDACK PARK CONSERVATION MOVEMENT"

**LALLY READING ROOM, SCHAFFER LIBRARY**

Featuring books, photographs, letters, pamphlets, circulars and selected objects from the John S. Apperson and Paul Schaefer collections held at the Adirondack Research Library of the Kelly Adirondack Center.

UNION AND THE ADIRONDACKS

**BEUTH ATRIUM, SCHAFFER LIBRARY**

A showcase of early efforts by the Union College community to conserve and develop appreciation for forested lands throughout the Adirondack region.

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**8 P.M.**

■ **THE UNION COLLEGE AND COMMUNITY ORCHESTRA AND CHORALE**  
**MEMORIAL CHAPEL**

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## SATURDAY, MAY 7: PRIZE DAY

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**11 A.M. – NOON**

■ **PRESENTATION OF PRIZES AND RECOGNITION // MEMORIAL CHAPEL**

IMMEDIATELY FOLLOWING

■ **PRIZE DAY RECEPTION // REAMER CAMPUS CENTER PATIO**

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**2 P.M.**

■ **JAZZ ENSEMBLE // EMERSON AUDITORIUM, TAYLOR MUSIC CENTER**

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## STEINMETZ SYMPOSIUM 2016

### ■ Friday, May 6

<b>ALL DAY</b>	Art Exhibits	<b>4</b>
<b>SESSION I</b> 9 A.M. – 10:20 A.M.	Oral Presentations	<b>5</b>
<b>SESSION II</b> 10:30 A.M. – 12:10 P.M.	Oral Presentations	<b>10</b>
<b>SESSION III</b> 12:20 P.M. – 1:50 P.M.	Poster Presentations Engineering Project Display Minerva Fellows	<b>16</b> <b>18</b> <b>19</b>
<b>SESSION IV</b> 2 P.M. – 3:20 P.M.	Oral Presentations	<b>20</b>
<b>SESSION V</b> 3:30 P.M. – 5:10 P.M.	Oral Presentations	<b>25</b>
<b>STEINMETZ DANCE PERFORMANCE</b> 4 P.M.		<b>28</b>
<b>STEINMETZ CONCERT</b> 8 P.M.		<b>30</b>

### ■ Saturday, May 7

<b>UNION COLLEGE JAZZ ENSEMBLE</b> SATURDAY AT 2 P.M.		<b>31</b>
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#### THE CONVENIENCE STORE WILL BE OPEN:

Friday, 8:45 a.m. – 11 p.m.  
Saturday, 10:30 a.m. – 11 p.m.  
Sunday, 4 – 11 p.m.

#### THE BOOKSTORE WILL BE OPEN:

Friday, 8:45 a.m. – 4:30 p.m.  
Saturday, 10:30 a.m. – 3:30 p.m.  
Sunday, closed

#### THE NOTT MEMORIAL WILL BE OPEN:

Friday, 10 a.m. – 6 p.m.  
Saturday, 10 a.m. – 6 p.m.  
Sunday, 10 a.m. – 6 p.m.

#### SCHAFFER LIBRARY WILL BE OPEN:

Friday, 8 a.m. – midnight  
Saturday, 10 a.m. – 2 p.m.  
Sunday, 10 a.m. – 2 p.m.

A HOSPITALITY STATION SERVING LIGHT SNACKS AND BEVERAGES IS AVAILABLE IN THE SCHAFFER LIBRARY.



**THE CHARLES PROTEUS**  
**STEINMETZ**  
SYMPOSIUM

# ANNUAL STEINMETZ STUDENT ART EXHIBITION 2016

10 A.M. – 6 P.M. // 2ND. FLOOR, NOTT MEMORIAL

The exhibition space has been temporarily renamed “Visual Arts @ The Mandeville Gallery” for the spring 2016 term. The Annual Steinmetz Symposium Visual Arts Student Art Exhibition will hang in this space from May 2–15.

Visual Arts @ The Mandeville Gallery is open to the public daily. Please see the gallery guide for a complete listing of all exhibitors and works.

The following students are included in a group exhibit curated by the Visual Arts faculty, which represents outstanding work from 2015–2016 in the media of drawing, painting, printmaking, photography, sculpture and digital art.

## PRINTMAKING

Chloe Bartlett  
Paige Brown  
Abigail Golodik  
Mark Hilbert  
Ruoxuan Jia (Rosie)  
Tai Ospina  
Allison Supranowicz  
Lili Wang  
Niuniu Zhang

## DRAWING

Vladimir Balaz  
Emily Fiore  
Samantha Miller  
Halle Nagorsky  
Nicole Shauffer  
Yuki Shimano  
*\* 2016 Bittleman Prize Recipient*

## PAINTING

Paige Brown  
Yi Ting Paung  
Yuki Shimano  
Melissa Ulin

## PHOTOGRAPHY

Elizabeth Asch  
Sidney Canchester  
John Costa  
Jonathan Covey  
Stephanie DeLorenzo  
Lisa DeMoranville  
Emily Dhalstrom  
Jason Flashner  
Abigail Golodik  
Irlando Goncalves  
Eating “Zachary” Jiang  
Benjamin Kopchains  
Christopher Koster  
Naomi Letourneau  
Yixuan “Olivia” Ma  
Tybriah Mason  
Anton Morozov  
Venesha Morris  
I’sis Muller  
Kim Nguyen  
Avery Novitch  
Kenny Paladines  
Christina Pastore

Yi Ting Paung  
*\*2016 Les Ubach Award in  
Photography Recipient*  
Joyce Pogge  
Kortay Powell  
Aaron Prescott  
Darrien Pulos-Rooney  
Zachary Restifo  
Caleb Reynolds  
Sophie Rosen  
Nathan Singer  
Attilio Tebano  
Ashley Tolento  
Gina Whalen  
Bowe “Alvin” Xu

## DIGITAL ART

Erin Besch  
Natalya Brill  
Lauren Capron  
Frank Chiarulli  
Nicole Chtchekine  
Quinn Devin  
Mark Hilbert  
Haicheng Lin

Joshua Loew  
Sharifa Sahai  
Arielle Singer  
Andrew Wolney  
Kelly Xi  
Tatum Yancey  
Thomas Zahalka  
Yuanqing Zhu

## SCULPTURE

Kevin Babich  
Samuel Eddy  
Abigail Golodik  
Mark Hilbert  
Emily Kirsch  
Anne Kundert  
Naomi Letourneau  
Haicheng Lin  
Daniel Waldman

12:20 P.M. – 1:50 P.M. // RECEPTION

A reception for Yuki Shimano, the 2016 winner of the Arnold I. Bittleman Memorial Prize in drawing, will be held on the lower level of Wold, in the area adjacent to the Steinmetz car. The Arnold I. Bittleman Memorial Prize is given to a student who has studied drawing in the Visual Art Department and whose work, in the judgment of the Visual Arts faculty in collaboration with an outside juror, is outstanding. Yuki’s work, “Reconstructing Vertebrate Specimens with Illustrations,” will be on exhibit from May 2 - 9 in Wold.

# SESSION I

9 –10:20 A.M. // CONCURRENT ORAL PRESENTATIONS

## LIPPMAN 101

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### AMERICAN STUDIES

**MODERATOR: ZOE OXLEY**

**9 A.M. | JILLIAN CALLANAN**

American Popular Culture, Politics and Comedy:  
How "Saturday Night Live" Delivers the "News"

**9:20 A.M. | JANEY FINE**

Schenectady and Niskayuna: A Microcosm of the American  
Public Education Crisis Surrounding Race and Income

**9:40 A.M. | ALLISON LONGO**

Eddie Murphy and the 1980s: A Critical Study of the African  
American Comedic Tradition

**10 A.M. | MATTHEW STEINBERG**

Culture of Conflict: Watching the End of the 1960's  
American Counterculture through Documentaries about  
Rock Music

## KARP 001

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### ANTHROPOLOGY I

**MODERATOR: JEFFREY WITSOE**

**9 A.M. | SYDNEY GILLER**

From the White House to the Frat House: An Examination  
of the Implementation of Sexual Assault Policies on a  
College Campus

**9:20 A.M. | VINITA KUSUPATI**

Mediating a Claim to Rights: The Role of Activists in the  
Successes of NREGA and the Lives of India's Rural Poor

**9:40 A.M. | CAMERON DUVAL**

Lewis Henry Morgan and Marxist Dialectical Materialism:  
An Unlikely American in Soviet Anthropology

**10 A.M. | SHARMEEN AZHER**

Professional Niche Differentiation: Understanding Dai  
Survival in Rural Rajasthan

## SCIENCE AND ENGINEERING N205

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### BIOENGINEERING AND MECHANICAL ENGINEERING

**MODERATOR: FRANK WICKS**

**9 A.M. | PHILLIP BIRNS**

Optimization of Shape and Weight to Create a Sustainable  
Composite I-Beam for the 2016 SAMPE Bridge Competition

**9:20 A.M. | ANNE KUNDERT**

Natural Frequency of Bird Feather Rachis Correlates with Wing  
Beat Frequency

**9:40 A.M. | MACAIRE GROBE**

Improved Treatment Methods for Cervical Spines

**10 A.M. | DIMA YANKOVA**

Stress Distributions in Alveolar Bone Due to Variations in  
Periodontal Ligament Properties and Loading Conditions

## KARP 002

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### BORDER MINI-TERM

**MODERATOR: VICKI MARTINEZ**

**9 A.M. | GABRIELA VILLARAN, GEGUEL LANDESTOY**

Border Patrol and Detention Centers on the Mexican-  
American Border

**9:20 A.M. | SAMUEL BRODA**

The Life of an Undocumented Migrant

**9:40 A.M. | DANIELLE FREDERICK, MAISHKA ANTOINE**

Contrasts at the Border



# SESSION I

9 – 10:20 A.M. // CONCURRENT ORAL PRESENTATIONS

## WOLD 128

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### CATALYTIC AEROGEL MATERIALS

**MODERATOR: MARY CARROLL**

**9 A.M. | TYLER GURIAN**

The Union Catalytic Aerogel Testbed

**9:20 A.M. | SAMUEL J. KLEINBERG**

Interfacing a CG-MS with Union's Catalytic Aerogel Testbed

**9:40 A.M. | ZACHARY TOBIN**

Catalytic Activity and Characterization of Mixed-Metal Aerogels

**10 A.M. | ELIZABETH DONLON**

Coating Alumina-Oxide Beads with Copper Alumina Aerogels for Catalytic Testing

## WOLD 225

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### CHEMISTRY I

**MODERATOR: JOANNE KEHLBECK**

**9 A.M. | BRITTANY GAY**

Cuticular Hydrocarbon Analysis of *Drosophila Athabasca*: Identification, Quantification and Synthesis

**9:20 A.M. | DANIELLE PROPER**

Optimizing Enzymatic Activity and Determining the Kinetic Constants for the Metacaspase SUMO-Scp3

**9:40 A.M. | BRANDON JONES**

Cloning, Expression and Kinetics Investigation of *S. commune* Metacaspase Scp1

**10 A.M. | STEFAN HAMAWAY**

Comparative Antibacterial Activity of Cu(II) Complexes with Imidazole or Thiazole Containing Ligands

## KARP 006

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### CLASSICS I

**MODERATOR: STACIE RAUCCI**

**9 A.M. | KIRA DOHERTY**

The Analysis of Ancient Roman Gods from a Psychological Perspective

**9:20 A.M. | EMILY PASTORE**

Modern Interpretations of Ancient Roman Mosaics

**9:40 A.M. | EDYTHE MALARA**

Caesars and Corleones: Augustan Rome and the Godfather

**10 A.M. | SAMANTHA COLLINS**

The Evolution of Sacrifice: Ancient Paganism to Neo-Paganism

## OLIN 211

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### COMPUTER SCIENCE I

**MODERATOR: JOHN RIEFFEL**

**9 A.M. | JOHN PETERSON AND FRANK CHIARULLI JR.**

EvoFab: Evolutionary Fabrication

**9:20 A.M. | ERIC ROSE**

Approaching Humans for Help: A Study of Human-Robot Proxemics

**9:40 A.M. | ANTHONY PHAM**

Effect of Deictic Gestures on Direction-Giving in Virtual Agents

**10 A.M. | MATTHEW GOFF**

Tensegrity Robotics: Using Image Processing

## BAILEY 100

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### DEVELOPMENTAL PSYCHOLOGY

**MODERATOR: LINDA STANHOPE**

**9 A.M. | ANNA SERAIKAS**

The Effects of Temperament, Empathy and Peer Interactions on Preschoolers' Theory of Mind

**9:20 A.M. | ALLISON MINCHOFF**

Children's Perceptions of Bullying Situations: Factors Influencing Peer Interventions

**9:40 A.M. | BRIANNA CARUCCIO**

The Effects of Temperament on Active and Passive Bystander Intervention in a Sexual Assault Context

**10 A.M. | JULIA GIORDANO**

The Effects of Perceived Helicopter Parenting on Emerging Adults' Academic Performance and Feelings of Autonomy





# SESSION I

9 –10:20 A.M. // CONCURRENT ORAL PRESENTATIONS

## LIPPMAN 014

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### ECONOMICS I

**MODERATOR: FUAT SENER**

**9 A.M. | KYLE JOHNSON**

An Examination of the Short and Long Term Ramifications of U.S. Dollar Value Fluctuation on Public U.S. Multinational Firms

**9:20 A.M. | STEPHEN LEWIS**

Online Advertising and Privacy Issues: Will Privacy Concerns and Social Stigmas Limit The Growth of Online Advertising?

**9:40 A.M. | ALEXANDER ROTH**

Why Do Banks Perform Differently? An Analysis of Large United States Banks' Performance 2006-14

**10 A.M. | LAIYI ZHENG**

Analyzing the Long-Term and Short-Term Relationships among China's GDP Growth, Stock Market Depth and Stock Market Returns

## STEINMETZ 106

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### ELECTRICAL ENGINEERING I

**MODERATOR: JAMES HEDRICK**

**9 A.M. | KENTO YAMAGUCHI**

Bicycle Powered Charger

**9:20 A.M. | STEPHEN HOEPRICH**

Tempo-Sensing Feedback System for Student Conductors

**9:40 A.M. | HTOO WAI HTET**

Control System for 3D Printed Robotic Hand

## BAILEY 201

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### ENVIRONMENTAL CHEMISTRY

**MODERATOR: LAURA MACMANUS-SPENCER**

**9 A.M. | XI XI HU**

Cerium Oxide Nanomaterial for Clean Water Applications

**9:20 A.M. | ANDREW GLASER**

Human Serum Albumin Binding of Perfluoroalkyl Acids

**9:40 A.M. | HANNAH STEIN**

Photolysis and Toxicity of Ultraviolet Filter Chemicals

**10 A.M. | LAURA LILLEY**

An Investigation of the Photodegradation of Avobenzone, a Common Organic UV Filter Chemical

## OLIN 306

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### GEOLOGY I—THE TECTONIC, MAGMATIC AND HYDROTHERMAL EVOLUTION OF CRUSTAL TERRAINS

**MODERATOR: HOLLI FREY**

**9 A.M. | COLBY HOWLAND**

High Thermal Gradient in the Upper Plate of a Core Complex, Determined by Calcite-Dolomite and RSCM Thermometry, Pequop Mountains, Nevada

**9:20 A.M. | SARAH KITTROSS**

LA-ICPMS U-Pb Analysis of Inherited Zircons from Dominica, Lesser Antilles

**9:40 A.M. | REBECCA BABIAK**

Reconstructing the Eruptive History of Dominica Using U-Th Disequilibrium Dating of Zircon Rims

**10 A.M. | KARYN DEFRANCO**

Geochemical and Isotopic Analysis of Hydrothermal and Meteoric Waters on Dominica, Lesser Antilles

## BAILEY 207

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### MATHEMATICS I

**MODERATOR: ELLEN GASPAROVIC**

**9 A.M. | ABIGAIL VOLPE**

Commuting Families of Nilpotent Matrices

**9:20 A.M. | MIAOQING JIA**

Primality Tests Based on Eisenstein Integers

**9:40 A.M. | MUJIE CUI**

Prove the Existence of Nash Equilibria Using Kakutani's Fixed Point Theorem

**10 A.M. | DANIEL WINTON**

Wacky Results with Infinite Series

# SESSION I

9 –10:20 A.M. // CONCURRENT ORAL PRESENTATIONS

## SCIENCE AND ENGINEERING N222

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### MECHANICAL ENGINEERING I

**MODERATOR: RONALD BUCINELL**

**9 A.M. | DUNCAN SMITH**

Characterization of Natural Fibers for Sustainable Composite Materials

**9:20 A.M. | MARIAN CHEE**

Developing a Methodology to Optimize the Accuracy of the DIC Process

**9:40 A.M. | ZIBUSISO DHLAMINI**

Design and Fabrication of an In Situ Miniature Tensile Testing System for Optical Microscopy Applications

**10 A.M. | W. AARON PRESCOTT**

Characterization of Bulk Material Properties of Mycelium Based Composite Constituents

## BAILEY 312

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### NEUROSCIENCE I

**MODERATOR: CHRIS CHABRIS**

**9 A.M. | ADRIANNA RATAJSKA**

The Square is a Bully: Attributing Social Meaning to Animated Shapes

**9:20 A.M. | JULIE FISHMAN**

Why is Purple Star Sad? Developing and Validating a New Test of Social Intelligence

**9:40 A.M. | MARISA VANBRAKLE**

The Effects of Neuro-exergaming on Biomarkers and Cognitive Functioning

**10 A.M. | AILEEN SHAUGHNESSY**

The Expression of Pain in Children: An Autism Spectrum Disorder Perspective

## KARP 004

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### NOVEL APPROACHES TO NARRATIVE AND SOCIETY

**MODERATOR: JILLMARIE MURPHY**

**9 A.M. | KATELYN BILLINGS**

A Gilded Cage: A Feminist Analysis of Manor House Literature

**9:20 A.M. | AVERY NOVITCH**

"And I am a Material Girl": How Aesthetics and Material Culture Fashion Femininity in Edith Wharton's "The Age of Innocence," from Text to Film

**9:40 A.M. | ERIN WADE**

Faithlessly or Faithless Lie?: The Name Symbolism Conundrum in Sedgwick's "Hope Leslie"

## KARP 008

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### PARTNERING WITH COMMUNITY ORGANIZERS TO IMPROVE HEALTH OUTCOMES IN THE CAPITAL DISTRICT

**MODERATOR: CAROL WEISSE**

**9 A.M. | SAAD AKHTAR**

Analysis of Dyspnea Tracking and Interventions for Chronically Ill Patients Receiving Home-Based Palliative Care

**9:20 A.M. | MACKENZIE LAPORTE**

Evaluation of an In-Home Palliative Care Program's Management of Pain

**9:40 A.M. | KAYLEIGH CORRADO**

Health and Nutrition in At-Risk Children Receiving Services through Head Start

**10 A.M. | SREEKRISHNA POKURI**

Schenectady Care Choices and Community Conversations: Comfort Through Freedom



# SESSION I

9 –10:20 A.M. // CONCURRENT ORAL PRESENTATIONS

## SCIENCE AND ENGINEERING N304

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### PHYSICS I

**MODERATOR: SEYFOLLAH MALEKI**

**9 A.M. | SOPHIA POWELL**

Fabrication of Hair through Electrospinning Protein Integrated Polymeric Solutions

**9:20 A.M. | ANDREW LAUGHARN**

Development of Single Photon Experiments using Type-I and Type-II Spontaneous Parametric Downconversion

**9:40 A.M. | JOSHUA YOSKOWITZ**

PIXE Analysis of Aerosol, Soil, Artificial Turf and Running Track Samples

## LIPPMAN 016

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### POLITICAL SCIENCE 1

**MODERATOR: CIGDEM CIDAM**

**9 A.M. | SARAH KADER**

New Refugees, Old Rules: An Analysis of Jordanian Refugee Policies

**9:20 A.M. | SOFIA MELLITAS**

Investigating Discourse in International Aid through a Case Study of Early Childhood Education Development in Fiji

**9:40 A.M. | NEALAY VASAVDA**

Forgotten: The Political Economy of Poverty in Silicon Valley

**10 A.M. | ROSWALD MORALES**

Revisiting, Revealing and Redefining the Lives of Salvadoran Immigrants in the United States

## KARP 005

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### PSYCHOLOGY I

**MODERATOR: JOSHUA HART**

**9 A.M. | HANS KJOLHEDE**

Evaluating Advertisement Valence in the Context of Relatedness: A Consumer Neuroscience Perspective

**9:20 A.M. | NATALIA CIESIELSKA**

Conspiracy Theories and Mortality Salience

**9:40 A.M. | MEAGAN RUSSELL**

Content Analysis of Online Blogging Communities and Their Common Underlying Themes

## LIPPMAN 017

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### REPRODUCTIVE ENDOCRINOLOGY: A PROTEIN LOVE STORY

**MODERATOR: BRIAN COHEN**

**9 A.M. | TIMOTHY HAGAN**

Investigation of the Caveolin-Human Follicle Stimulating Hormone Receptor Interaction through Peptide Treatments

**9:20 A.M. | STANLEY SOROKA**

Point Mutations of the Putative Follitropin Receptor Caveolin Interaction Motif Do Not Disrupt Receptor Function

**9:40 A.M. | ROSIANE LIMA**

Studying the Effects of Introducing Multiple Mutations into the Caveolin Binding Motif of the Human Follicle Stimulating Hormone Receptor (hFSHR)

**10 A.M. | GRACE MIRALLES**

Analyzing the Role of Caveolin in Human Follicle Stimulating Hormone Receptor Regulation

## LIPPMAN 201

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### SOCIOLOGY I

**MODERATOR: DEIDRE HILL BUTLER**

**9 A.M. | DIONI DALEY**

Hip-Hop's Babies: Urban Hip-Hop Identity

**9:20 A.M. | MATT WU**

Electronic Health Records: Where We Are and Where We Are Going

**9:40 A.M. | CAMERON ROBERTSON**

Union College Student Smokers: Hurting Themselves Yet Helping Others?

**10 A.M. | LAURA SCHAD**

The Industrial Pollution of the Hudson River

## SESSION II

10:30 A.M. – 12:10 P.M. // CONCURRENT ORAL PRESENTATIONS

### WOLD 128

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#### AEROGELS: APPLICATIONS AND MODELING

**MODERATOR: ANN ANDERSON**

**10:30 A.M. | AUDE BECHU**

Integration of Silica Aerogel Particles into Bulk and Fibrous Polyester

**10:50 A.M. | SEAN HANLEY**

Investigating Possible Reduction in Drag with a Superhydrophobic Aerogel Coating

**11:10 A.M. | ADAM ASHCROFT**

Gas Flow through Silica Aerogels

**11:30 A.M. | NATHANIEL HAWTHORNE**

Incorporation and Characterization of Optical Oxygen Sensors in Silica Aerogel Monoliths

**11:50 A.M. | RYAN BOUCK**

Using the Lattice Boltzmann Method for Modeling Fluid Flow through Aerogels

### REAMER CAMPUS CENTER 305

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#### AFRICANA STUDIES

**MODERATOR: DEIDRE HILL BUTLER**

**10:30 A.M. | KIANA MILLER**

A Lineage of Black Feminist Art: Spoken Word Poetry and Paintings

### KARP 005

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#### BIOLOGY I

**MODERATOR: ROMAN YUKILEVICH**

**10:30 A.M. | SEBASTIEN GINGRAS**

Association of Glucocorticoid Receptor Polymorphisms with Metabolic Characteristics in Bariatric Patients

**10:50 A.M. | KATHERINE KEEVER**

Sugar Consumption Alters Perception of and Response to Stress in Undergraduate Students: Understanding the "Freshman Fifteen"

**11:10 A.M. | DAVID ROY**

Cortisol Levels in Response to Induced Stress in Athletes and Non-Athletes

**11:30 A.M. | TAYLOR HARVEY**

Geographic Distribution and Functionality of Cuticular Hydrocarbons and Cuticle Pigmentation in *Drosophila Athabasca*

### WOLD 225

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#### CHEMISTRY II

**MODERATOR: MICHAEL HAGERMAN**

**10:30 A.M. | YANCI ZHANG**

Morphological and Electrical Characterization of PANI and PANI/GO Nanomaterials

**10:50 A.M. | YIXIN HU**

Inkjet Printing of Polyaniline Films for Clean Energy Alternatives

**11:10 A.M. | ANDREW TYSOE**

Exploring Nanotethers to Functionalize CdSe Nanoparticles

**11:30 A.M. | KYU HO KIM**

Computational Chemistry Modeling of Copper-Based Drugs to DNA Oligomers

**11:50 A.M. | JARED DIOU-CASS**

Organic Reactions in Molecular Containers: A Study of Cucurbit[n]urils

### LIPPMAN 101

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#### CHINA AND ASIA "GO GLOBAL": CRISES, NETWORKS, ENVIRONMENT AND INTERNATIONAL RELATIONS

**MODERATOR: MARK DALLAS**

**10:30 A.M. | QIN ZHOU**

What Has Been Different?: A Comparative Study of the Asian Financial Crisis and Global Financial Crisis in Asia

**10:50 A.M. | MIAOQING JIA**

Chinese High-Tech Trade Policy During an Era of Global Industrial Restructuring



## SESSION II

10:30 A.M. – 12:10 P.M. // CONCURRENT ORAL PRESENTATIONS

**11:10 A.M. | JOSHUA TRYON**

Sino-African Relations in the 21st Century: Consistency and Complexity

**11:30 A.M. | AMY FISHER**

Varieties of Governance Mechanisms in Solving China's Environmental Degradation

**11:50 A.M. | MEGAN KERBS**

The Evolution, Dynamics and Trends of the Content of Chinese Exports from 1995-2011

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**KARP 006**

CLASSICS II

**MODERATOR: TOMMASO GAZZARRI**

**10:30 A.M. | SHIVANGI MEHTA**

Democracy and Citizenship in Athens: A Counterintuitive Relationship

**10:50 A.M. | DANIEL COHEN**

Boudicca's Rebellion Against the Roman Empire in 60 AD

**11:10 A.M. | ALEXANDER DEGRASSE**

Thucydides' History: A Manual of Statecraft

**11:30 A.M. | ANTHONY LOBRACE**

A New Socratic Portrait

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**LIPPMAN 014**

ECONOMICS II

**MODERATOR: TOMAS DVORAK**

**10:30 A.M. | CHRISTOPHER CARBONE**

Income Inequality and Health among US States over Time: A Panel Analysis

**10:50 A.M. | CAMERON ROBERTSON**

CrowdInquire.com: A Gateway to Crowdfunding for Investors and Entrepreneurs

**11:10 A.M. | MUJIE CUI**

The Impact of Earnings Announcement on Stock Returns

**11:30 A.M. | SAMANTHA ST. MARIE**

The Trade in Dinosaur Fossils: How Future Policies Will Impact the Legal and Black Markets for Dinosaur Bones

**11:50 A.M. | NAVID NOWROUZI**

Enhancing the Credit Card Statement: Bringing Budgeting to All

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**LIPPMAN 017**

ECONOMICS III

**MODERATOR: BRADLEY LEWIS**

**10:30 A.M. | HARRISON BARKER**

China's Wind Power Program: How China Has Whitewashed the Global Energy Sector

**10:50 A.M. | ANDREW FELLOWS**

The Economics of Edible Insects

**11:10 A.M. | MATHIAS WHITMYER**

Dams in the Northwest

**11:30 A.M. | BENJAMIN SCHROEDER**

The Effects of Climate Change on Property Values

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**LIPPMAN 012**

ECONOMICS IV

**MODERATOR: LEWIS DAVIS**

**10:30 A.M. | KENNETH WHITE**

Social Capital and Lynching in the U.S. South: Identifying the Structural Motivators of Extrajudicial Mob Violence

**10:50 A.M. | KENNETH WHITE**

Political Corruption and Heterogeneity in the U.S.: Comparing Federal Convictions, Public Perceptions and Societal Diversity

**11:10 A.M. | REED HOUSTON**

Fracking Induced Crime: An Empirical Study of the Bakken Shale and Neighboring Counties

**11:30 A.M. | VICTORIA GREENE**

US Food Aid and Infant Mortality Rates: An Instrumental Variables Approach

**11:50 A.M. | PARTH VISRODIA**

The Effect of Medical Marijuana Laws on State Opioid Mortality Rates

## SESSION II

10:30 A.M. – 12:10 P.M. // CONCURRENT ORAL PRESENTATIONS

### KARP 200

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#### FRENCH AND FRANCOPHONE STUDIES

**MODERATOR: CHARLES BATSON**

**10:30 A.M. | KATHRYN DOWLING**

From Vietnam to France: A Study of the History, Society and Contributions of the Vietnamese Community in France

**10:50 A.M. | OLIVIA MERCHEN**

L'Absurdité du Bonheur et "Les Trois Mûres"

**11:10 A.M. | ROSWALD MORALES**

A Manifested Obscurity: The Creation of the Public Image of Black Women through French Cinematography

**11:30 A.M. | ASHLEY EGNER**

Cartooning for Peace?: The Necessity of Political Cartooning to Democracy and Understanding the Struggle of Inclusion, Exclusion and Citizenship for French Muslims

### OLIN 306

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#### GEOLOGY II—ZIRCON: PROXY FOR PROVENANCE AND IMPACT ON THE ENVIRONMENT

**MODERATOR: JOHN GARVER**

**10:30 A.M. | BRANDT SCOTT**

Provenance of Detrital Zircon in Taconic Foreland Flysch in the Hudson and Mohawk Valleys of Eastern New York

**10:50 A.M. | KAITLYN SUAREZ**

Thermal Evolution and Provenance Revealed through Detrital Zircon Fission Track Dating of the Yakutat Group, Yakutat Bay, Alaska

**11:10 A.M. | OLIVIA THURSTON**

Uranium Redistribution and Health Implications in the Lucerne Granite, Maine

**11:30 A.M. | MATTHEW AMATRUDA**

Field Measurements of Uranium Using Gamma Spectrometry in Shale of the Utica Shale and Schenectady Formation, Lower Mohawk Valley, New York

### KARP 001

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#### HISTORY I

**MODERATOR: ANDREA FOROUGH**

**10:30 A.M. | KYRA DETONE**

"A Culture of Vaginas": Representations of the Vagina in 21st Century America

**10:50 A.M. | GEGUEL LANDESTOY**

Maquiladora Women

**11:10 A.M. | OLIVIA BRITTON**

The Roots from Where Our Stories Grown: Hair Assists in Reclaiming the Black Identity

**11:30 A.M. | ALLISON LONGO**

"The Last Field of Dreams": Minor League Baseball in Oneonta, Sam Nader and the Erosion of Small Town Baseball Culture

### SCIENCE AND ENGINEERING N205

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#### MECHANICAL ENGINEERING II

**MODERATOR: DAVID HODGSON**

**10:30 A.M. | CODY BELLAIR**

Design of a Low-Cost Quadraped Robot Capable of Semi-Autonomous Navigation

**10:50 A.M. | RYAN TREMBLAY**

Design and Fabrication of Large-Scale Walking Machine

**11:10 A.M. | JENNA DIFALCO**

Design of a Uniform Resistance Drive System with Intuitive Controls to Prevent Walker Related Falls by the Elderly and Disabled

**11:30 A.M. | MOLLY SPERDUTI-MATESEVAC**

Design of a Braking System and Handle Bar Attachment for a Human-Powered Transportation Cart



## SESSION II

10:30 A.M. – 12:10 P.M. // CONCURRENT ORAL PRESENTATIONS

### SCIENCE AND ENGINEERING N222

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#### MECHANICAL ENGINEERING III

**MODERATOR: RICHARD WILK**

**10:30 A.M. | JOHN LYNCH**

Harnessing Ocean Waves: An Inside Look at Wave Energy Conversion

**10:50 A.M. | TARIQ MAROOFI**

Design and Testing of a Nanocomposite Matrix for Water Filters

**11:10 A.M. | TARIQ MAROOFI**

Design, Construction and Testing of a Solar Distillation System for Treatment of Water in Afghanistan

**11:30 A.M. | ROBERT CATHARINE**

Synthesis and Testing of Materials for Piezoelectric Nanogenerators

**11:50 A.M. | THOMAS MORAN**

Analysis of Next Generation Solar Cell Materials using Atomic Force Microscopy

#### EMERSON AUDITORIUM, TAYLOR MUSIC CENTER

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#### MUSIC

**MODERATOR: DIANNE MCMULLEN**

**10:30 A.M. | ELYSE CLARK**

An Analysis and Performance of J.S. Bach's "Jesu, Lasci Dich Finden" from Mein Liebster Jesus ist Verloren

### BAILEY 312

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#### NEUROSCIENCE II

**MODERATOR: CAY ANDERSON-HANLEY**

**10:30 A.M. | ADAM STARKMAN**

The Effects of Early Confidence Interval Training on User Efficacy in a P300 Brain-Computer Interface Spelling Task

**10:50 A.M. | DANIELLE HENNEL**

The Effects of Expressive Writing on Caregivers of Hospice Patients with Dementia vs. those with Physiological Illnesses

**11:10 A.M. | SARAH BECK**

Expressive Writing as a Coping Mechanism for Caregivers of People with Parkinson's Disease

### KARP 002

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#### PHILOSOPHY

**MODERATOR: KATHERINE TULLMANN**

**10:30 A.M. | ELIZABETH MURAD**

Love Shouldn't Hurt: Akrasia as an Explanation for Domestic Violence

**10:50 A.M. | NEALAY VASAVDA**

Cyberethics: The Right to Privacy and the National Security Agency

**11:10 A.M. | SAMANTHA WILLIAMS**

African-American Introphobia

**11:30 A.M. | RAASHIKA GOYAL**

This Statement is False. This Statement is True. This Presentation is Fun: A Rational Exploration of the Liar's Paradox and its Startling Implications

### SCIENCE AND ENGINEERING N304

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#### PHYSICS II

**MODERATOR: FRANCIS WILKIN**

**10:30 A.M. | MICHAEL WARRENER**

Constraining Cosmological Parameters Using the Correlation Function

**10:50 A.M. | DREW MCCALMONT**

Detection of Lead Diffusion in Geological Samples using Rutherford Backscattering Spectrometry (RBS)

**11:10 A.M. | PAUL DIMEO**

The Inaugural Launch of a New CCD Camera at Union College and its Application in the Photometric Detection of Exoplanet Transits

**11:30 A.M. | BRENT SHAPIRO-ALBERT**

Modeling Pulsar Trajectories through a Galactic Potential

## SESSION II

10:30 A.M. – 12:10 P.M. // CONCURRENT ORAL PRESENTATIONS

### KARP 004

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#### PHYSIOLOGY

**MODERATOR: SCOTT KIRKTON**

**10:30 A.M. | RANDY NGUYEN**

The Influence of a Second Object on the Responses of Target Selective Descending Neurons in the Dragonfly

**10:50 A.M. | BENJAMIN SHAPIRO, CARA SLUGASKI**

What Parameters of a Looming Object are Encoded by Dragonfly Visual Neurons?

**11:10 A.M. | ARIELLA YAZDANI**

Effect of Electrical Stimulation on Grasshopper Jumping Muscle

**11:30 A.M. | ALEXIS MACDONALD, SHARMEEN AZHER**

Effects of Jumping on Grasshopper Muscle Carbohydrate Levels

### LIPPMAN 016

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#### POLITICAL SCIENCE II

**MODERATOR: GUILLERMINA SERI**

**10:30 A.M. | YARELI RODRIGUEZ**

Perceptions of Independence: Contributing Factors to the Formation of Puerto Rican Political Identities

**10:50 A.M. | ELIZA BURBANO**

The Persistence of Patriarchy in Latin America

**11:10 A.M. | SAMUEL BRODA**

The Challenge of Education in a Democratic Latin America

**11:30 A.M. | MAGGIE DESISTO**

Black Female Rappers: Space for Their Voices

### KARP 008

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#### POLITICAL SCIENCE III

**MODERATOR: ROBERT HISLOPE**

**10:30 A.M. | CHRISTINE LIANG**

Personality and Foreign Policy: An Analysis of Vladimir Putin and Russian Political Trajectories in Iran and Syria

**10:50 A.M. | PETER SCATENA**

American Military Intervention in the Post-9/11 Landscape

**11:10 A.M. | MIKE PRESENDIEU**

The Crocodile Hour: The Predicted "Success" of Tourism in Cuba

**11:30 A.M. | PETER DURKIN**

The President's Big Speech: Evaluating the Modern State of the Union Address

**11:50 A.M. | ELLA FERTITTA**

Water Policy and Effective Regionalism in Capital Cities: A Comparative Analysis of Washington, District of Columbia, London and Brasilia

### BAILEY 201

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#### PSYCHOLOGY II

**MODERATOR: SUZANNE BENACK**

**10:30 A.M. | LAURENT FIRLOTTE**

The Motivational Drivers of Corporate CEOs

**10:50 A.M. | ERIN LOWREY**

An Exploration of Campus Climate for Queer Students

**11:10 A.M. | NINA SOMPS**

The Effect of Positive Body Media on College Women: Mediated by a Positive Maternal Relationship





## SESSION II

10:30 A.M. – 12:10 P.M. // CONCURRENT ORAL PRESENTATIONS

### LIPPMAN 201

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#### SOCIOLOGY II

**MODERATOR: JANET GRIGSBY**

**10:30 A.M. | MAHRUKH BADAR**

Racism as a Public Health Issue

**10:50 A.M. | ALISON CURLEY**

The Navajo Silversmith's Turquoise Jewelry: A Story of How Culture and Tradition Have Survived

**11:10 A.M. | JOANNA CHALIFOUX**

An Interdisciplinary Approach to Domestic Violence in the Legal System: The Importance of Victim Advocates

**11:30 A.M. | ERIN OSTHEIMER**

Baby Cribs in Prison Cells: Assessing Opinions about Prison Nursery Programs by Humanizing Incarcerated Mothers

### BAILEY 100

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#### "THESE STORIES ARE 'TRUE': CREATIVE EXPLORATIONS IN ENGLISH

**MODERATOR: PATRICIA WAREH**

**10:30 A.M. | ELORA WEIL**

Surrealistic Short Stories

**10:50 A.M. | DOROTHY HAZAN**

No Measure of Good Health: "True" Stories of Mental Illness

**11:10 A.M. | CARA PETERHANSEL**

De-Shelving Woolf: A Poetic Response to the Life and Work of Virginia Woolf

### BAILEY 207

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#### THE WONDERS OF TREHALOSE

**MODERATOR: MARGOT PAULICK**

**10:30 A.M. | HANNAH D'AMBROSIO**

Synthesis of Trehalose Analogs for the Protection of Mammalian Cells

**10:50 A.M. | AUSTIN BANNISTER**

A Kinetic Study of Porcine Liver Esterase Hydrolysis of Cell-Permeable Analogs of Trehalose

**11:10 A.M. | MOLLY O'BRIEN**

Evaluation of Cell-Permeable Analogs of Trehalose for the Protection of Mammalian Cells

### KARP 105

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#### VISUAL ARTS I

**MODERATOR: SANDRA WIMER**

**10:30 A.M. | ALLISON SMITH**

Behind the Feminine Facade: Reinterpreting Berthe Morisot

**10:50 A.M. | DANIELLE FREDERICK**

The Getty: Anti-Louvre and California Style

**11:10 A.M. | YUKI SHIMANO**

The Art of Specimen Reconstruction through Biological Illustrations



## SESSION III

12:20 P.M. – 1:50 P.M. // POSTER PRESENTATIONS // WOLD CENTER ATRIUM

**MODERATORS: REBECCA KOOPMANN AND WILLIAM KEAT**

**LAKHENA LEANG**

Analyzing the Catalytic Activity of Schizophyllum  
Commune Metacaspases in the Presence of Varying  
Divalent Cation Concentrations

**JESSICA MAUNG**

Photolysis and Cellular Toxicity of Octyldimethyl  
Para-Aminobenzoic Acid

**KATIE TIGHE, JACQUELINE SHARRY**

Interactive Physical and Cognitive Exercise: Pilot of Adaptive  
Irish Dance for Older Adults

**ZACHARY SAYAH**

Atomic Force Microscopy of Cocoa Butter Polymorphism

**KATHLEEN MATTHEWS**

Electrical Characterization of Polyaniline and Creation of  
Bulk Heterojunction Solar Cells

**BAILEY BALOUCH, JACK BRAGG**

Neural Development of Drosophila Homologs of Human  
Neurofibromatosis and Juvenile Neuronal Ceroid Lipofuscinosis

**MARK MARZOTTO**

Material Properties of 3D Printed Objects

**JAKE ULRICH**

Investigation of the Binding of Perfluorobutane Sulfonic  
Acid to Human Serum Albumin

**MITCHELL FINITZ**

Surface Topography Analysis of Prosthetic Bone Scaffolding

**LUCAS AUDI**

Design of the E-Cruise

**SAMUEL RIDER**

Design of a Two-Axis Solar Tracking System

**JOSHUA PARK**

Analysis of Liquid-Based Protective Body Armor

**SARAH HICKERNELL**

Radon Emanation from High-Damage Zircon from Granites  
from Downeast Maine

**HARRISON BROWN**

Design of a Stair-Climbing Medical Walker

**LY NGUYEN**

Estimation Accuracy of Power System Electromechanical  
Modes with Varying Noise Measurements (SNR) Using  
Multichannel Transfer Function Algorithm

**ASHLEY ROSA**

Monitoring Transient Water Dynamics in Sphagnum Using <sup>13</sup>C

**SCHUYLER STOCKMAN**

Constructing a Droplet Generator and Testing Droplet  
Dynamics on Superhydrophobic Surfaces

**PAUL PHILPOTT**

Observing Transits of Hot Jupiters around Other Stars

**MICHAEL KAYE**

Carbon Isotope Records of Dissolved Inorganic Carbon in  
Cretaceous and Paleogene Streams

**RANDI BROADWELL**

Understanding How Electrical Stimulation of Muscles Affects  
Lactate Production

**MAX STWERTKA**

Imaging Thin Film of Poly Ethylene Oxide Using Atomic  
Force Microscope

**ADAM FORTI**

Investigation of Light Scattering in Silica Aerogels

**JASON TURNER**

Phase Transitions of 2-Decanol in Nano Pores

**FREDERICO CESAR DIAS MARTINS**

Radiation Damage in Precambrian Zircon of the Douglas Islands  
Conglomerate, Narraguagus Bay, Maine

**KAITLYN SUAREZ**

Zircon Textures and Composition from the Zoned Tunk Lake  
Pluton, Maine

**JONI-RAE PARTRIDGE**

Synthesis of Pr<sub>2</sub>Tre, a Propyrylated Trehalose Derivative,  
for the Preservation of Mammalian Cells

**CHRISTOPHER HENRY**

Characterization of Union College EDB for Measurements  
of Vapor Pressure

**ANDREW ATTORRI**

Development of Tidal and Wave Power

**LUISA POSADA**

Synthesis and Characterization of Copper-Alumina Aerogel  
for Catalytic Applications

**SYLVIE KALIKOFF**

The Effect of Pause Insertions on the Mechanobiology of  
Fracture Healing



## SESSION III

12:20 P.M. – 1:50 P.M. // POSTER PRESENTATIONS // WOLD CENTER ATRIUM

### JENNIFER FROMM

Electro-Chemical Rapid Prototyping in a Copper Sulfate Solution Bath

### JESSE COULL

Enamel Determines Canine Tooth Taper

### SAMANTHA FRYE, JORDAN DEFELICE

3D Modeling of the Spiral Valve Intestine in the Skate, *Leucoraja Erinacea*

### ADAM LEWIS

Biological and Electrochemical Study of Cu (II) Complexes: Applications to the Development of Anticancer Metalloodrugs

### VERA MARSOVA

AFM Characterization of Human Granulosa Cells

### VINCENT OLIVETO

Design and Construction of a Photovoltaic-driven, Thermoelectric Dehumidifier

### MICHAEL GEIGER

Designing and Constructing an Energy Harvesting Circuit for a Heated Hockey Skate Blade

### MADELINE SAMUELL

Design Modifications, Characterization Experiments and Numerical Modeling of a Portable Solar Energy Conversion System

### STEPHANIE SCHARBACH

Cloning and Expression of the *Scp2* Gene from *S. commune*

### HOLLY SCHWAB

FSH Signaling and the Location of hFSHR in the Cell Membrane

### GARRETT FITZGERALD

Galaxy Star Formation in Intermediate-Density Environments of the Local Universe

### ARSAL HABIB

An IoT (Internet of Things) Robotic Light Switch

### DEVON WEBSTER, ALEXANDER DOLCIMASCOLO

Drink Local at Union College

### NATHAN BILLINGS, BRENDAN CHEEVERS, RYAN ASSELIN, JENNA DIFALCO, DUNCAN SMITH

Engineers for a Sustainable World

### ANTON MOROZOV

Automated Data Analysis Pipeline for Gene Expression Studies

### LIAM MCANINCH

Design of an Ice Thermal Energy Storage System

### JONATHAN MARTIN

The Design of a Model Car for Aerodynamic Studies

### BRENDAN CHEEVERS, BLAIR HAGEN, RILEY KONSELLA, SAM KUPIEC, KATHLEEN MATTHEWS

Union College's Aero Team: SAE Design West Micro Competition

### KATHLEEN LALIBERTE

Using Differences in ERPs of Semantic Incongruities to Model User Confusion

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12:20 P.M. – 1:50 P.M. // POSTER PRESENTATIONS // LALLY READING ROOM, SCHAFER LIBRARY

### MODERATOR: MELINDA GOLDNER

### RACHEL CLAREY

Factors That Influence Chinese Students to Study in the United States

### MELISSA EPSTEIN

The Jews of Germany: Anti-Semitism and the Persistent Bond with Religion

### GEGUEL LANDESTOY

What are the Real Conditions in Upstate New York

### MIA DIRIENZO

The Effects of ACA Medicaid Expansion on Healthcare Usage, Fertility Rates and Marriage Rates for Young Adults

### MAEVE WILLIAMS

A Stalled Revolution, Revisited: Analyzing Women-based Organizations from 1960-Present

### WILL SCHWARTZ

Creating Enrichment through Communal LARP-Based Education

### OLIVIA BRITTON

Haitian Education: A System Struggling to Serve the Future

### BENJAMIN PATRICK

The American Conflict in Iran: Not a War on Terror but a War on Not Getting Our Way

### MOMNA ASLAM

Are You Informed Enough to Inform? A Content Analysis of Common Pro-vaccination and Anti-vaccination Arguments on Social Media

## SESSION III

12:20 P.M. – 1:50 P.M. // ENGINEERING PROJECT DISPLAY  
COURTYARD ADJOINING OLIN, WOLD,  
SCIENCE AND ENGINEERING, AND IN WOLD 118

**Many students in engineering undertake design projects or compete in intercollegiate design competitions in which the final products of the design, in addition to being technically complex and interesting, are large scale. Several of these projects will be on display with their designers on the patio outside F.W. Olin Center, the Science and Engineering Center and the Wold Center, or in Wold 118.**

### BALLSTON LAKE SUBMERSIBLE

**THOMAS CLINE, BENJAMIN BRAND**

An unmanned underwater vehicle (UUV) has been designed to explore the depths of Ballston Lake.

### DESIGNING A MICROMOUSE: A MAZE-SOLVING

**ARSAL HABIB, HTOO WAI HTET**

The Union College Robotics Crew will discuss and showcase a maze-solving robot built in-part using the College's Makerbot 3D printers. The final product is a unique and versatile robot, designed from scratch, which shows the endless possibilities that can be realized at the intersection of 3D printing and electrical engineering.

### DUTCHMAN RACING— UNION COLLEGE SAE BAJA

**ZACHARY ROSENBERG, SAMUEL TEITLER,  
ARI WEINSTEIN**

The Dutchman Racing team is building a high-performance, off-road vehicle that will be racing against national and international schools during the international SAE Baja competition in Rochester, New York. The competition is evaluated on design, presentation, traction and handling, sled pull and a grueling four-hour endurance race.

### 2015-2016 HUMAN-POWERED VEHICLE ENHANCEMENTS

**JEREMY MANUS**

The Human-Powered Vehicle Competition (HPVC) is an annual competition whose goal is for students to fully design and construct a human-powered vehicle. Students use engineering principles to design and develop a vehicle to provide practical and sustainable transportation for everyday use. The project focuses on modifying and improving bike safety, performance and innovation since last year's competition.

### MECHANICAL CELESTIAL SYSTEMS: DESIGN AND BUILD OF ORRERIES IN MER 419

**RYAN ASSELIN, CODY BELLAIR, ZACHARY BORGLUM,  
STEPHEN BOYD, ROBERT CATHARINE,  
MARIAN CHEE, ZIBUSISO DHLAMINI, JENNA DIFALCO,  
MITCHELL FINITZ, SPENCER FONTEIN, TYLER GURIAN,  
SEAN HANLEY, KENNETH MARSHALL, STEVEN NADEL,  
JONATHAN PANG, MATTHEW PERILLO, BUDDY POLLACK,  
AARON PRESCOTT, RYAN SAEGER, ROBERT SHERMAN,  
MOLLY SPERDUTI-MATESEVAC, ANDREW SUOZZI,  
SAMUEL TEITLER, DIMA YANKOVA**

Each student team in the winter-term offering, MER 419: Design of Mechanical Systems, a capstone design course in mechanical engineering, designed and built an orrery: a mechanical model of a celestial system. The celestial systems modeled were: Sun-Mercury (depicting the precessing elliptical orbit of Mercury), Sun-Earth-Moon, Sun-Mars-Phobos-Deimos, Jupiter-Galilean moons, Sun-Uranus (depicting the extreme tilt of the spin axis of Uranus), Sun-Pluto-Charon (depicting the tidal locking of this minor planet and its moon), Sun-Halley's Comet and HD 20781/b/c-HD 20782/b (a binary star system, about one star orbits two planets and the other one planet). The mechanical models will be on display.



## SAE AERO ADVANCED CLASS TEAM

**MICHAEL RUSSO, MARY MARGARET SEQUINO,  
ROBERT MCNALLY, DANIEL CHAN, RYAN SAEGER**

Union College's aero team, the Flying Dutchmen, has designed and built a remote-controlled plane to compete in the advanced class of the 2016 SAE Aero Design West Competition. The Flying Dutchmen's design goal is an aircraft able to lift a static payload of 18 pounds and to drop a two-pound bean bag within 60 feet of a target while flying at an altitude of at least 100 feet. The Flying Dutchmen will be displaying their final design and share results and footage from competition.

## SMART HOUSE INNOVATIONS

**LAURA APTOWITZ, JESSE GALINA,  
ADAM JOHNSON:**  
**IOT DOOR LOCK**

**DAVID FISHMAN, MILTON MICHEL,  
TAYLOR ULLRICH:**  
**SMART MAILBOX**

**ARSAL HABIB, DOUGLAS ROSA,  
DAVID SOLOMON:**  
**ROOM OCCUPANCY MONITOR**

**CATHERINE KANAMA, SOPHIA POWELL,  
SAMUEL RODBERG:**  
**SMART TRASH CAN**

**LEE MCKEAN, NURISHA RODRIGUEZ,  
PHILLIP STEINHART:**  
**GREEN THUMB**

**ROBERT MCNALLY, JAMES TRIOLA,  
KENTO YAMAGUCHI:**  
**SMART HOME SECURITY SYSTEM**

Projects from the winter term ECE 481: Internet of Things course focused on a "smart house" theme and include remote monitoring and control of house entry, room occupancy, waste can, mailbox, houseplant environment and nighttime security.

## SESSION III

12:20 P.M. – 1:50 P.M. // MINERVA FELLOWS:  
POSTER AND VIDEO PRESENTATION,  
REFERENCE ROOM, SCHAFFER LIBRARY

**SPONSOR: TOM MCEVOY**

Eleven Minerva Fellows who have returned from nine months volunteering in India, China, Cambodia, Uganda, South Africa, Vietnam and Ecuador, display images from their time away in this poster and video session. All Fellows will be on hand to discuss their experiences.

**DAVIS CUTTER**

India

**MAGGIE HOFFMAN AND KYLE TEVLIN**

Cambodia

**CHARLOTTE BLOOM AND JOSEPH HINDERSTEIN**

Uganda

**RU MAKONI AND YULIN ZHANG**

China

**LACEY REIMER AND GERARDO REYES**

Ecuador

**MARY BETH GADAROWSKI**

South Africa

**CAROLINE BRUSTOWICZ**

Vietnam



## SESSION IV

2 – 3:20 P.M. // CONCURRENT ORAL PRESENTATIONS

### KARP 002

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#### ANTHROPOLOGY II

**MODERATOR: ROBERT SAMET**

**2 P.M. | RANI PLOTKIN**

The Argentine Body: An All-Meat Diet—A Study of Body Politics in Cordoba, Argentina

**2:20 P.M. | EVAN O'CONNOR**

Mise-en-Scene: The Roles of Social Status in Film Festivals

**2:40 P.M. | MARGARET CLOSE**

Striving for Relevance in a Greying America: A Study of Aging and Care on the Upper West Side of Manhattan

**3 P.M. | KIMBERLY CASILLAS**

Health Disparities of Puerto Rican Women in Bushwick, Brooklyn, and Effects on Reproduction and Family Structure

### KARP 005

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#### BIOLOGY II

**MODERATOR: BARBARA DANOWSKI**

**2 P.M. | BISIAYO FASHEMI**

A Time and Effect Comparison of Ibuprofen and Ibuprofen-Doped Silica Aerogels on Colon Cancer Cells

**2:20 P.M. | JAMES MCGEE**

Does the Inhibition of Actin-Myosin Contractility Alter Tubulin Post-Translational Modifications?

**2:40 P.M. | TRISHALA JAILALL**

Is There a Relationship Between Lipid Rafts and Microtubules that Contain Post-Translational Modifications?

**3 P.M. | ANKOOR TALWAR**

Progranulin and Attntrin Protect Against Titanium-Induced Inflammatory Osteolysis by Targeting TNF Signaling

### BAILEY 100

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#### COMPUTER SCIENCE II

**MODERATOR: MATTHEW ANDERSON**

**2 P.M. | JAMES CURBOW**

Blending Two Automatic Playlist Generation Algorithms

**2:20 P.M. | DURI ABDURAHMAN DURI**

The Effects of Disruptive Notifications on the Engagement of Users in the Collaborative Consumption Model

**2:40 P.M. | JULIA ISAAC**

Graph Based Departmental Spoken Dialogue System

**3 P.M. | TRISTAN JOHNSON**

Reading Between the Lines: Verifying Natural Language Proofs

### WOLD 128

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#### ECOLOGY/EVOLUTION

**MODERATOR: KATHLEEN LOGIUDICE**

**2 P.M. | RAYMOND FARMER**

Habitat Light and Signal Color Evolution in Five Species of Anoles from the Dominican Republic

**2:20 P.M. | KATHERINE CHRISTOPHER**

Biological and Environmental Factors Influencing the Molting Success of Black-Legged Ticks

**2:40 P.M. | AUSTIN BURNHAM**

The Use of a Feeding Assay to Test the Effects of Visual Color Contrast on Stimulus Visibility in the Lizard Anolis Sagrei

**3 P.M. | KATHRYN KURCHENA**

Identification of Host Species Via Isotopic Signature In Black-legged Ticks



## SESSION IV

2 – 3:20 P.M. // CONCURRENT ORAL PRESENTATIONS

### LIPPMAN 014

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#### ECONOMICS V

**MODERATOR: SHELTON SCHMIDT**

**2 P.M. | HATIM AITIRHLI**

Design and Functional Prototype of a Superior Walker Implementing a Lift Mechanism with a Preliminary Business Model and an Industry Study of Medical Lifts

**2:20 P.M. | BENJAMIN MELE**

Can Businesses Do Well by Doing Good?: Examining the Relationship between Corporate Social Responsibility and Firm Financial Performance

**2:40 P.M. | SREEKRISHNA POKURI**

Do Mergers and Acquisitions affect Shareholder Wealth in the Pharmaceutical Industry?

**3 P.M. | MIHIR PATEL**

Nursing Home Staffing Levels across Different Types of Ownership

### LIPPMAN 016

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#### ECONOMICS OF TECHNOLOGY AND INVESTMENTS IN EMERGING MARKETS

**MODERATOR: FUAT SENER**

**2 P.M. | PIERRE CASTRO**

Innovation, Informal Competition and Knowledge Transfers: A Cross Country Study of Firms in Eastern Europe, North Africa and Middle East

**2:20 P.M. | MIAOQING JIA**

How to Balance China's Economic Structure?

**2:40 P.M. | ANDREW WITKOWSKI**

The Politics and Economics of Chinese Outward Foreign Direct Investment

**3 P.M. | MIAOQING JIA**

A Closer Look at the Yuan-USD Exchange Rate

### SCIENCE AND ENGINEERING N222

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#### ELECTRICAL ENGINEERING II

**MODERATOR: TAKASHI BUMA**

**2 P.M. | TAYLOR ELLSWORTH**

Smart Brace: A Way for ACL Patients to Track Rehab Progression

**2:20 P.M. | KELLEY WHITE**

In and Out Line Monitoring System for Volleyball

**2:40 P.M. | HIEN NGUYEN**

Operating GPU for Optical Coherence Tomography Image Reconstruction

### KARP 200

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#### "FROM RUSSIA WITH LOVE": ON RUSSIAN ENVIRONMENTAL POLICIES, OIL INVOICING AND FOOD CULTURE

**MODERATOR: KRISTIN BIDOSHI**

**2 P.M. | NATHAN JONES**

Environmental Policy and the Role of Green Parties within the United States and Russia

**2:20 P.M. | CAELIN KAPLAN**

Quantifying the Impact of Political Considerations on Russia's Choice of Oil Invoicing Currency

**2:40 P.M. | LAUREN WOODS**

Political and Socioeconomic Influences on Food Culture and the Fundamental Causes to the Increase of Overweight and Obesity in Russia



## SESSION IV

2 – 3:20 P.M. // CONCURRENT ORAL PRESENTATIONS

### OLIN 306

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#### GEOLOGY III—ASSESSMENT OF LAND USE AND CLIMATE CHANGE THROUGH LAKE CORE ANALYSIS

**MODERATOR: DAVE GILLIKIN**

**2 P.M. | CAITLIN MCMANIMON**

The Effect of Land Use Change on Stable Isotope ( $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ ) Values and Heavy Metal Concentrations in Connecticut Wetlands during the Holocene

**2:20 P.M. | ELISE FARRINGTON**

Carbonate Mineralogy and Initial Results from Deep Drilling in Lake Junin, Peru

**2:40 P.M. | LAURA PACHECO**

Holocene Carbonates in Lake Junin, Peru: Mineralogy and Stable Isotope Records

### LIPPMAN 017

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#### HISTORY II

**MODERATOR: BRIAN PETERSON**

**2 P.M. | COLLEEN NUGENT**

Unveiling Laïcité: Secularism, Algerian Muslims and the Headscarf Affair in Modern France

**2:20 P.M. | MIRANDA WALDMAN**

People's Movements and the Fall of Soviet Power in Poland, 1945-1989

**2:40 P.M. | ANABEL REYES-OVALLES**

Statelessness and Human Trafficking: A Case Study of Haitian-Dominicans

**3 P.M. | ILAN LEVINE**

Remembering the Holocaust and the Killing Fields: A Comparative Study

### LIPPMAN 101

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#### INTERDISCIPLINARY PERSPECTIVES ON TERRORISM

**MODERATOR: ANDY MORRIS**

**2 P.M. | GRACE CARTWRIGHT**

Terrorism on the Front Page: An Explanation of the Origins of International Terrorism against the United States and the Development of President Nixon's Counterterrorism Policies

**2:20 P.M. | DANA DONATI**

Journalists and Media Professionals as "Stakeholders" of 9/11

**2:40 P.M. | HECTOR TEJEDA**

Why Do Terrorist Groups Arise?

### LIPPMAN 201

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#### ISSUES AND CASES IN AFRICAN POLITICS

**MODERATOR: MICHELE ANGRIST**

**2 P.M. | BRITTANY KENNY**

The International Criminal Court, the Crime of Aggression and Africa

**2:20 P.M. | EMILY MYERS**

War and Women Wielding Power: Lessons from Burundi, Liberia and Chad

**2:40 P.M. | CHRIS NWOSU**

Corruption and Transitions to Democracy: A Case Study of Nigeria

### STEINMETZ 106

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#### MECHANICAL ENGINEERING IV

**MODERATOR: GLENN SANDERS**

**2 P.M. | JARED CHIN**

Adaptive Camber Profile Ski

**2:20 P.M. | JEFFREY WILK**

Mechanical Characterization of a Patient Specific Ti-6Al-4V Implant for Treatment of Segmental-Bone Defects

**2:40 P.M. | ROBERT SHERMAN**

The Design and Manufacture of an Aluminum Business Folder





## SESSION IV

2 – 3:20 P.M. // CONCURRENT ORAL PRESENTATIONS

### SCIENCE AND ENGINEERING N205

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#### MECHANICAL ENGINEERING V

**MODERATOR: BRADFORD BRUNO**

**2 P.M. | JENNIFER VENTRELLA, ALEXANDER POLLACK**

Chemical Reaction Aqueous Analog Computer (CRAAC)

**2:20 P.M. | STEVEN NADEL**

Design, Testing and Optimization of Horizontal Delivery Systems for an Octocopter

**2:40 P.M. | ALEXANDER CHU**

Wherefore Art Thou JULIET: Development of a 15-Bar Tensegrity

**3 P.M. | RYAN ASSELIN**

Investigation of Fruit Preservation: The Design of a Solar-Powered Downdraft Mango Dryer

### BAILEY 201

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#### NEUROSCIENCE III

**MODERATOR: STEVE ROMERO**

**2 P.M. | JAKUB KACZMARZYK**

The Academic, Cognitive and Social Effects of a Music-Based Intervention in a Schenectady Elementary School

**2:20 P.M. | JENNIFER ANDREWS**

The Effect of Optimism and Physical or Imagined Practice on Task Learning

**2:40 P.M. | CASSIDY MERKLEN**

The Influence of Melody on Positive and Negative Affect

**3 P.M. | MAKENZIE MICHEL**

Flow and Cognitive Change Due to Exercise for Older Adults Using an Interactive Physical and Cognitive Exercise System (iPACES©)

### SCIENCE AND ENGINEERING N304

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#### PHYSICS III

**MODERATOR: SAMUEL AMANUEL**

**2 P.M. | XAVIER CAPALDI**

Measuring Relative Stiffness of Poly(ethylene-oxide) Using Atomic Force Microscopy

**2:20 P.M. | HARRISONN GRIFFIN**

Heat of Fusion of Primary Alcohol Confined in Nanopores

**2:40 P.M. | SHAUNA LEFEBVRE**

Effects of Annealing on the Heat of Fusion of Nano Confined Cyclohexane

**3 P.M. | MATHEW GISO**

Heat of Combustion of Gasoline Confined in Nanopores

### LIPPMAN 012

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#### POLITICAL SCIENCE IV

**MODERATOR: CIGDEM CIDAM**

**2 P.M. | TYLER VALENTI**

A Crisis in Higher Education?: The Sustainability of Student Debt

**2:20 P.M. | MATT BURTON**

ISIS's Assault on the Nation-State

**2:40 P.M. | JEN KEUNG**

The Price of Democracy: Hong Kong's Identity Crisis in the Umbrella Revolution

**3 P.M. | SARAH POLLACK**

Germany and the European Migrant Crisis: An Exploration of German National Identity

# SESSION IV

2 – 3:20 P.M. // CONCURRENT ORAL PRESENTATIONS

## KARP 001

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### RACE AND GENDER DIVERSITY IN NORTH AMERICAN SPORTS

**MODERATOR: TERESA MEADE**

**2 P.M. | SHEA BARICKMAN**

Women: Indisputable Fans of Baseball—An Ethnographic Study of Female Baseball Fans

**2:20 P.M. | LAUREN LABRIQUE**

Women’s Hockey: Beyond the Locker Room

**2:40 P.M. | MATHEW WILKINS**

“Killing the Indian in the Child”: The Residential Schools and History of First Nations Hockey in Canada

**3 P.M. | RACHEL WYMAN**

The Effect of 19th Century Religious and Secular Revolutionary Ideology on the Social and Civil Rights Activism of African American Trailblazer Octavius Valentine Catto

## KARP 004

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### SOCIOLOGY III

**MODERATOR: DAVID COTTER**

**2 P.M. | MAEVE WILLIAMS**

Educational Aspirations, Expectations and Attainment: Structural Barriers to College Matriculation

**2:20 P.M. | ELIZABETH ALTMAN, LAURA MARLIN, ELLICE TORDESILLAS, ELIZABETH RICCI**

Millennial Challenge Program: Ellice Tordesillas, Elizabeth Ricci, Elizabeth Altman and Laura Marlin

**2:40 P.M. | EMILY KAUFMAN**

The Influence of Advertising on Women and Children

**3 P.M. | MORGAN SEBER**

Juvenile Delinquency, Socioeconomic Status and Neighborhood Policing

## KARP 006

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### SPHERES OF INTEREST IN SHAKESPEARE AND EARLY AMERICAN LITERATURE

**MODERATOR: PATRICIA WAREH**

**2 P.M. | SYDNEY PALUCH**

The Ambiguity of Antony and Cleopatra

**2:20 P.M. | EMILY BISTRONG**

“Most Savage and Unnatural”: An Exploration and Analysis of the Potential of Psychopathy (and its Ensuing Effects) within the Iconic Villains of Shakespeare’s “Hamlet,” “King Lear” and “Othello.”

**2:40 P.M. | ABIGAIL HOLLANDER**

Voices Trapped Within the Portrait: Annetje Kool, Pieter Vanderlyn and the Expectations of Public and Private Spheres in a Burgeoning Nation

## KARP 105

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### VISUAL ARTS II

**MODERATOR: LORRAINE COX**

**2 P.M. | KYRA DETONE**

Uncharted Territory: Critical Social Artistic Practices in the 21st Century

**2:20 P.M. | DANIELLE FREDERICK**

Art Deco: A Visual Expression of American Urbanization in the 1920s and 1930s

**2:40 P.M. | MAYA WHALEN-KIPP**

From Clay to the Sky: A Contemporary Artist’s Approach to Water Filtration and Water Justice



# SESSION V

3:30 – 5:10 P.M. // CONCURRENT ORAL PRESENTATIONS

## KARP 002

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### ANTHROPOLOGY III

**MODERATOR: KAREN BRISON**

**3:30 P.M. | LAURA SCHAFFER, BEN WASHBURN**

In the Beautiful Things that We Share: Examining Multiculturalism in an Urban Fijian Primary School

**3:50 P.M. | ALEXANDRIA GESING**

The Medicalization of Childbirth

**4:10 P.M. | SABRA MWAURA**

You Are What You Eat: Food, Memory and Identity in the Diaspora

## KARP 005

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### BIOLOGY—PLANT ECOLOGY

**MODERATOR: JEFF CORBIN**

**3:30 P.M. | VICTORIA CULLINAN**

Assessing the Impact of Deer Browse on Forest Regeneration in New York State

**3:50 P.M. | REBECCA KRASA**

Analyzing Bryophyte Temperature Distributions within the Canopy using 3D Thermal Imaging

**4:10 P.M. | SONIA SANDOVAL**

Invasive Black Locust's Legacy Effects on Nitrogen Cycling in the Albany Pine Bush

**4:30 P.M. | OLIVIA WILLIAMSON**

Composition of <sup>13</sup>C in Bryophyte Soluble Sugars as an Indicator of Water Availability

## KARP 200

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### CLASSICS III

**MODERATOR: STACIE RAUCCI**

**3:30 P.M. | MAX CAPLAN**

Reinscribing Cynthia: Latin Composition and Translations after Propertius

**3:50 P.M. | JENNA CORCORAN**

Recovering Rhetoric: Latin Translations and Compositions of Political Oratory

**4:10 P.M. | ELIZA BURBANO**

Dress and Womanhood of Ancient Rome

**4:30 P.M. | HENRY SCHERCK**

Space in Transition: A Study of Roman Suburbs

**4:50 P.M. | COLLEEN LOVELY**

The Romanization of Romania: A Look at the Influence of the Roman Military on Romanian History and Heritage

## LIPPMAN 014

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### ECONOMICS VI

**MODERATOR: STEPHEN SCHMIDT**

**3:30 P.M. | KATE COLLINS**

How the Characteristics of a Small Business and a Small Business Owner Determine Success or Failure

**3:50 P.M. | SETH COHEN**

When a House is Not a Home: The Relationship between Bubbles in Proliferated Ownership Asset Classes and the Severity of Economic Crises

**4:10 P.M. | SETH COHEN, MALLORY CROAK**

USafe: A Study in Entrepreneurship

**4:30 P.M. | CAILIN SCHMEER**

School Choice Policies in OECD Countries: How the Use of Education Policy Can Increase a Country's Human Capital Stock to Fight Economic Inequality in the Post-Global Recession Era

## SESSION V

3:30 – 5:10 P.M. // CONCURRENT ORAL PRESENTATIONS

### LIPPMAN 016

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#### ECONOMICS VII

**MODERATOR: TOMAS DVORAK**

**3:30 P.M. | KYLE IRWIN**

An Education on the Union College Food System

**3:50 P.M. | EMANUEL STORCH**

There's No Such Thing as a Free Lunch: Creating High School Quality Ratings

**4:10 P.M. | WILLIAM SMIEGAL**

Efficiency of State Funding on Public Colleges and Universities

**4:30 P.M. | MIAOQING JIA**

Online Work Habits and Academic Performance

**4:50 P.M. | ALEX KRAMER**

Herding Among Institutional Investment Funds

### KARP 105

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#### FILM FESTIVAL

**MODERATOR: JAMES DE SEVE**

**3:30 P.M. | EVAN O'CONNOR**

The Sound of Healing

**3:50 P.M. | YUANQING ZHU**

One Day of Yuanqing

**4:10 P.M. | BRIAN CATTAFE AND KEVIN JORDAN**

Spontaneous Junction

**4:30 P.M. | RACHEL MCNEIL AND A.J. HUBBARD**

Sherwood Mystic Mercenary

**4:50 P.M. | JORDAN WITZEL**

Ring of Hope Boxing Gym: Champions in Training

### KARP 001

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#### KLEMM FELLOWS

**MODERATOR: MARK DALLAS**

**3:30 P.M. | ROSWALD MORALES**

The Marvelous Moroccan Experience

**3:50 P.M. | KRITIKA AMANJEE**

Three-Week Guadalajaraña

**4:10 P.M. | ZIBUSISO DHLAMINI**

Experiential Learning through Cross Cultural Immersion: Lessons from a Winter Break in the Galapagos Islands

**4:30 P.M. | ANABEL REYES-OVALLES**

My Klemm Fellowship Experience: "The Land of the Blue Sky" Mongolia

**4:50 P.M. | AUBREY GRIFFIN**

Obrunis and Tro-Tros: The Adventures and Understandings of a Public Health Project in Accra

### LIPPMAN 201

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#### LATIN AMERICA AND CARIBBEAN CULTURES IN CONTEXT

**MODERATOR: JENNIFER MATSUE**

**3:30 P.M. | EMILY SULLIVAN**

Evo Morales and the Rise of Indigenous Peoples in Bolivia

**3:50 P.M. | QUISQUEYA WITBECK**

Through the Kaleidoscope: Reimagining Cuba in the American Mind



# SESSION V

3:30 – 5:10 P.M. // CONCURRENT ORAL PRESENTATIONS

## KARP 004

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### MATHEMATICS II

**MODERATOR: JEFFREY JAUREGUI**

**3:30 P.M. | HARRY HAUSNER**

The Math and Physics Behind Relativity

**3:50 P.M. | TRISTAN JOHNSON**

Noether's Theorem: Symmetry and Conservation

**4:10 P.M. | SHIHUI XIA, HAICHENG LIN**

Prostate Detection in Ultrasound Images

**4:30 P.M. | ANDREA VAN RYZIN**

Investigating Extreme Temperatures

## LIPPMAN 017

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### PERSONALITY AND SOCIAL PSYCHOLOGY

**MODERATOR: LINDSAY MORTON**

**3:30 P.M. | JANINE CERUTTI**

The Effect of Posture on Class Participation

**3:50 P.M. | DARBY DIETRICH**

The Psychology of Romantic Relationships

**4:10 P.M. | HANNAH HALSTROM**

Made in America: The Effect Cognitive Load, Consumer Ethnocentrism and Country of Origin has on Consumer Purchasing Decisions

**4:30 P.M. | LAUREN CRUPNICK**

Exercise or Extra Fries: A Study of Physical Activity Motivation Levels as a Function of Gain and Loss Framing

**4:50 P.M. | ANNE REARDON**

Colorful Consumers

## LIPPMAN 101

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### POLITICAL SCIENCE V

**MODERATOR: BRADLEY HAYS**

**3:30 P.M. | HENRY SCHERCK**

Railroads, Public Policy and the Staggers Act: An Analysis of Regulatory Change in the 1970s

**3:50 P.M. | RYAN WHELPLEY**

Pay for Play: O'Bannon v. NCAA and Legal Change in Collegiate Sports

**4:10 P.M. | MELISSA RODRIGUEZ**

Voter Identification Laws: In the Name of Reform or Suppression?

**4:30 P.M. | ANDREW FELLOWS**

The Presidential Blueprint

**4:50 P.M. | JOSEPH FIORILE**

International Climate Negotiations

## KARP 008

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### WWII AND ITS AFTERMATH

**MODERATOR: JOYCE MADANCY**

**3:30 P.M. | MATTHEW KAYE**

Propaganda to Prowess: The Transformation of the 100th Infantry Battalion and 442nd Regimental Combat Team During the Second World War

**3:50 P.M. | MAX LUTZE**

The Nazi Rocket, Jet and Nuclear Programs

**4:10 P.M. | MAYUR PATEL**

A Historiography of Judge Radhabinod Pal's Dissenting Opinion on the International Military Tribunal for the Far East

**4:30 P.M. | GORDON DUNCAN**

Reforming Japan: Measuring the Success of the Allied Occupation's Economic, Educational and Constitutional Reforms, in Light of Cold War Pressures

**4:50 P.M. | RYAN MUTHER**

Computing the (Un)computable: A Computationally Augmented Perspective on the Yasukuni Shrine Controversy

# STEINMETZ DANCE PERFORMANCE

FRIDAY, MAY 6 // 4 P.M. // NOTT MEMORIAL

## ■ THE 2016 LOTHRIDGE FESTIVAL OF DANCE

Faculty Sponsor / Director of Dance: Miryam Moutillet

### FACULTY CHOREOGRAPHIES

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#### COCO CHANEL

**CHOREOGRAPHED BY MIRYAM MOUTILLET**

**MUSIC BY BALANESCU QUARTET**

Emily Alston, Jillian Callanan, Grace Kernohan, Laura Schad, Emily Smith and Maddison Stemple-Piatt

#### STEAM HEAT

**CHOREOGRAPHED BY MARCUS ROGERS**

**MUSIC BY CRISWELL, COLICOS AND FARDELL**

Brianna Caruccio, Giorgia Comeau, Jenna Little and Megan Wells

#### JAZZY SCIENCE

**CHOREOGRAPHED BY MARCUS ROGERS**

**MUSIC BY JAMES ZABIELA**

Emily Alston, Brianna Caruccio, Sydney Conner, Lily Herout, Jenna Little and Bianca Mielke

### STUDENT CHOREOGRAPHIES

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#### TILL I REACH YOU

**CHOREOGRAPHED BY BRIANNA CARUCCIO**

**MUSIC BY THE HEAD AND THE HEART**

Brianna Caruccio, Jillian Callanan, Giorgia Comeau, Allison Minchoff, Avery Novitch, Laura Schad and Ariella Yazdani

#### THE THREE STOOGES

**CHOREOGRAPHED BY JILLIAN CALLANAN**

**MUSIC BY BENNY GOODMAN**

Jillian Callanan, Kathryn McKean and Megan Wells

#### LIMIT(LESS)

**CHOREOGRAPHED BY AVERY NOVITCH**

**MUSIC BY METISSE**

Allison Minchoff, Avery Novitch and Maddison Stemple-Piatt

#### THE INFINITE

**CHOREOGRAPHED BY LAURA SCHAD**

**MUSIC BY SLEEPING AT LAST**

Jillian Callanan, Sydney Conner, Lily Herout, Allison Minchoff and Laura Schad

#### REAWAKENING

**CHOREOGRAPHED BY MEGAN WELLS**

**MUSIC BY PHILIP GLASS**

Sydney Connor, Lily Herout, Grace Kernohan, Bianca Mielke and Megan Wells

#### A LITTLE UNSTEADY

**CHOREOGRAPHED BY ARIELLA YAZDANI**

**MUSIC BY X AMBASSADORS**

Brianna Caruccio, Lily Herout and Ariella Yazdani

### STUDENT DANCE CLUBS

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#### BALLROOM

**CHOREOGRAPHED BY AMBER WOERNER**

**MUSIC BY: RICKY MARTIN**

William Brown, Joshua Chin, Alexander Chu, Kyle Miller, Joni-Rae Partridge, Emily Pastore, Sharifa Sahai, Aileen Shaughnessy, Kevin Trigo and Marisa VanBrakle

#### BHANGRA UNION

**CHOREOGRAPHED BY MEGHANA DAMARAJU, KATHRYN EVANS, SHIVANGI MEHTA, AKSHITA SINGH AND MALIHA VALLIANI**

**MUSIC BY: MISS POOJA, TEAMPBN AND BUPS SAGGU**

Mahrugh Badar, Nuzhat Chowdhury, Meghana Damaraju, Kathryn Evans, Danielle Gregg, Metri Kumar, Shivangi Mehta, Dhruv Patel, Alan Perrotti, Sapan Shah, Akshita Singh and Maliha Valliani



# STEINMETZ DANCE PERFORMANCE

FRIDAY, MAY 6 // 4 P.M. // NOTT MEMORIAL

## HIP-HOP CLUB AND STEP TEAM

**CHOREOGRAPHED BY BRENDAN COLEMAN,  
GIROGIA COMEAU, KELLY IJANG AND EMILY LEWIS**

Leaders: Kelly Ijang and Emily Lewis

**MUSIC BY YELLOW CLAW, LIL DICKEY AND BEYONCE**

Cyrain Anderson, Deibel Bennett, Hayley Bennett, Shyan Brown, Giovana Coelho, Brendan Coleman, Gioriga Comeau, Christie Dionisos, Krystal Edwards, Haley Erksine, Jessica Hey, Kelly Ijang, Emily Lewis, Rosiane Lima, Zhenyan Linang, Saragrace Magre, Mayte Martinez, Avery Novitch, Darlene Pedines, Elena Pettiford, Anthony Pham, Sophia Powell, J'Kela Smith, Maddison Stemple-Piatt, Florain Walcot-Taylor, Meredith Westover, Shanice Wilson, Oumou Zakaria, Angela Zhang and Helen Zhao

## QUEENS OF THE DANCEHALL

**CHOREOGRAPHED BY SOPHIA POWELL**

**MUSIC BY: CHAKA DEMUS AND PLIERS, KONSHENS,  
SEAN PAUL AND ELEPHANT MAN**

Taylor Allen, Cyrain Anderson, Brendan Coleman, Krystal Edwards, Beryl Isiji, Emily Lewis, Mayte Martinez, Kiana Miller, Venesha Morris, Darlene Pedines, Elena Pettiford, Sophia Powell, J'Kela Smith and Oumou Zakaria

## TERRA DANCE COMPANY

**CHOREOGRAPHED BY EMILY SU**

Marian Chee, Danielle Gregg, Xi Xi Hu, Brenda Lin, Ly Nguyen, Elena Pettiford and Emily Su

## U-BREAK

**CHOREOGRAPHED BY SHINELL MANWARING AND  
DARLENE PEDINES (PRESIDENT)**

**MUSIC BY DR. DRE AND TROYBOI**

Jessica Gilbert, Yixin He, Shinell Manwaring, Justice Park, Darlene Pedines, Elena Pettiford

## UNION DANCE TEAM

**CAPTAINS & CHOREOGRAPHERS:  
JILLIAN CALLANAN AND ELLA FERTITTA**

**MUSIC BY EMELI SANDE AND WILL I AM**

Kathryn Bangser, Jillian Callanan, Carly Cherches, Sydney Conner, Ella Fertitta, Julia Greene, Grace Kernohan, Allison Minchoff, Laura Schad, Allison Smith, J'Kela Smith and Maddison Stemple-Piatt

## FOR THIS PERFORMANCE, WE WOULD LIKE TO THANK:

**William E. (Class of 1879) and  
Anna S. Lothridge Fund**

**Charles D. Lothridge'44/  
Edward Villella Fellowship**

**Joan Gould Scholarships**

**Marcus Rogers**  
Assistant Director of the Dance Program

**Robert Bovard**  
Technical Director

**Brittney Belz**  
Theater and Dance Costume Designer Coordinator

**Andy Iorio**  
Musical Director-Audio Editor

**Ryota Matsue**  
Photographer-Filmmaker

**Kathie Herrington and Linda Goodman**  
Arts Administrators

# STEINMETZ CONCERT 2016

FRIDAY, MAY 6 // 8 P.M. // MEMORIAL CHAPEL

Directed by: John K. Cox

## PROGRAM

### "BERCUSE AND FINALE" FROM THE FIREBIRD

Igor Stravinsky (1882-1971)

### SYMPHONY IN C MAJOR

Georges Bizet (1838-75)

- I. Allegro Vivo
- II. Andante/Adagio

### I SAW THE SUMMER DIE

Marcella Li '17

### BRUSHSTROKES

Elyse Clark '18

### SYMPHONY IN C MAJOR

Georges Bizet (1838-75)

- III. Allegro vivace
- IV. Finale. Allegro vivace

### REQUIEM

ORIGINALLY FOR ORGAN, CHOIR,  
AND VIOLA SOLO.

Giacomo Puccini (1858-1924)

Arr. Prof. Cox

### "HUMMING CHORUS" FROM MADAME BUTTERFLY

Giacomo Puccini (1858-1924)

Francis Kailey, *Student assistant*

\*DENOTES PRINCIPAL

## UNION COLLEGE AND COMMUNITY ORCHESTRA

### VIOLIN I

Heather Chan\*  
Gabby Beauregard  
Carol Blom  
Bob Brannon  
Barbara Brothers  
Jennifer Cornell  
Christie Dionisos  
Francis Kailey '18  
Teresa Norton  
Ann K. Seidman  
Virginia Traver  
David Wilkinson

### VIOLIN II

Dalia Haden '19\*  
Dana Donati '16  
Tiyana Epperson  
Bijan Moore  
Beth Putnam  
Pam Rice '19  
Cheryl Szczepkowski  
Han Xu  
Janet Wieck

### VIOLA

Peter Rasmussen '17\*  
Karl Brosch  
Amy Clogdo  
Louise Dickinson  
Peggy Gerardi  
Ben Lucas '18  
Edith Kliman  
Andy Park

### CELLO

Luke Dyer '18\*  
Karen Brooks  
Angie DeDona

### BASS

Andrew Tysoe '16\*  
Jere Dineen

### FLUTE

Virali Shah '19  
Abby Lehner '18  
Maddie VanDorpe '18

### OBOE

Sherwood Wise

### CLARINET

Kathryn Brannon  
Natalia Ciesielska '17  
Emily Jannery, '17  
Elise Farrington '16

### BASSOON

Jenni Fullam  
Ralph Thomas

### HORN

Gus Birkhead  
Chris Bendix '19  
Josef Schmee  
Charlie Thompson

### TRUMPET

Nick Meixsell '19  
Dan Wajda '18

### TROMBONE

Stephen Hoeprich '16

### HARP

Karlinda Caldicott

## UNION COLLEGE CHORALE

### SOPRANO

Elise Clark  
Marcella Li  
Avery Novitch  
Katie Riter  
Nurisha Rodriguez  
Yareli Rodriguez  
Alexandra Steed

### ALTO

Cassie Call  
Marianthe Corradino  
Kyra Detone  
Sarah Klem  
Anna Ko  
Rachael Powers  
Pamela Rice  
Lily Steinberg  
Erin Wade

### TENOR

Matthew Cole  
Naoya Enomoto  
Ryan Muther  
George Scherck  
Michael Warrenner

### BASS

Dylan Baxter-King  
William Garner  
Matthew Hacker  
Stephen Hoeprich  
Kyle Miller





# MUSIC

SATURDAY, MAY 7 // 2 P.M. // FRED L. EMERSON FOUNDATION AUDITORIUM, TAYLOR MUSIC CENTER

Directed by: Timothy Olsen

## ■ UNION COLLEGE JAZZ ENSEMBLE

### FLUTE

Ben Megathlin '17

### SAXOPHONE

Patrick Cowden '17  
Lauren Elder '19  
Jonathan Fields '18  
Shaune LeFebvre '18  
Kyle Miller '18  
Nate Sears '18  
Anthony Yang Xu '19

### TRUMPET

Jared Diou-Cass '18  
Sonja Hansson '18  
Nick Meixsell '19

### TROMBONE

Stephen Hoeprich '16  
Scott Koszer '19  
Kevin Trigo '19

### VIOLA

Colby Richardson '18

### PIANO

Max Caplan '16  
Lynn Guo '19

### GUITAR

Kabir Chabra '18  
Ari Weinstein '16

### BASS

Ethan Watson '18

### DRUMSET/PERCUSSION

Wm. Walker Barnes '16  
Ian Mowers '16  
Varun Shah '18  
Anat Tewari '19

### VOCALS

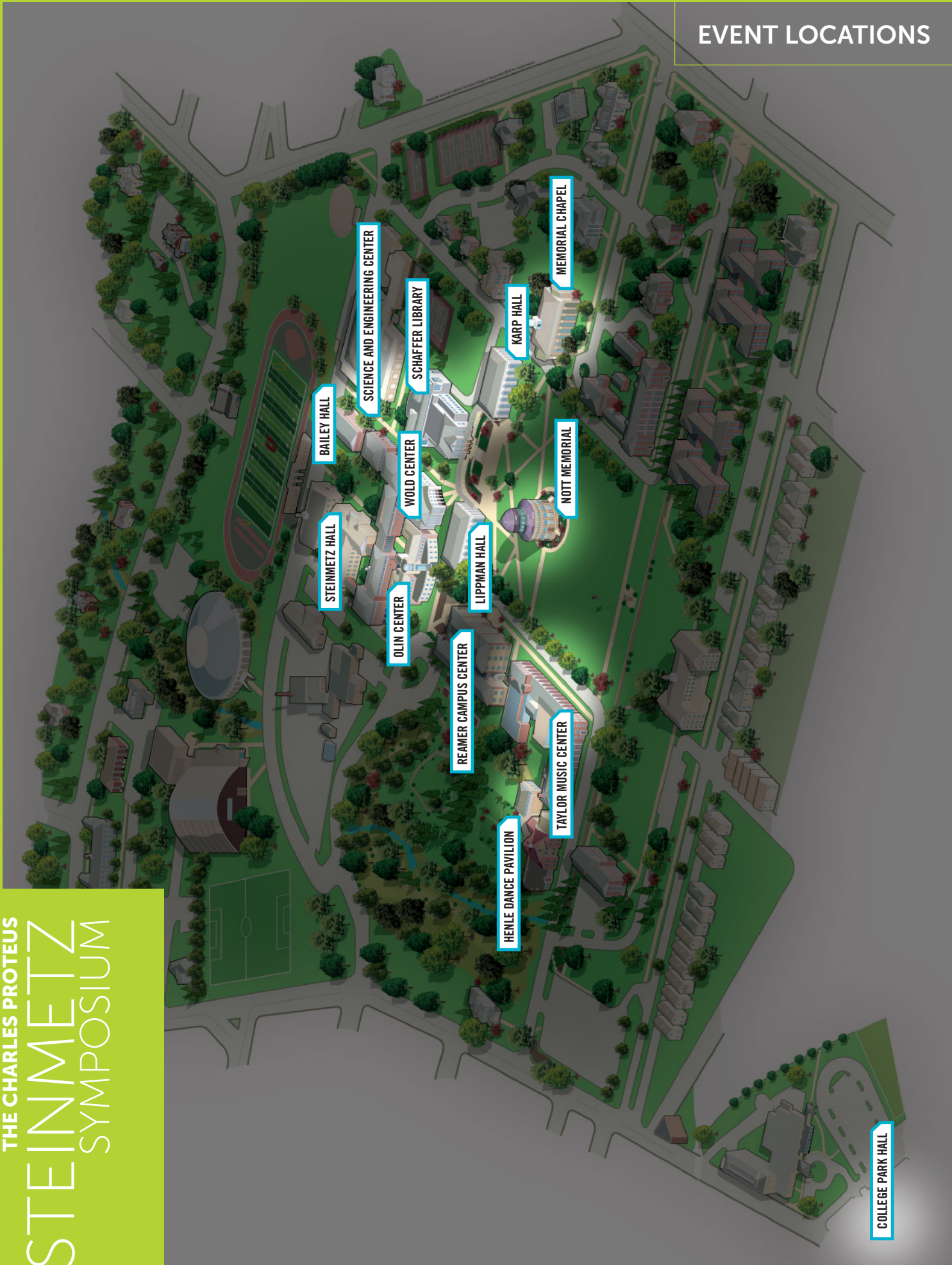
Kyle Miller '18





THE CHARLES PROTEUS  
STEINMETZ  
SYMPOSIUM

EVENT LOCATIONS



COLLEGE PARK HALL



UNION  
COLLEGE  
FOUNDED 1795