Fourteenth Annual
Undergraduate Research and Creative Achievement Day
April 28, 2010
**Theatre and Music**

**Fine Arts Recital Hall**

Moderator: Greggory Schraven, Theatre

**9:30 – 9:50 a.m.** Sarah Paquette
“Back to Bach: A Historically Informed Interpretation of a Gavotte”
Professor Airi Yoshioka, Mentor

**9:50 – 10:10 a.m.** Ellen Line
“Getting over Tom”
Professor Lynn Watson, Mentor

**10:10 – 10:40 a.m.** Jessica Baker
“Nuns and Sex”
Professor Alan Kreizenbeck, Mentor

**10:40 – 11 a.m.** Michal Levitas
“Learning the Essence of German Leider and Introducing it to the UMBC Community”
Professor David Smith, Mentor

**11 – 11:15 a.m.** Omar Said, Jessica Baker
“Edwin and his Associates”
Professor Alan Kreizenbeck, Mentor

**Bartleby**

**Fine Arts 107**

Moderator: Sally Shivnan, English

**10:15 – 11:45 a.m.** Kant Klingenstein, Jamyla Williams
“Bartleby 2010: Image Joins the Written Word in a Convergence of Creative Writing and Art”
Professor Sally Shivnan, Mentor
Professor Guenet Abraham, Mentor

**11:30 – 11:45 a.m.** Gallery Talk
Virtual Reality and Game Demonstrations

University Center, Room 115
10 a.m. – 3 p.m.

Moderators: Preminda Jacob, Visual Arts
May Chang, Library

Eve Addison
Stephen Steinbach
Robert Donahue
Mary Lewis
Nathaniel Wise

“Slug”
Professor David McDonald, Mentor

Visual Arts

Sara Allen

“The Art of Biology”
Professor Preminda Jacob, Mentor

Visual Arts

Benjamin Hong
Sarah Carney

“Virtual Museum: Glass: The Transparent Connection Between Art and Science”
Professor Preminda Jacob, Mentor

Visual Arts

Kenneth Miner

“Creative Teaching with Virtual Environments and Tools”
Ms. May Chang, Mentor

Computer Science

Franki L. Trout
Danielle Viens-Payne
Kelly-Lynne Russell

“Virtual Museum: Life as Dance”
Professor Preminda Jacob, Mentor

Visual Arts

Exhibit and Discussion

A.O.K. Library Rotunda

Moderator: Marilyn Goldberg, Ancient Studies

12 – 1 p.m.

Catherine Pasqualoni, Christina Ross, Katherine Bentz
“New Perspectives on Old Views”
Professor Richard Mason

Ancient Studies
Film, Animation 
and Oral Presentations

Fine Arts 221

Moderator: Cathy Cook, Visual Arts

1:30 – 1:45 p.m.  
Steven Logue  
“Heinrich Schliemann: Odyssey of the Mind”  
Professor Cathy Cook, Mentor  

1:45 – 2 p.m.  
Katie Dix  
Professor Nicole King, Mentor  
Professor Ed Orser, Mentor  

2 – 2:15 p.m.  
Cara Gibson  
“Diet Coke: America on a Diet”  
Professor Warren Belasco, Mentor  

2:30 – 2:45 p.m.  
Patrick Rife  
“The Cyclical Nature of Obsolescence”  
Professor Steve Bradley, Mentor  

2:45 – 3 p.m.  
Glen Fortner  
“Water and Ruins”  
Professor, Fred Worden, Mentor
## Oral Presentations

### University Center, Room 310

**Session I**  
**Moderator: Devin Hagerty, Political Science**

<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter</th>
<th>Topic</th>
<th>Mentor</th>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:15 – 9:30 a.m.</td>
<td>Sonia Siddiqui</td>
<td>“The Tunisian Paradox – the Exceptional Case of Stability in the Middle East and North African Region”</td>
<td>Professor Brigid Starkey, Mentor</td>
<td>Political Science</td>
</tr>
<tr>
<td>9:30 – 9:45 a.m.</td>
<td>Victory Mohamed</td>
<td>“The Rise of China and India: What do Possible New Superpowers Mean for the United States?”</td>
<td>Professor Devin Hagerty, Mentor</td>
<td>Political Science</td>
</tr>
<tr>
<td>9:45 – 10 a.m.</td>
<td>Gavin Way</td>
<td>“The Erosion of Control: The Effects of Duration of Conflict on a State’s Human Rights Policy”</td>
<td>Professor Brian Grodsky, Mentor</td>
<td>Political Science</td>
</tr>
<tr>
<td>10 – 10:15 a.m.</td>
<td>Gabrielle Wyatt</td>
<td>“Homeless Children and the Foreclosure Crisis: Implications of the McKinney-Vento Act”</td>
<td>Professor George La Noue, Mentor</td>
<td>Political Science</td>
</tr>
</tbody>
</table>

**Session II**  
**Moderator: Jeff Leips, Biological Sciences**

<table>
<thead>
<tr>
<th>Time</th>
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<th>Mentor</th>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15 – 10:30 a.m.</td>
<td>Rachana Haliyur</td>
<td>“Identifying the Role of Microglia in Sexual Differentiation of the Brain”</td>
<td>Professor Margaret McCarthy, Mentor</td>
<td>Biological Sciences</td>
</tr>
<tr>
<td>10:30 – 10:45 a.m.</td>
<td>Igor Shusterman</td>
<td>“Prefrontal Cortex Deficits in a Value-Based Odor-Discrimination Task in a Rat Model of Schizophrenia”</td>
<td>Professor Patricio O’Donnell, Mentor</td>
<td>Biochemistry and Molecular Biology</td>
</tr>
<tr>
<td>10:45 – 11 a.m.</td>
<td>Anupama Divakaruni</td>
<td>“Identifying Components of the AMPK Pathway in C. elegans”</td>
<td>Professor Kaveh Ashrafi, Mentor</td>
<td>Biological Sciences</td>
</tr>
</tbody>
</table>
Oral Presentations

11 – 11:15 a.m.  
Ruby Jackson-Atogi  
Biological Sciences  
“The Effect of Prior Experience on Host Foraging Behaviors of a Drosophila Parasitoid”  
Professor Jeff Leips, Mentor

11:15 – 11:30 a.m.  
Catherine Pasqualoni, Chrisinta Ross, Katherine Bentz  
Ancient Studies  
“New Perspectives on Old Views”  
Professor, Richard Mason

11:30 – 11:45 a.m.  
Megan Hardy  
History  
“Harlem at its Best: Popular Culture, Nightlife Venues and Emergence of a Queer Subculture during the Harlem Renaissance”  
Professor Michelle Scott, Mentor

11:45 a.m. – 12 p.m.  
Lauren Won  
Computer Science  
“Efficient Algorithms in Elliptic Curve Cryptography”  
Mr. Tim Hall, Mentor

Session III  
Moderator: Suzanne Ostrand-Rosenberg

1 – 1:15 p.m.  
Brian Cottrell, Jon Bollinger, Akanska Raja, Benjamin D’Alessio, Amy Tsai  
Chemical Engineering  
“Development and Optimization of an Iso-octene Production Scheme”  
Professor Maria Jose Castellanos, Mentor

1:15 – 1:30 p.m.  
Menal Modha  
Computer Science  
“Combinatorial Software Testing”  
Mr. Richard Kuhn, Mentor

1:30 – 1:45 p.m.  
Nathaniel Kim  
Chemistry  
“Extended Pyrimidine Nucleoside Analogues: Investigations into DNA Structure and Function”  
Professor Katherine L. Seley-Radtke, Mentor

1:45 – 2 p.m.  
Priyanka Bushana  
Biological Sciences  
“Small Molecule Inhibitor of Anti-apoptotic Proteins, ABT-737, in GBM Stem Cells”  
Professor Gary Gallia, Mentor  
Professor Avadhut Joshi, Mentor
Oral Presentations

2 – 2:15 p.m.  
Destiney Buelto  
“Identification of Brown Adipose Tissue in the Adult Mammary Gland of Brca1-mutant Mice”  
Professor Laundette Jones, Mentor  
Biochemistry and Molecular Biology

2:15 – 2:30 p.m.  
Sunaina Khandelwal  
“Gliadin is a Chemo-Attractant Factor for Neutrophils”  
Professor Alessio Fasano, Mentor  
Biochemistry and Molecular Biology

2:30 – 2:45 p.m.  
Lydia Grmai  
“Effect of Inflammation on Apoptosis in Myeloid-Derived Suppressor Cells (MDSC) in Breast Cancer”  
Professor Suzanne Ostrand-Rosenberg, Mentor  
Biological Sciences

Session IV  
Moderator: Shawn Bediako, Psychology

2:45 – 3 p.m.  
Rebecca Mullan  
“Conquering Visual Perceptions: An Exploration in Effective Media Literacy Strategies for Pre-Adolescents”  
Professor Diane Alonso, Mentor  
Psychology

3 – 3:15 p.m.  
Michael Jenkins  
“Racial Disparities in Hypertension Awareness and Management”  
Professor Andrea Kalfoglou, Mentor  
Professor Roland Thorpe, Mentor  
Professor Thomas LaVeist, Mentor  
Psychology

3:15 – 3:30 p.m.  
Areej Kuraishi  
“Adolescent Father’s Parenting: Effects of the Mother-Father and Mother-Grandmother Relationships”  
Professor Charissa Cheah, Mentor  
Psychology

3:30 – 3:45 p.m.  
Tahira Mahdi  
“Deconstructing the Nerd: Visual Acuity and Need for Cognition in Adults”  
Professor Shawn Bediako, Mentor  
Psychology
Oral Presentations

University Center, Room 312

Session I
Moderator: April Householder, Gender and Women’s Studies; McNair Scholars Program

9:15 – 9:30 a.m. Shane Parks  
“A Thematic Analysis of Stephen Schwartz’ Children of Eden”  
Professor Anna Rubin, Mentor  
Professor Susan McCully, Mentor

9:30 – 9:45 a.m. Abigail Granger, Jennifer Keeter  
“The Global Women’s Health Action: Putting Intersectionality into Practice”  
Professor Jodi Kelber-Kaye, Mentor

10 – 10:15 a.m. JoAnna Gavigan  
“Gender and Sexual Identity in the Pursuit of Asylum”  
Professor Carole McCann, Mentor

10:15 – 10:30 a.m. Sarah Solomon  
“No Development Without Girls: Gender, Development and Youth Activism in Mali”  
Professor Gloria Chuku, Mentor

Session II
Moderator: Ilsa Lottes, Sociology

10:30 – 10:45 a.m. Erick Gell  
“Variations in Perceptions of Sexual Misconduct by Gender”  
Professor Ilsa Lottes, Mentor

10:45 – 11 a.m. Scott Gautney  
“Cultural Effects on the Gay Male Lexicon”  
Professor Thomas Field, Mentor

11 – 11:15 a.m. Avery Brow  
“Gay Male Domestic Violence: A Quantitative Analysis”  
Professor Ilsa Lottes, Mentor
Oral Presentations

11:15 – 11:30 a.m. Danielle Viens-Payne
Modern Languages and Linguistics
“Crossing Boundaries: Foreign Language Learning for Learning-Disabled Students”
Professor Thomas Field, Mentor
Professor Ana Oskoz, Mentor

11:30 – 11:45 a.m. Vivian Ekey
Modern Languages and Linguistics
“Afro-Porteño Identity Today”
Professor Sara Poggio, Mentor

Session III
Moderator: Andrea Kalfoglou, Sociology

1:15 – 1:30 p.m. Alexandria Volkening
Mathematics
“A Mathematical Model of Vulnerable Plaque Growth and Rupture”
Professor Jonathan Bell, Mentor

1:30 – 1:45 p.m. Melissa Chapman
Psychology
“Ashkenazi Young Adults’ Knowledge, Attitudes, and Beliefs about Carrier Testing”
Professor Andrea Kalfoglou, Mentor

1:45 – 2 p.m. Richard Blissett
Sociology and Anthropology
“The Business of Marketing Preimplantation Genetic Screening”
Professor Andrea Kalfoglou, Mentor

2 – 2:15 p.m. Christa Kizito
Political Science
“Women’s Representation in sub-Saharan Africa”
Professor Carolyn Forestiere, Mentor

2:15 – 2:30 p.m. Susan Wilmes
English
“Lemony Snicket as a Gateway to Children’s Holocaust Literature”
Professor Michele Osherow, Mentor
Session IV
Moderator: Joseph Morin, Music

2:30 – 2:45 p.m.  Allison Isberg  Interdisciplinary Studies
“Translating a Medieval Will for Modern Readers”
Professor Gail Orgelfinger, Mentor

2:45 – 3 p.m.  Meghan Sommers  Music
“Medieval and Renaissance Shawms: An Exploration of Embouchure”
Professor Joseph Morin, Mentor

3 – 3:15 p.m.  Elizabeth Scott  Visual Arts
“The Effect of Nationalism on Czech Design”
Professor Joseph Coates, Mentor

3:15 – 3:30 p.m.  Brandon Cottom  Environmental Science
“Driving Forces Behind Himalayan Glacial Melt”
Professor Ali Tokay, Mentor
Dr. Eric Wilcox, Mentor

3:30 – 3:45 p.m.  Rebecca Reeves  Environmental Science
“Spatial Dynamics of the Eastern Mud Turtle Kinosternon subrubrum in a Freshwater Tidal Marsh”
Professor Christopher Swan, Mentor
# Poster Presentations

**University Center, Second Floor**  
**10 a.m. – 12:30 p.m.**

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Title</th>
<th>Mentor</th>
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<tbody>
<tr>
<td>Shellon George</td>
<td>Health Administration and Policy</td>
<td>“Promoting Healthy Eating Among Children”</td>
<td>Professor Andrea Kalfoglou, Mentor</td>
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<tr>
<td>Stephanie Gitukui</td>
<td>Political Science</td>
<td>“An Analysis of Ethnic Identity in the 2007 Kenyan General Election”</td>
<td>Professor Tyson King-Meadows, Mentor</td>
</tr>
<tr>
<td>Phillip-Alexander Downie</td>
<td>Sociology and Anthropology</td>
<td>Port Discovery Exhibit: Promoting Sun Safety Among Today's Youth</td>
<td>Professor Andrea Kalfoglou, Mentor</td>
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<tr>
<td>Betty Irungu</td>
<td>Political Science</td>
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<tr>
<td>Areej Kuraishi</td>
<td>Sociology and Anthropology</td>
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<tr>
<td>Mary Kearns</td>
<td>Computer Science</td>
<td>“Brink of Reality: A Power Defense Game”</td>
<td>Professor Neal McDonald</td>
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<td>Philips Khuu</td>
<td>English</td>
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<td>Thy Ma</td>
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<td>Jonathan Merkle</td>
<td>English</td>
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<td>Matthew Song</td>
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<tr>
<td>Kevin Kemp</td>
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<tr>
<td>Justin Wall</td>
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<tr>
<td>Stephanie Tkaczyk</td>
<td>English</td>
<td>“Comparing Cognitive Writing Processes in the International Community”</td>
<td>Professor Lucille McCarthy, Mentor</td>
</tr>
<tr>
<td>Sana Waheed</td>
<td>Health Administration and Policy</td>
<td>“Should I Take my Meds or Not? : Pregnant Women’s Decision Making About the Use of Antidepressant Drugs”</td>
<td>Professor Andrea Kalfoglou, Mentor</td>
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<tr>
<td>Gillian Yeadon</td>
<td>Political Science</td>
<td>“Why Ethnic Diversity Matters and its Impact on Universal Health Care in the United States”</td>
<td>Professor Carolyn Forestiere, Mentor</td>
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<tr>
<td>Name</td>
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<tr>
<td>Maria Beckford</td>
<td>Sociology and Anthropology</td>
<td>“Low-Income Women’s Perceptions of the Quality of Their Infant Care: Supports and Barriers”</td>
<td>S12</td>
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<tr>
<td>Professor Ilsa Lottes, Mentor</td>
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<tr>
<td>Jarrett Farmer</td>
<td>Ancient Studies</td>
<td>“The Megaron at Pylos: A New Interpretation”</td>
<td>S7</td>
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<td>Professor Michael Lane, Mentor</td>
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<tr>
<td>Desiree Johnson</td>
<td>Health Administration and Policy</td>
<td>“Hand Washing for Children”</td>
<td>S8</td>
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<tr>
<td>Professor Andrea Kalfoglou, Mentor</td>
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<tr>
<td>Elizabeth Lynch</td>
<td>Modern Languages and Linguistics</td>
<td>“The Challenged Identities of Speakers of World Englishes: Identity Validation as a Strategy to Encourage Bidialectalism”</td>
<td>S9</td>
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<td>Professor Mary Hickernell, Mentor</td>
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<tr>
<td>Catherine Pasqualoni</td>
<td>Ancient Studies</td>
<td>“New Perspectives on Old Views”</td>
<td>S10</td>
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<tr>
<td>Professor, Richard Mason</td>
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<tr>
<td>Chrisinta Ross</td>
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<td>Katherine Bentz</td>
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<tr>
<td>David Pourshoushtari</td>
<td>Political Science</td>
<td>“Justice Sotomayor and the Legitimacy of the Supreme Court”</td>
<td>S11</td>
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<td>Professor Tyson King-Meadows, Mentor</td>
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Poster Presentations

University Center, Ballroom
10 a.m. – 3 p.m.

Timothy Bubb  Visual Arts  Poster # 135
Maxwell Hathaway  “UMBC IRC Fellows iPhone Strategy Game”
Rachel Kreutzinger  Professor Neal McDonald, Mentor
Alex Ehrensberger
Jenna Ullrich
Bradley Tinney
Abby Salvo
Shane Logue
Elena Debold

Chris Cromwell  Visual Arts  Poster # 2
“Titan Climber”
Professor Neal McDonald, Mentor

Christopher Ferguson  Biological Sciences  Poster # 112
Michael Topper  “Genome Wide Association Tests for Age-Specific
Arunkumar Junuthula  Immunocompetence in Drosophila”
Sameen Raza  Professor Jeff Leips, Mentor
Won Woo

Lauren Long  Psychology  Poster # 29
“Effects of Exposing Rats to Types of Radiations
Encountered in Space on Cognitive Performance”
Professor Bernard Rabin, Mentor

John Perry  Visual Arts  Poster # 3
Alex Ehrensberger  “Dead Fall”
Eric Wasser  Professor Neal McDonald, Mentor

Juan Carlos Rivera  Visual Arts  Poster # 4
Derek Ragos  “Akisakio”
Teresa Oswald  Professor Neal McDonald, Mentor
John Cservek

UMBC Game Developer’s Club  Computer Science  Poster # 1
“Video Game Development”
Professor Neal McDonald, Mentor
## Poster Presentations

### University Center, Ballroom

**10 a.m. – 12:30 p.m.**

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<th>Department</th>
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<tbody>
<tr>
<td>Shawn Barton</td>
<td>Biochemistry and Molecular Biology</td>
<td>“Confirmation of a Long-Range Interaction in HIV-1 5’-UTR and its Effect on Dimerization”</td>
<td>Professor Michael Summers, Mentor</td>
</tr>
<tr>
<td>Maria Bednarek</td>
<td>Biochemistry and Molecular Biology</td>
<td>“Optimization of Drug Nanocarriers via the Construction of a Stealth Dendron”</td>
<td>Professor Marie-Christine Daniel, Mentor</td>
</tr>
<tr>
<td>Mikhael Bekkerman</td>
<td>Biological Sciences</td>
<td>“Developmental Occurrence of Solitary Chemosensory Cells in the Airway of Mice”</td>
<td>Professor Weihong Lin, Mentor</td>
</tr>
<tr>
<td>Ashleigh Bouchelion</td>
<td>Biological Sciences</td>
<td>“Implication of Ribosomal Protein on Tubulin Formation”</td>
<td>Professor Lasse Lindahl, Mentor</td>
</tr>
<tr>
<td>Abigail Bratcher</td>
<td>History</td>
<td>“Reclaiming Maryland: Confederate Nationalism in Popular Print Culture”</td>
<td>Professor Anne Rubin, Mentor</td>
</tr>
<tr>
<td>Richard Brown</td>
<td>Biochemistry and Molecular Biology</td>
<td>“Polymers for Long-Range Photoinduced Proton Transfer”</td>
<td>Professor Paul Smith, Mentor</td>
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<tr>
<td>Stephanie Chan</td>
<td>Biological Sciences</td>
<td>“Effects of Zinc Sulfate Intranasal Irrigation on Semiochemical Detection in Mice”</td>
<td>Professor Weihong Lin, Mentor</td>
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<td>Asante Hatcher</td>
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<tr>
<td>David Chen</td>
<td>Psychology</td>
<td>“Beyond the Sophistication of Advanced Statistical Procedures in Psychology”</td>
<td>Professor Anne Brodsky, Mentor</td>
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## Poster Presentations

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<tbody>
<tr>
<td>Danielle Chestang</td>
<td>Management of Aging Services</td>
<td>“Impact of Images in Advertisements on Older Adults”</td>
<td>Professor Judah Ronch</td>
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<tr>
<td>Geoffrey Clapp</td>
<td>Mathematics</td>
<td>“Modeling Sensory Input to the Lamprey Spinal Cord”</td>
<td>Professor Kathleen Hoffman</td>
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</tr>
<tr>
<td>George Cutsail III</td>
<td>Chemistry</td>
<td>“Copper Amyloid-beta Complex in Alzheimer’s Disease”</td>
<td>Professor Veronika Szalai</td>
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<tr>
<td>Kimberly Daniels</td>
<td>Biological Sciences</td>
<td>“The Role of Interferon Gamma on the Induction and</td>
<td>Professor Suzanne Ostrand-Rosenberg</td>
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<td>Suppressive Activity of Myeloid-Derived Suppressor Cells”</td>
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<td>Sai Sachin Divakaruni</td>
<td>Biochemistry and Molecular Biology</td>
<td>“HIV-1 Packaging is Regulated by Long-Range Interaction between the U5</td>
<td>Professor Michael Summers</td>
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<td>and AUG Regions and its Effect on NC Binding Sites”</td>
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<tr>
<td>Han Dong</td>
<td>Computer Science</td>
<td>“Computer Visualization of Optical Network Behavior”</td>
<td>Professor Yung-Jui (Ray) Chen</td>
<td>118</td>
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<tr>
<td>Jenny Donoghue</td>
<td>Chemical Engineering</td>
<td>“Production of Styrene from the Dehydrogenation of Ethylbenzene”</td>
<td>Professor Marialose Castellanos</td>
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<td>Kirbi Hawkins</td>
<td>Chemical Engineering</td>
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<td>Jerry Flynn</td>
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<td>Michael Boone-Felder</td>
<td>Chemical Engineering</td>
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<td>Robert Henderson</td>
<td>Mechanical Engineering</td>
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<tr>
<td>Rohan Durbal</td>
<td>Chemical Engineering</td>
<td>“Influence of Adhesive Ligand on Mechanical Properties of Polyethylene</td>
<td>Professor Jennie Leach</td>
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<td>glycol Hydrogels”</td>
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<tr>
<td>Timi Fadiran</td>
<td>Mechanical Engineering</td>
<td>“Characterizing Fracture Force of Hyoid Bone: Investigation of</td>
<td>Professor Timmie Topoleski</td>
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<td>Suicides and Homicides”</td>
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# Poster Presentations

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Title</th>
<th>Mentor</th>
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</thead>
<tbody>
<tr>
<td>Phillip Fitzgerald</td>
<td>Biochemistry and Molecular Biology</td>
<td>“Inflammation Induces Myeloid-Derived Suppressor Cells in the C57BL/6 Mouse Model”</td>
<td>Professor Suzanne Ostrand-Rosenberg, Mentor</td>
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<tr>
<td>Joshua Francois</td>
<td>Mechanical Engineering</td>
<td>“Computational Modeling of Atomic Force Microscopy Tip Loading and Unloading on a Biological Cell”</td>
<td>Professor Chalres Eggleton, Mentor</td>
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<tr>
<td>Wendy Gaultney</td>
<td>Psychology</td>
<td>“A Review of Educational Materials for Parents of Food Allergic Children”</td>
<td>Professor Lynnda Dahlquist, Mentor</td>
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<tr>
<td>Kimeya Ghaderi</td>
<td>Biochemistry and Molecular Biology</td>
<td>“Development of an Isolation Protocol for in vivo Transcription and Recovery of RNA”</td>
<td>Professor Daniele Fabris, Mentor</td>
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<tr>
<td>Lauren Hall</td>
<td>Psychology</td>
<td>“Peer Interactions and Social Competence of Young Food-Allergic Children”</td>
<td>Professor Lynnda Dahlquist, Mentor</td>
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<tr>
<td>Gregory Handy</td>
<td>Mathematics</td>
<td>“Extending the IP3 Receptor Model to Include Competition with Partial Agonists”</td>
<td>Professor Bradford Peercy, Mentor</td>
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<td>John Haser</td>
<td>Chemical Engineering</td>
<td>“Iso-octene Production through MTBE Decomposition and Isobutene Dimerization”</td>
<td>Professor Mariajose Castellanos, Mentor</td>
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<td>Zach Vonder Haar</td>
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<td>Neil Agarwal</td>
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<td>Colin Kelly</td>
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<td>Kevin Poff</td>
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<tr>
<td>Wayne Heavener</td>
<td>Political Science</td>
<td>“Consensus and Legitimacy in Supreme Court Opinions”</td>
<td>Professor Jeffrey Davis, Mentor</td>
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</table>
Poster Presentations

Jessandra Hough  
**Mechanical Engineering**  
“Temperature Elevation in Extracted Teeth Induced by a System B Heating Catheter”  
Professor Liang Zhu, Mentor  
Poster # 104

Cameron Johnson  
**Chemistry**  
“Design and Synthesis of Unnatural DNAContaining Expanded Purine Analogues”  
Professor Katherine Seley-Radtke, Mentor  
Poster # 17

Phillip Kang  
**Chemical Engineering**  
“The Development of a Biological Antioxident Capacity Assay Using Green Fluorescent *E. coli*”  
Professor Leah Tolosa, Mentor  
Poster # 26

Gowry Kulandaivel  
**Biochemistry and Molecular Biology**  
“Investigating the HIV-1 5'-UTR Structure via Nuclear Magnetic Resonance”  
Professor Michael Summers, Mentor  
Poster # 67

David Mason  
**Physics**  
“Simulation Software for the Chromatic Mineral Identification and Surface Texture (CMIST) Instrument”  
Dr. Zaven Arzoumanian, Mentor  
Dr. Keith Gendreau, Mentor  
Poster # 5

Katherine Melocik  
**Environmental Science**  
“Archival and Analysis of Sea Ice Thickness in the Arctic Ocean Based on On-Ice in Situ Historical Measurements”  
Professor Eugene Parker, Mentor  
Poster # 24

Dominique Monteil  
**Chemical Engineering**  
“Design of an Ethylbenzene Production Scheme of a Styrene Chemical Plant by Innobox Engineering, Inc.”  
Professor Maria Jose Castellanos, Mentor  
Poster # 94

Phil Cutler  
Rohan Durbal  
Imhotep Jackson  
Hanna Worku  
Hannah Wilson

Olivia Nwankwo  
**Biochemistry and Molecular Biology**  
“Integration of GFP into the Chromosome of *E. coli* Bacteria”  
Professor Michael Donnenberg, Mentor  
Poster # 113
# Poster Presentations

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<tr>
<th>Name</th>
<th>Department</th>
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<th>Mentor</th>
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<tbody>
<tr>
<td>Kevin O'Malley</td>
<td>Biochemistry and Molecular Biology</td>
<td>39</td>
<td>“Synthesis of new Heterocyclic Inhibitors of the Helicase of Hepatitis C Virus”</td>
<td>Paul Smith, Mentor</td>
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<td>Christopher O'Reilly</td>
<td>Political Science</td>
<td>128</td>
<td>“Nightingales”</td>
<td>Simon Stacey, Mentor</td>
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<td>Kathryn Papagiika</td>
<td>Political Science</td>
<td>42</td>
<td>“Sociodemographics and their Influence on Voting Behavior on Abortion Policy at the Maryland General Assembly”</td>
<td>Thomas Schaller, Mentor</td>
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<tr>
<td>Anand Patel</td>
<td>Mechanical Engineering</td>
<td>47</td>
<td>“Friction Testing of Materials Used in Artificial Joints”</td>
<td>Timmie Topoleski, Mentor</td>
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<tr>
<td>Nicholas Pinkin</td>
<td>Chemistry</td>
<td>21</td>
<td>“Synthesis of Potential Inhibitors of Thymidylate Synthase Based on Quinazoline Structural Skeleton”</td>
<td>Ramachandra Hosmane, Mentor</td>
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<tr>
<td>Elizabeth Plum</td>
<td>Biochemistry and Molecular Biology</td>
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<td>“Aggregation of Potential Drug Delivery Vehicle”</td>
<td>Richard Karpel, Mentor</td>
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<td>Stephanie Pubill</td>
<td>Chemical Engineering</td>
<td>58</td>
<td>“Polyethylene glycol Hydrogels as an in-vitro Model for Neural Tissue Engineering”</td>
<td>Jennie Leach, Mentor</td>
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<td>Asmara Qamar</td>
<td>Biological Sciences</td>
<td>106</td>
<td>“Isolation and Characterization of Mutations in Ribosomal Proteins L4 and L22 that Confer Ketolide Resistance”</td>
<td>Janice Zengel, Mentor</td>
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<td>Alexandria Scott</td>
<td>Biological Sciences</td>
<td>132</td>
<td>“Estimating Phylogenetic Divergence Time Between Populations of Western Cutthroat Trout”</td>
<td>Tamra Mendelson, Mentor</td>
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Poster Presentations

Annah Seo, Psychology, Poster # 122
“Examining Parental Acculturation, Socialization Goals, and the Development of Korean Immigrant Children”
Professor Charissa Cheah, Mentor

Rashmi Singh, Biochemistry and Molecular Biology, Poster # 60
“Investigation of the Long-Range Interaction between the U5‘ and AUG Regions of the HIV-2 5‘UTR”
Professor Michael Summers, Mentor

Venkateswaran Ramakrishnan

Cristina Teixeira, Chemistry, Poster # 35
“Development of a Food Quality Indicating Sensor”
Professor William LaCourse, Mentor
Mr. Aristotle Kalivrentenos, Mentor

Regina Ulis, Biochemistry and Molecular Biology, Poster # 74
“Optimizing Escherichia coli Expression and Solubility of Mammalian Soluble Guanylate Cyclase Constructs”
Professor Elsa Garcin, Mentor

Amar Vadalia, Computer Engineering, Visual Arts, Poster # 45
“An iKiosk System using Windows7 and a Touch-screen Monitor”
Ms. May Chang, Mentor

Jon J. Schubbe

Melvin Velasquez, Chemistry, Poster # 31
“Developing a New Class of Chemotherapeutic Drugs: 2`Deoxy Proximal Flexible Nucleosides”
Professor Katherine Seley-Radtke, Mentor

Donna Viola, Interdisciplinary Studies, Poster # 69
“Some Observations on Titan’s Fluvial Networks and Channel/valley Delineation Using Cassini Radar Imagery”
Professor Devon M. Burr, Mentor
Dr. Cynthia B. Phillips, Mentor

Robert D. Wardlow II, Biochemistry and Molecular Biology, Poster # 7
“Mesenchymal Stem Cells Provide Protection of Cardiac Ventricular Myocytes by Paracrine Mechanism”
Professor Terry B. Rogers, Mentor

Immanuel Williams, Mathematics, Poster # 130
“An Approach to Lowering Gang Levels”
Professor Jinglai Shen, Mentor
Poster Presentations

Naomi Wolford  
Physics  
“Examining Cloud Microphysics and Thermodynamics in the Laboratory”  
Professor Manfredo Tabacniks, Mentor  
Professor Vanderlei Martins, Mentor  

Lana Zhang  
Biological Sciences  
“TRPM5 Expressed in SCCs is Important in Regulating Chemical Access to the Vomeronasal Organ”  
Professor Weihong Lin, Mentor  

Albert Zhou  
Biological Sciences  
“Characterization of Prostate Specific Regulatory Elements in Transgenic Mice”  
Professor Charles Bieberich, Mentor  

Rebecca Zia  
Psychology  
“Maternal Depressive Symptoms, Parent-Child Relationships, and Children’s Peer Problems in Chinese Immigrants”  
Professor Charissa Cheah, Mentor
Poster Presentations

University Center, Ballroom
12:30 – 3 p.m.

Asa Adadey  
Bioinformatics and Computational Biology  
“Bioinformatics Study of Cancer Mutations: Using Protein Domains to Link Diseases and Mutations”  
Professor Maricel Kann, Mentor  
Poster # 23

Anissa Alexander  
Biochemistry and Molecular Biology  
“Microsatellite Analysis to Improve the Measurement of Efficacy of Sulfadoxine-Pyrimethamine for the Treatment of Malaria”  
Professor Christopher Plowe, Mentor  
Poster # 64

Angelica Alexander  
Psychology  
“Parent Sense of Competence and Child Internalizing and Externalizing Behavior Problems at Age Four”  
Ms. Laura Scaletti, Mentor  
Poster # 49

Yohance Allette  
Biological Sciences  
“Investigation of Evolutionary Relationships of the RRP2 Gene”  
Professor Lasse Lindahl, Mentor  
Poster # 105

Anu Aluvathingal  
Psychology  
Professor Laura Stapleton, Mentor  
Poster # 27

Stephanie Battle  
Biochemistry and Molecular Biology  
“Structure-function Analysis of the Novel Defense Protein SUP3 in Arabidopsis thaliana”  
Professor Hua Lu, Mentor  
Poster # 85

Erwin Cabrera  
Biological Sciences  
“Analyzing and Expressing the Visual Pigment Genes of the Astyanax mexicanus”  
Professor Phyllis Robinson, Mentor  
Poster # 102

Keisha Carr  
Chemical Engineering  
“Analysis of Polymorphonuclear Leukocyte Penetration in Staphylococcus aureus Biofilms”  
Professor Julia Ross, Mentor  
Poster # 83
# Poster Presentations

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<thead>
<tr>
<th>Name</th>
<th>Department</th>
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<th>Mentor</th>
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<tbody>
<tr>
<td>Patricia Castillo</td>
<td>Biological Sciences</td>
<td>“Infant Nutrition and Risk of Celiac Disease”</td>
<td>Professor Alessio Fasano</td>
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<tr>
<td>Mohsan Chaudhry</td>
<td>Biochemistry and Molecular Biology</td>
<td>“Ring-Expanded Nucleotides/Nucleotides as Potential Anti-Viral and Anti-Cancer Agents”</td>
<td>Professor Ramachandra Hosmane</td>
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<tr>
<td>Elisia Clark</td>
<td>Biological Sciences</td>
<td>“Effect of Protein Kinase CK2 Blockade on Prostate Cancer Progression in a Mouse Model”</td>
<td>Professor Charles Bieberich</td>
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<tr>
<td>Jaime Compton</td>
<td>Physics</td>
<td>“Determination of Planetary Boundary Layer for Air Quality Forecasting”</td>
<td>Professor Ruben Delgado</td>
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<tr>
<td>Ryan Connor</td>
<td>Chemical Engineering</td>
<td>“Modeling the Impact of CNS-derived HIV-1 in the Emergence of Anti-Retroviral Drug Resistance”</td>
<td>Professor MariaJose Castellanos</td>
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<tr>
<td>Joseph Cornish</td>
<td>Bioinformatics and Computational Biology</td>
<td>“Computational Methods for the Making of Transcription Factor Binding Sites in Genomic Sequences”</td>
<td>Professor Ivan Erill</td>
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<td>Thomas Dakermanji</td>
<td>Chemistry</td>
<td>“Development of an Assay to Determine the Affinity of the Snake Venom Protein Crotamine for Heparin”</td>
<td>Professor Richard Karpel</td>
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<td>Maria Vitery</td>
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<td>Robert Deloatch</td>
<td>Computer Science</td>
<td>“Developing an Intelligent Tutoring System for CS1 Students”</td>
<td>Professor Marie desJardins</td>
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<td>Amy Ciavolino</td>
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<td>Mary Lewis</td>
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<td>Eliana Feasley</td>
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<td>Iris Kwok</td>
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<td>Chris Mai</td>
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<tr>
<td>Name</td>
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<td>Project Title</td>
<td>Professor, Mentor</td>
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<tr>
<td>Emily Doughty</td>
<td>Bioinformatics and Computational Biology</td>
<td>“Semi-Automatic Method for Mutation Extraction of Cancer Mutations from the Literature”</td>
<td>Professor Maricel Kann, Mentor</td>
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<tr>
<td>Brittany Earnest</td>
<td>Chemical Engineering</td>
<td>“Analysis of the Formation, Stability and Toxicity of Myoglobin Amyloid Fibrils”</td>
<td>Professor Theresa Good, Mentor</td>
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<tr>
<td>Kedy Edme</td>
<td>Chemistry</td>
<td>“NMR Structure of the Core Packaging Signal of HIV-1”</td>
<td>Professor Michael Summers, Mentor</td>
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<tr>
<td>Laurette Femnou</td>
<td>Biochemistry and Molecular Biology</td>
<td>“Investigation of Structure-function Relationship of HIV-1 Reverse Transcriptions by Mass Spectrometry”</td>
<td>Professor Daniele Fabris, Mentor</td>
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<tr>
<td>James Gerity</td>
<td>Physics</td>
<td>“Cloud-CubeSat – Designing a Picosatellite”</td>
<td>Professor J. Vanderlei Martins, Mentor</td>
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<td>Tyler Schmitz</td>
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<tr>
<td>Phillip Geter</td>
<td>Biochemistry and Molecular Biology</td>
<td>“Structure Elucidation of the HIV-1 5’-UTR Using MS3D”</td>
<td>Professor Daniele Fabris, Mentor</td>
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<tr>
<td>Sabah Ghulamali</td>
<td>Gender and Women’s Studies</td>
<td>“Exploring Students’ Knowledge and Perceptions of Sexual Assault Resources On-Campus”</td>
<td>Professor Sarah Chard, Mentor</td>
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<tr>
<td>Irma Hashmi</td>
<td>Biological Sciences</td>
<td>“Role of Ribosomal Protein rps9B in Translational Accuracy”</td>
<td>Professor Philip Farabaugh, Mentor</td>
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<tr>
<td>Lucas Horn</td>
<td>Biological Sciences</td>
<td>“Genetic Controls of Age-Related Phagocytic Ability in Drosophila melanogaster”</td>
<td>Professor Jeff Leips, Mentor, Professor Michelle Starz-Gaiano, Mentor</td>
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</tbody>
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<tbody>
<tr>
<td>Chioma Ihekwazu</td>
<td>Biological Sciences</td>
<td>“Evolutionary Patterns of Ultraviolet Reflectance in the genus Etheostoma”</td>
<td>Professor Tamra Mendelson, Mentor</td>
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<td>Ammar Jaber</td>
<td>Biological Sciences</td>
<td>“Umami and Bitter Taste Perception in Acetylcholine Receptor M3 Knockout Mice”</td>
<td>Professor Tatsuya Ogura, Mentor</td>
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<tr>
<td>Matthew Jancasz</td>
<td>Information Systems</td>
<td>“Knowledge-guided Crossover in Portfolio Optimization”</td>
<td>Professor Roy Rada, Mentor</td>
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<tr>
<td>Sara Kibrom</td>
<td>Biochemistry and Molecular Biology</td>
<td>“Ternary Complexes of Crotamine”</td>
<td>Professor Richard Karpel, Mentor</td>
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<tr>
<td>Benyam Kinde</td>
<td>Biological Sciences</td>
<td>“Insights into the Molecular Mechanisms of Circadian Rhythm”</td>
<td>Professor Andrea Meredith, Mentor</td>
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<td>Nyonsuatee Kollue</td>
<td>Chemistry</td>
<td>“The Development and Purification of Isotopically Enriched NTPs for Structure Elucidation via Mass Spectrometry”</td>
<td>Professor Daniel Fabris, Mentor</td>
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<td>Margaret Kott</td>
<td>Biological Sciences</td>
<td>“Sequencing of Callinectes sapidus Opsins”</td>
<td>Professor Thomas Cronin, Mentor</td>
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<td>Richard Maduka</td>
<td>Chemistry</td>
<td>“The Affinity of Cu⁺⁺ for the Amyloid-Beta Peptide of Alzheimer’s Disease”</td>
<td>Professor Veronika Szalai, Mentor</td>
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<td>Gabrielle McRae</td>
<td>Biochemistry and Molecular Biology</td>
<td>“The Correlation Between S100B and Cellular Damage”</td>
<td>Professor David Weber, Mentor</td>
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Professor Kira Gianni, Mentor
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<td>Sonia Metangmo</td>
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<tr>
<td>Biological Sciences</td>
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<tr>
<td>“The Role of Altered Omentin Expression in the Mesothelial Cell Inflammatory Response”</td>
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<td>Archana Murali</td>
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<td>“Apontic, a Novel Regulator of the JAK/STAT Pathway in <em>Drosophila</em> Testis”</td>
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<td>Professor Michelle Starz-Gaiano, Mentor</td>
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<td>Matthew Murphy</td>
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<td>“Which Blackbirds Are Black? The Evolution of Countershading and Temperate Breeding”</td>
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<td>Professor Kevin Omland, Mentor</td>
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<td>Brandon Nemieboa</td>
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<td>Biochemistry and Molecular Biology</td>
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<td>“Growth Inhibitory Effect of Zoledronic Acid on Breast Cancer Cell Lines”</td>
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<td>Professor Angela Brodie, Mentor</td>
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<td>Willis Ochieng</td>
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<td>Biological Sciences</td>
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<td>“Genetic Basis of Natural Variation in a Novel Phenotype in <em>Drosophila melanogaster</em>”</td>
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<td>Professor Jeff Leips, Mentor</td>
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<td>Evelyn Ojo</td>
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<td>Chemical Engineering</td>
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<td>“Effect of Substrate Patterning on <em>S. aureus</em> Biofilm Formation”</td>
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<td>Professor Julia Ross, Mentor</td>
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<td>Chikezie Okoro</td>
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<td>Chemistry</td>
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<td>“Carbocyclic Fleximers as Anti-Trypanosomal Agents”</td>
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<td>Professor Katherine Seley-Radtke, Mentor</td>
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<td>Daryl Omire-Mayor</td>
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<td>“The Effect of Molecular Characteristics on Sugar Recovery Using <em>in-vitro</em> Microdialysis”</td>
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<td>Professor William LaCourse, Mentor</td>
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<td>Nana Owusu-Boaitey</td>
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<tr>
<td>“The Utilization of CD20-Specific Lentiviruses for Tolerance Induction”</td>
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<td>Professor David Scott, Mentor</td>
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<td>Michael Pacella</td>
<td>Chemical Engineering</td>
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<td>Jason Loiland</td>
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<td>Fabiola Rincon</td>
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<td>Nicole Parker</td>
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<td>Dina Popovkina</td>
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<td>Anna Ramirez</td>
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<td>Joseph Ring</td>
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<td>Kaitlyn Sadtler</td>
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<td>Christelle Samen</td>
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<td>Lael Scarborough</td>
<td>Biological Sciences</td>
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</tbody>
</table>
Poster Presentations

Onajite Shemi  Chemistry  Poster # 13
“An Apical Sodium Bile Acid Transporter (ASBT) Targeted Prodrug Design for Sustained Release of Niacin”
Professor James Polli, Mentor

Patrice Starck  Biochemistry and Molecular Biology  Poster # 73
“NMR Analysis of the Conserved Bulge in the Core Encapsidation Signal of Type-C Gammaretroviruses”
Professor Michael Summers, Mentor

Carrie Strachan  Psychology  Poster # 41
“Toddler Temperament and Parental Depression: Predictors of Poor Emotional Functioning at Age Seven”
Ms. Laura Scaletti, Mentor

Christy Thai  Biological Sciences  Poster # 88
“Mouse Olfactory Bulb Activation Evoked by Ferret Odors”
Professor Weihong Lin, Mentor

Gary Thompson  Bioinformatics and Computational Biology  Poster # 12
“An Improved Approach to Extracting Disease-Related Mutations from Biomedical Literature”
Professor Maricel Kann, Mentor

Monica Tith  Psychology  Poster # 40
“Caregiver Negative Life Events and Coping with Stress in Children”
Ms. Laura Scaletti, Mentor

Margarita Tsionsky  Emergency Health Services  Poster # 80
“Public Understanding, Use, and Support for Emergency Medical Services”
Professor Kurt Krumperman, Mentor

Margarita Tsionsky  Biological Sciences  Poster # 81
“Characterization of SUP3 Homologues in Arabidopsis Defense”
Professor Hua Lu, Mentor
**Poster Presentations**

**Devyani Ujla**  
**Chemical Engineering**  
“The Development of a Phospho-null Melanopsin Mutant”  
Professor Phyllis Robinson, Mentor

**Shelby Vargo**  
**Chemical Engineering**  
“Effects of Environment Dimensionality on Sensory Neurons Process Outgrowth: 3D Better Mimics in vivo Features”  
Professor Jennie Leach, Mentor

**Melissa Velasquez**  
**Chemical Engineering**  
“Analysis of Oxygen Levels within S. aureus Biofilms Using Fluorescent Microparticles”  
Professor Julia Ross, Mentor  
Professor Jennie Leach, Mentor

**Aminah Wali**  
**Biological Sciences**  
“Developing a System to Regulate Gene Expression in the Mouse Prostate”  
Professor Charles Bieberich, Mentor

**Momoka Watanabe**  
**Psychology**  
“An Ecological Examination of Psychological Control in Korean Immigrant Families”  
Professor Charissa Cheah, Mentor

**Elliot White**  
**Biochemistry and Molecular Biology**  
“Grizzled Opsins”  
Professor Phyllis Robinson, Mentor  
Professor Megan Porter, Mentor

**Crystal White**  
**Psychology**  
“Father Absence: A Risk Factor for Developing Behavior Problems in Childhood”  
Ms. Laura Scaletti, Mentor

**Melanie Wiley**  
**Biochemistry and Molecular Biology**  
“The Role of Human Endogenous Retroviruses (HERVS) in the Pathogenesis of Acute Onset Schizophrenia”  
Professor Erik Lillehoj, Mentor
Poster Presentations

Hannah Wilson  Chemical Engineering  Poster # 77
“The Role of Staphylococcus aureus Soluble Biofilm Proteins in Inhibiting Neutrophil Migration”
Professor Julia Ross, Mentor

Michelle Renay Wilson  Visual Arts  Poster # 68
“Male Breast Cancer: Three Portraits”
Professor Calla Thompson, Mentor

Kevin Winner  Computer Science  Poster # 30
“Controlling Particle Swarm Optimization with Learned Parameters”
Professor Marie desJardins, Mentor
Professor Don Miner, Mentor

Breanne Wright  Biochemistry and Molecular Biology  Poster # 53
“The Effect of Transgenic Manipulation of the BK Channel (Kcnma1) on Circadian Rhythmicity”
Professor Andrea Meredith, Mentor

Fine Arts Exhibitions and Receptions

The Commons, Main Street and Mezzanine Gallery
4 – 7 p.m.

Michelle Renay Wilson  Visual Arts
“Male Breast Cancer: Three Portraits”
Professor Calla Thompson, Mentor

Patrick Rife  Visual Arts
“The Cyclical Nature of Obsolescence”
Professor Steve Bradley, Mentor