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.

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.
FRIDAY, MAY 6: STEINMETZ SYMPOSIUM

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.

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.

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.

8 P.M.
- THE UNION COLLEGE AND COMMUNITY ORCHESTRA AND CHORALE
  MEMORIAL CHAPEL

SATURDAY, MAY 7: PRIZE DAY

11 A.M. – NOON
- PRESENTATION OF PRIZES AND RECOGNITION // MEMORIAL CHAPEL

IMMEDIATELY FOLLOWING
- PRIZE DAY RECEPTION // REAMER CAMPUS CENTER PATIO

2 P.M.
- JAZZ ENSEMBLE // EMERSON AUDITORIUM, TAYLOR MUSIC CENTER
STEINMETZ SYMPOSIUM 2016

Friday, May 6

**ALL DAY**
Art Exhibits

**SESSION I**
9 A.M. – 10:20 A.M.
Oral Presentations

**SESSION II**
10:30 A.M. – 12:10 P.M.
Oral Presentations

**SESSION III**
12:20 P.M. – 1:50 P.M.
Poster Presentations
Engineering Project Display
Minerva Fellows

**SESSION IV**
2 P.M. – 3:20 P.M.
Oral Presentations

**SESSION V**
3:30 P.M. – 5:10 P.M.
Oral Presentations

**STEINMETZ DANCE PERFORMANCE**
4 P.M.

**STEINMETZ CONCERT**
8 P.M.

Saturday, May 7

**UNION COLLEGE JAZZ ENSEMBLE**
SATURDAY AT 2 P.M.
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
Vladamir 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 Tesano
Ashley Tolento
Gina Whalen
Bowei “Alvin” Xu

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

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

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

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.

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SESSION I

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

LIPPMAN 101

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. | JANET BROWN
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

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

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

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

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

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

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

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

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**

**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**

**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**

**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**

**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**

**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

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

KARP 004

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

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

BAILEY 312

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
SESSION I

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

SCIENCE AND ENGINEERING N304

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

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

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

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

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**

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**

AFRICANA STUDIES  
**MODERATOR:** DEIDRE HILL BUTLER

**10:30 A.M. | KIANA MILLER**
A Lineage of Black Feminist Art: Spoken Word Poetry and Paintings

**WOLD 225**

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

**LIPPMAN 101**

CHINA AND ASIA “GO GLOBAL”: CRISSES, 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**

**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. | 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

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

KARP 001

HISTORY I
MODERATOR: ANDREA FOROUGHI

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

OLIN 306

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

SCIENCE AND ENGINEERING N205

MECHANICAL ENGINEERING II
MODERATOR: DAVID HODGSON

10:30 A.M. | CODY BELLAIR
Design of a Low-Cost Quadruped 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**

**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

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**

**MUSIC**

**MODERATOR: DIANNE MCMULLEN**

10:30 A.M. | ELYSE CLARK
An Analysis and Performance of J.S. Bach’s “Jesu, Lass Dich Finden” from Mein Liebster Jesus ist Verloren

**BAILEY 312**

**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**

**PHILOSOPHY**

**MODERATOR: KATHERINE TULLMANN**

10:30 A.M. | ELIZABETH MURAD
Love Shouldn’t Hurt: Akrasia as an Explanation for Domestic Violence

11:10 A.M. | SAMANTHA WILLIAMS
African-American Iatrophobia

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**

**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

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

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

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

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

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

“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

THE WONDERS OF TREATALOSE
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

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

JOSHA 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 '13C

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

FREDDERO 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 Pr2Tre, 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 Metallodrugs

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

12:20 P.M. – 1:50 P.M. || POSTER PRESENTATIONS || LALLY READING ROOM, SCHAFFER 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 Provaccination and Anti-Vaccination Arguments on Social Media
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

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

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 Atstrin Protect Against Titanium-Induced Inflammatory Osteolysis by Targeting TNF Signaling

BAILEY 100

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

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

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

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

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

"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

UNION COLLEGE | 21
SESSION IV

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

OLIN 306
GEOLGY III—ASSESSMENT OF LAND USE AND CLIMATE CHANGE THROUGH LAKE CORE ANALYSIS
MODERATOR: DAVE GILLIKIN

2 P.M. | CAITLIN MCLEANMON
The Effect of Land Use Change on Stable Isotope (d13C and d15N) 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 101
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
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
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

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

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

PHYSICS III
MODERATOR: SAMUEL AMAUEL
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 GISLO
Heat of Combustion of Gasoline Confined in Nanopores

LIPPMAN 012

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

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

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

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

VISUAL ARTS II
MODERATOR: LORRAINE COX

2 P.M. | KYRA DETONE

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
ANTHROPOLOGY III
MODERATOR: KAREN BRISON

3:30 P.M. | LAURA SCHAFER, 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 MWURA
You Are What You Eat: Food, Memory and Identity in the Diaspora

KARP 005
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 13C in Bryophyte Soluble Sugars as an Indicator of Water Availability

KARP 200
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

LIPPMAN 014
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. | CAI LIN 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
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 001
KLEMM FELLOWS
MODERATOR: MARK DALLAS
3:30 P.M. | ROSWALD MORALES
The Marvelous Moroccan Experience
3:50 P.M. | KRITIKA AMANJEE
Three-Week Guadalajareña
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-VALLES
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

KARP 105
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

LIPPMAN 201
LATIN AMERICA AND CARIBBEAN CULTURES IN CONTEXT
MODERATOR: JENNIFER MATSU
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

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 101

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

LIPPMAN 017

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

KARP 008

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

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

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

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, TEAMBPB AND BUPS SAGGU
Mahrukh 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, Halej Erkise, 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 EMEI 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)

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
   Dalí Haden ’19*
   Dana Donati ’16
   Tiyana Epperson
   Bijan Moore
   Beth Putnam
   Pam Rice ’19
   Cheryl Szczepkowsk
   Han Xu
   Janet Wieck

VIOLA
   Peter Rasmussen ’17*
   Karl Brosch
   Amy Clogdo
   Louise Dickinso
   Peggy Gerardi
   Ben Lucas ’18
   Edith Kliman
   Andy Park

CELLO
   Luke Dyer ’18*
   Karen Brooks
   Angie DeDonna

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

* Denotes Principal
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

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

TROMBONE
Stephen Hoeprich ‘16
Scott Koszer ‘19
Kevin Trigo ‘19

VOCALS
Kyle Miller ‘18
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.

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.