



Thirteenth Annual

Undergraduate Research and Creative Achievement Day

April 22, 2009

UMBC
AN HONORS
UNIVERSITY
IN MARYLAND

Original Choreography



Dance Studio, Fine Arts 317

Faculty Moderator: Professor Doug Hamby, Dance

9:50 – 10:10 a.m.	Joshua Barnard <i>“Something Like It”</i> Professor Doug Hamby, Mentor	Department of Dance
10:10 – 10:30 a.m.	Hannah Rzasa <i>“Enraptured”</i> Professor Doug Hamby, Mentor	Department of Dance
10:30 – 10:50 a.m.	Tania Knight <i>“passioNate eMOTION”</i> Professor Doug Hamby, Mentor	Department of Dance
10:50 – 11:10 a.m.	Hannah Rzasa <i>“Letters from Jane: A Tribute to Jane Austen”</i> Professor Doug Hamby, Mentor	Department of Dance
11:10 – 11:30 a.m.	Mya Ajanku <i>“From Chaos”</i> Professor Doug Hamby, Mentor	Department of Dance
11:30 – 11:50 a.m.	Angel Chinn <i>“Pluto 2086”</i> Professor Doug Hamby, Mentor	Department of Dance

Graphic Arts and Photography



10:00 – 11:30 a.m.

Fine Arts Building, First Floor Hallway Gallery

Faculty Moderator: Professor Franc Nunoo-Quarcoo, Visual Arts

**Sarah Fry and
Jenna Ullrich**

Department of Visual Arts
“Female Genital Cutting”
Professor Franc Nunoo-Quarcoo, Mentor

Alexandra Seley

Department of Visual Arts
“Constructed Landscapes”
Professor Lynn Cazabon, Mentor

Samantha Song

Department of Visual and Performing Arts
“Child Brides, Stop Child Brides NOW!”
Professor Franc Nunoo-Quarcoo, Mentor

**Jesse Vaughan and
Emma Rava**

Department of Visual Arts
“Rape”
Professor Franc Nunoo-Quarcoo, Mentor

Artistic Installation

10:00 – 11:30 a.m.

Fine Arts Stairwell

**Jacob Jensen,
Danielle Durbin,
Kimberly Patrick,
and Una Petrovic**

Department of Music
“*What's Inside a Rose?*; A Presentation of Dada and Surrealist Inspired Art”
Professor Anna Rubin, Mentor

Graphic Arts and Photography



1:30 – 3:00 p.m.

Fine Arts Building, First Floor Hallway Gallery

Faculty Moderator: Professor Ilse Lottes, Sociology

Belen Getahun

Department of Visual Arts

“Gender Issues in Ethiopia”

Professor Franc Nunoo-Quarcoo, Mentor

**Sean Heavey and
Adam Utapat**

Department of Visual Arts

“900,000: An Exploration of the International Human Trafficking Epidemic”

Professor Franc Nunoo-Quarcoos, Mentor

Terry Von Hagel

Department of Visual Arts

“Same Sex Union Laws”

Professor Franc Nunoo-Quarcoo, Mentor

Jesse Vaughan

Department of Visual Arts

“In Bed”

Professor Lynn Cazabon, Mentor

Artistic Installation

1:30 – 3:00 p.m.

Fine Arts Stairwell

**Jacob Jensen,
Danielle Durbin,
Kimberly Patrick,
and Una Petrovic**

Department of Music

“What’s Inside a Rose?; A Presentation of Dada and Surrealist Inspired Art”

Professor Anna Rubin, Mentor

Animation and Video Screening



Fine Arts Building, Room 221

Faculty Moderator: Professor Fred Worden, Visual Arts

1:15 – 1:25 p.m.	Glen Fortner <i>"The Real World"</i> Professor Fred Worden, Mentor	Department of Visual Arts
1:25 – 1:35 p.m.	Raychyl Segovia <i>"Path to Perception"</i> Professor Cathy Cook, Mentor	Department of Visual Arts
1:35 – 1:50 p.m.	David Hernandez <i>"Just Beyond the Bridge"</i> Professor Fred Worden, Mentor	Department of Visual Arts
1:50 – 2:05 p.m.	Brendan Huza <i>"Aliens Love Cheerleaders"</i> Professor Fred Worden, Mentor	Department of Visual Arts
2:05 – 2:15 p.m.	Matt Szychowski <i>"Cold Lady" and "Escape from Ping Island"</i> Professor Fred Worden, Mentor	Department of Visual Arts
Intermission		
2:20 – 2:30 p.m.	Megan Zlock <i>"Visual Symphony: Try to Believe"</i> Professor Eric Dyer, Mentor	Department of Visual Arts
2:30 – 2:40 p.m.	Agnes Asplund and Leslie Bristow <i>"Our Own World"</i> Professor Fred Worden, Mentor	Department of Visual Arts
2:40 – 2:55 p.m.	Jonathan Widmer <i>"Movement"</i> Professor Fred Wordon, Mentor	Department of Visual Arts
2:55 – 3:05 p.m.	Jessica Hale <i>"Growth"</i> Professor Fred Worden, Mentor	Department of Visual Arts
3:05 – 3:25 p.m.	Matthew J. Szychowski <i>"Blue Duck"</i> Professor Fred Worden, Mentor	Department of Visual Arts



Oral Presentations

University Center, Room 310

Session I

Faculty Moderator: Professor Raphael Falco, English

9:15 - 9:30 a.m.	H. Saeed “Ending the Cycle of Violence: The Role of a Truth Commission” Professor Jeffrey Davis, Mentor	Department of Political Science
9:30 - 9:45 a.m.	Fatima Touma “An Ethnographic Study of an Iraqi Refugee Community in Baltimore City” Professor Seth Messinger, Mentor	Department of Sociology and Anthropology
9:45 - 10:00 a.m.	Theresa Columbus “ <i>Fear and Wisdom</i> and Others” Professor Steven Bradley, Mentor	Interdisciplinary Studies Program
10:00 - 10:15 a.m.	Yelena Dewald “The Internet and Iranian Youth Culture” Professor Devin Hagerty, Mentor	Interdisciplinary Studies Program
10:15 - 10:30 a.m.	Nikoletta Gjoni “Communism and Censorship: A Stunting of Albania's Literary Culture or the Birthing of a Unique National Movement?” Professor Raphael Falco, Mentor	Department of English

Session II

Faculty Moderator: Professor Shawn Bediako, Psychology

10:30 - 10:45 a.m.	Scott Murdock “Autonomy Development, Support, and Future Orientation in Adolescent Mothers” Professor Charissa Cheah, Mentor	Department of Psychology
10:45 - 11:00 a.m.	Sadaf Siddiqi and Elizabeth A. Fitzgerald “Dual Identity Formation Among Adolescent Mothers” Professor Charissa Cheah, Mentor	Department of Psychology

Oral Presentations

11:00 - 11:15 a.m.	Rhonda Bavis “The Effects of Parental Substance Abuse on Children and Families” Professor Shelly Wiechelt, Mentor	Department of Social Work
11:15 - 11:30 a.m.	April Melton and Monica Talcott “Volunteerism in the Aging Population” Professor Laura Ting, Mentor	Department of Social Work
11:30 - 11:45 a.m.	Doha Chibani “Effects of Apparent Ethnicity in an Individual's Name on Perceived Qualifications in the Professional Service Industry” Professor Diane Alonso, Mentor	Department of Psychology
11:45 - 12:00 p.m.	Tahira Mahdi “It’s Written All Over Your Face: Perceptions of Genetic Illnesses” Professor Shawn Bediako, Mentor	Department of Psychology

Session III

Faculty Moderator: Professor Todd Pittman, Physics

1:15 - 1:30 p.m.	Stephanie Ferrone “Quantum Interference Effects with Multimode Fibers” Professor Todd Pittman, Mentor	Department of Physics
1:30 - 1:45 p.m.	Olufolakemi Awe “Analyzing the Interaction Partners, BfpU and BfpA, of the Bundlin Forming Pilus of Enteropathogenic <i>E. coli</i> (EPEC)” Professor Michael Donnenberg, Mentor	Biochemistry and Molecular Biology Program
1:45 - 2:00 p.m.	Sunaina Khandelwal “PBMC from a Subpopulation of Celiac Patients Respond to Gliadin with Interleukin-8 Production That Is CXCR3-Dependent” Professor Alessio Fasano, Mentor	Biochemistry and Molecular Biology Program
2:00 - 2:15 p.m.	Dhivya R. Pahwa “Categorical Person Perception in Sickle Cell Disease” Professor Shawn Bediako, Mentor	Department of Psychology



Oral Presentations

Session IV

Faculty Moderator: Professor Andrea Kalfoglou, Sociology and Anthropology

2:15 - 2:30 p.m.	Melissa Chapman “To Tell or Not to Tell: The Ethical Dilemma of Carrier Testing for Gaucher's Disease” Professor Andrea Kalfoglou, Mentor	Department of Biological Sciences
2:30 - 2:45 p.m.	Esther Lei “Re-evaluating Malaria Prevention Techniques in Zambia” Professor Danika Rockett, Mentor	Health Administration and Policy Program
2:45 - 3:00 p.m.	Neal Karkhanis “Survey of UMBC Students’ Knowledge, Attitudes, and Beliefs about Seeking Care for Emotional and Mental Health Problems” Professor Andrea Kalfoglou, Mentor	Health Administration and Policy Program
3:00 - 3:15 p.m.	Robin Cagey “The Effect of Incarceration on the Spouses and Partners of Inmates” Professor Robert Rubinstein, Mentor	Department of Sociology and Anthropology
3:15 - 3:30 p.m.	Maureen C. Maselko “‘Under the Colour of Religion’: The Formation of Group Identity in Early Modern Ireland” Professor Amy Froide, Mentor	Department of History



Oral Presentations

University Center, Room 312

Session I

Faculty Moderator: Professor Daniele Fabris, Chemistry

9:15 - 9:30 a.m.	George Cutsail, III “Copper Amyloid-beta Complex in Alzheimer’s Disease” Professor Veronika Szalai, Mentor	Department of Chemistry
9:30 – 9:45 a.m.	Mayukh Chakrabarti “Mechanism of Action of the CDK5-GR-APP Pathway in Beta-Amyloid Production and Alzheimer’s Disease Pathogenesis” Dr. Tomoshige Kino, Mentor	Bioinformatics and Computational Biology Program
9:45 – 10:00 a.m.	Michael German “ESI-FTICRMS Characterization of Deoxyribozymes Targeting Conserved Domains of the HIV-1 Packaging Signal” Professor Daniele Fabris, Mentor	Department of Chemistry
10:00 - 10:15 a.m.	Matthew Schultz “Knowledge-Supported Evolutionary Computation in Financial Investing” Professor Roy Rada, Mentor	Department of Information Systems
10:15 - 10:30 a.m.	Immanuel Williams “Pharmacokinetics of D3 Receptor Analogs: Potential Drug Therapy for Cocaine Addiction” Professor Natalie Eddington, Mentor	Department of Mathematics

Session II

Faculty Moderator: Professor Hua Lu, Biological Sciences

10:30 - 10:45 a.m.	Jessica McGrath “The Relationship Between the Structure of the FIV Matrix Protein and its Ability to Target the Plasma Membrane” Professor Michael Summers, Mentor	Department of Biological Sciences
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Oral Presentations



- 10:45 - 11:00 a.m.** **Tamika John** **Department of Biological Sciences**
“Investigating the Role of ROR γ T in Human Th17 Cell Differentiation”
Professor Lasse Lindahl, Mentor
- 11:00 - 11:15 a.m.** **Dina Popovkina** **Biochemistry and
Molecular Biology Program**
“The Effect of Corticosterone and trkB Receptor Downregulation on Dendritic Spine Density”
Professor Scott Thompson, Mentor
- 11:15 - 11:30 a.m.** **Sasan Salimian** **Department of Biological Sciences**
“Exploiting *acd6-1* in Dissection of Defense Signaling Networks in Arabidopsis”
Professor Hua Lu, Mentor
- 11:30 - 11:45 p.m.** **Rob Low, Felipe F. Balieiro,
Timothy D. Courtney,
Thomas C. Hsu, and
Khurram S. Mahmood** **Department of Chemical Engineering**
“Design for Algae-Based Biodiesel and Ethanol Fuel Plant”
Professor Mariajose Castellanos, Mentor

Session III

Faculty Moderator: Professor Jason LoViglio, Media and Communication Studies

- 1:15 - 1:30 p.m.** **Marcus Simmons** **Department of Music**
“If You Can Talk, You Can Sing”
Professor David Smith, Mentor
- 1:30 - 1:45 p.m.** **Danielle Durbin** **Department of Music**
“Flute Lineage”
Professor Lisa Cella, Mentor
- 1:45 - 2:00 p.m.** **Susan Kane** **Department of American Studies**
“Designing Culturally-Sensitive Curricula in Native American Reservation Schools: The Seminole Nation”
Professor Kathy Bryan, Mentor



Oral Presentations

2:00 - 2:15 p.m.

Alexandra Hyland

Department of American Studies

“The Baltimore Girl: An Experiment
in Sustainable Living”

Professor Jason Loviglio, Mentor

Session IV

Faculty Moderator: Professor Thomas Field, Modern Languages and Linguistics

2:15 - 2:30 p.m.

Alexander Bush

Department of History

“Comparing Procedure, Evidentiary
Rules, and Sentencing in Three World
War II POW War Crimes Trials”

Professor Rebecca Boehling, Mentor

Professor Constantine Vaporis, Mentor

2:30 - 2:45 p.m.

Teresa Bass Foster and Vicki M. Heath

Department of History

“Using Court Records as Historical Sources:
A Study of Infanticide in 18th-century London’s
Old Bailey Criminal Court”

Professor Amy Froide, Mentor

2:45 - 3:00 p.m.

Valerie Lagrome

**Department of Modern
Languages and Linguistics**

“Linguistic Norm Enforcement on the
Internet: Chatspeak in Forum Communities”

Professor Thomas Field, Mentor

3:00 - 3:15 p.m.

Holly-Catherine Britton

**Department of Modern
Languages and Linguistics**

“Lexical Variations in Telling Clock Time:
A Study of Age and Style Differences”

Professor Thomas Field, Mentor

3:15 - 3:30 p.m.

Kristina Gaddy

**Department of Modern
Languages and Linguistics**

“Creating National Identity and Memory:
The German Historical Museum”

Professor Susanne Sutton, Mentor



Panel Discussion

University Center, Room 201B

2:15 – 3:30 p.m.

Ethics and Contemporary Policy Issues

Chair: Professor Richard Wilson, Philosophy and Computer Science

Discussant: Professor Simon Stacey, Political Science and Honors College

Bryan Clark and Harshavardhan Bambawale

“Identity Theft”

Professor Richard Wilson, Mentor

Department of Philosophy

Clayton Day, Jay Chung, and Thaha Shafi

“The Wall Street Shadow Market”

Professor Richard Wilson, Mentor

Department of Philosophy

Jason VerHoef, Brian Steele, and Yakubu Wanka

“Analysis of the South Korean Sampoong

Department Store Collapse From An

Engineering Ethics Perspective”

Professor Richard Wilson, Mentor

**Department of
Mechanical Engineering**



Poster Presentations

University Center Ballroom

10:00 a.m. – 12:30 p.m.

Nizeet Aguilar Robert P. Reeves Robert J. Marino Adebimpe D. Oyede Jessica DeWitt	Department of Chemical Engineering “Feasibility Study of the Design of Artovastatin Calcium (Lipitor®) Pharmaceutical Plant” Professor Mariajose Castellanos, Mentor	Poster # 46
Bridget Armstrong Craig Whitten	Department of Psychology “Effects of Using Head Mounted Display Helmet for Virtual Reality Distraction on Cold Pressor Pain in College Students” Professor Lynnda Dahlquist, Mentor	Poster # 3
Brook Asamenew	Department of Biological Sciences “Analysis of the c-Myc Transcription Factor in Mouse Models of Prostate Cancer” Professor Charles Bieberich, Mentor	Poster # 15
Maria Beckford	Biochemistry and Molecular Biology Program “Synthesis of a Flexible Carboxycyclic Nucleoside” Professor Katherine Radtke, Mentor	Poster # 6
Richard Blissett	Health Administration and Policy Program “PGS: A Fishy Business” Professor Andrea Kalfoglou, Mentor	Poster # 52
Danielle Chestang Lauren Proctor Elizabeth Bunker	Management of Aging Services “Neighbor Helping Neighbor Time Banking Model: Vital to Communities?” Professor Brandy Harris-Wallace, Mentor	Poster # 50
Jessica Childs	Department of Geography and Environmental Systems “Food Deserts and their Presence in a Southwest Community of Baltimore City” Professor Laura Lewis, Mentor	Poster # 91



Poster Presentations

Irene Cho	Department of Biological Sciences “The Effects of the Gene <i>S6 kinase</i> on Immune Response in <i>Drosophila melanogaster</i> ” Professor Jeff Leips, Mentor	Poster # 13
Geoffrey Clapp	Department of Mathematics “Modeling Sensory Input to the Lamprey Spinal Cord” Professor Kathleen Hoffman, Mentor	Poster # 56
Ryan Connor	Department of Chemical Engineering “Poor Drug Penetration into the Central Nervous System and its impact on HIV-1 Pathogenesis: A Mathematical Model” Professor Mariajose Castellanos, Mentor	Poster # 30
Timothy Courtney	Department of Chemical Engineering “Efficacy of Protein Quantitation Assays Compatible with Two-Dimensional Gel Electrophoresis” Professor Mark Marten, Mentor	Poster # 21
Casey Daniels	Wyeth Research “How Skin Ages: Exploring the Role of the Nuclear Receptor LXRbeta in the Skin” Professor Catherine Thompson, Mentor	Poster # 59
Bilguujin Dorjsuren	Biochemistry and Molecular Biology Program “Investigation of the Existence of a Possible RNA Long-Range Interaction in the 5'-Untranslated Region of the HIV-1 Genome” Professor Michael Summers, Mentor	Poster # 17
Joseph Dulny, III	Department of Physics “Effects of a Dipolar Polymer Host Matrix on the Poling Efficiency of Guest Chromophores” Professor L. Michael Hayden, Mentor	Poster # 34
Deanna Easley	Department of Mechanical Engineering “Investigation on the Creation of a More Efficient Wear Test Machine with Controlled Environments” Professor Timmie Topoleski, Mentor	Poster # 33

Poster Presentations

Alison Ebaugh	Department of Mathematics “A Biophysical Model of Synaptic Plasticity” Professor Jonathan Bell, Mentor	Poster # 80
Ejiofor Ezekwe Ramon Cabrera	Department of Biological Sciences “Irritant-Induced Proliferation of Presumed Solitary Chemosensory Cells in the Airway” Professor Weihong Lin, Mentor	Poster # 75
Whitney Fields	Department of Biological Sciences “Localization of Myo1 in <i>Saccharomyces cerevisiae</i> Mutants with a Multi-budded Phenotype” Professor Janice Zengel, Mentor	Poster # 82
Phillip Fitzgerald	Department of Biological Sciences “Increased Expression of SOCS1 by HIV-1 Transgenic Rats: A Mechanism for Dysregulated T Helper-1 Responses” Professor William Reid, Mentor	Poster # 78
Tiffany Fleet	Biochemistry and Molecular Biology Program “The Connection Between Abnormal Ribogenesis and the Cell Cycle” Professor Lasse Lindahl, Mentor	Poster # 9
Aurelius Graninger	Department of Computer Engineering “Stand-Off Chemical Detection Using Acoustic Beamforming and Photoacoustic Sensing” Professor Fow-Sen Choa, Mentor	Poster # 98
Jessica M. Griffith	Department of Psychology “Sex Differences in Pain Responses: Do Men and Women Experience Pain Differently?” Professor Lynanne M. McGuire, Mentor	Poster # 36
Roger Guseman	Department of Computer Science “Probabilistic Constrained Relational Clustering with an Application to Facebook” Professor Marie desJardins, Mentor	Poster # 4
Ana Hageage	Department of Sociology and Anthropology “Belize Valley Archaeological Reconnaissance” Professor Esther Read, Mentor	Poster # 68



Poster Presentations

Peter Hamilton	Department of Computer Science “Applying Swarm Rule Abstraction to a Wireless Sensor Network Domain” Professor Marie desJardins, Mentor	Poster # 18
Chelsea Hayman	Department of Sociology and Anthropology “I am an African, That is my Religion: Reproducing Africanness and Community in Baltimore” Professor Bambi Chapin, Mentor	Poster # 10
Joseph Hyman	Department of Computer Engineering “Development of an Algorithm to Allow Robots to Objectively Analyze Causally Relevant Objects in the Environment” Professor Tim Oates, Mentor	Poster # 27
Chioma Ihekweazu	Department of Biological Sciences “Production of an EMMPRIN Murine Immunoglobulin Fc Fusion Protein to Study Tumor Invasion” Professor Scott Strome, Mentor	Poster # 86
Joy Ihekweazu	Department of Chemistry “Self-Reporting Fluorescent Nanogels” Professor Lisa Kelly, Mentor	Poster # 66
Ruby Jackson-Atogi	Department of Biological Sciences “The Role of Prior Experience on Parasitoid Host Choice” Professor Jeff Leips, Mentor	Poster # 94
Vovanti Jones	Department of Biological Sciences “Using Next Generation Solexa Sequencing to Identify Genes that Regulate Stem Cell Proliferation in the <i>C. elegans</i> Germline” Professor Tim Schedl, Mentor	Poster # 100
Sara Kibrom	Biochemistry and Molecular Biology Program “Crotamine Interaction with Polysaccharides and Ternary Complex Formation” Professor Richard Karpel, Mentor	Poster # 87



Poster Presentations

Nathaniel Kim	Department of Chemistry “Developing Carbocyclic Nucleoside Fleximers as Novel Drug Tools to Combat Drug Resistance” Professor Katherine Seley-Radtke, Mentor	Poster # 85
Michael Lombardi	Department of Computer Science “Measuring General Relational Structure Using the Block Modularity Clustering Objective” Professor Marie desJardins, Mentor	Poster # 29
Gabrielle McRae	Biochemistry and Molecular Biology Program “The Effect of Toll-Like Receptors on Dendritic Cell Activity and T-Cell Activation” Professor Donna Farber, Mentor	Poster # 11
Aaron Pearlman	Department of Physics “A Model for Iron K Absorption in the Low-Mass X-ray Binary GX 13+1” Professor Robin Corbet, Mentor	Poster # 61
Alexandra Psihogios	Department of Psychology “The Effects of Age Differences in Preschool Children on Help-Seeking Behaviors During Easy and Difficult Puzzle Tasks” Professor Lynnda Dahlquist, Mentor	Poster # 88
Sharanya Ravichandran	Department of Political Science “The Caste System and its Prevalence in Contemporary Indian Society” Professor Devin Hagerty, Mentor	Poster # 47
Mary Rhee	Health Administration and Policy Program “Ethical Issues Unique to Facial Transplantation” Professor Andrea Kalfoglou, Mentor	Poster # 69
Nirav Shelat	Biochemistry and Molecular Biology Program “Structural Development of <i>Streptococcus oralis</i> YC1 Polysaccharide through NMR Spectroscopy” Professor Allen Bush, Mentor	Poster # 22



Poster Presentations

Daniel Shook	Biochemistry and Molecular Biology Program “Analysis of DNA Binding Amino Acids of Gene 32 Protein and Crotamine by Mass Spectroscopy” Professor Richard Karpel, Mentor	Poster # 42
Elizabeth Silberholz	Department of Psychology “The Relation Between Pediatric Food Allergy Severity, Peer Interactions, and Report of Child Behavioral Problems” Professor Lynnda Dahlquist, Mentor	Poster # 40
Tesia Stephenson	Biochemistry and Molecular Biology Program “Identifying Novel Cell Cycle Regulators in Budding Yeast” Dr. Orna Cohen-Fix, Mentor	Poster # 53
Sara Stockman	Department of Biological Sciences “Assessment of Hippocampal Integrity In Development of Specific Anti-mitotic Lesion Model” Professor Greg Elmer, Mentor	Poster # 89
Margarita Tsionsky	Department of Biological Sciences “Characterization of SUP3 Homologues in Arabidopsis defense” Professor Hua Lu, Mentor	Poster # 72
Steven Tuyishime	Department of Biological Sciences “Myo1 Localization’s Effect on Multi-Budded Phenotype in <i>Saccharomyces cerevisiae</i> ” Professor Janice Zengel, Mentor	Poster # 64

Poster Presentations



**UMBC Game
Developer's Club**

Department of Computer Science

Poster # 1

Officers: Lesa Wilcox, Joel Bowers, Taylor Evans, Luis Rivera; Programming: Jonathan Moriarty, Alex Lacey, Alex Brindley, Brian Caine, Shawn Marsden, David Hack, Matt Song, Matthew Kalkbrenner, Jonathan Merkle, Gini Bailey, Colin Taylor, Jan Zheng, Joshua Tunzi, Kevin Markey, Daniel Hogberg, Alex Evers, Ben Harris, Jurrell Brown, Greg Aring, James Weaver; Art: Jonathan Pack, Eve Addison, Tommy Truong, Wallace Brown, Scott Stevens, Richard Lee, Isaac Sohn, Cody Pearson, Jon Schubbe, Donovan Hall; Sound: Gavin O'Leary, Erin Terwilliger, Danny Hollis
"Explorations in Game Development: Creating 2D and 3D Worlds"

**Professor Marc Olano and Graduate Assistants
Charles Lohr and David Chapman, Mentors**

Katherine Woronowicz

Department of Biological Sciences

Poster # 43

"Investigating the Secondary Structure of the Mouse Melanopsin Carboxy-Tail"

Professor Phyllis Robinson, Mentor

Rebecca Zia

Department of Psychology

Poster # 24

"Moderating and Mediating Factors in the Association Between Maternal Psychological Control and Child Aggression in Chinese Immigrants"

Professor Charissa Cheah, Mentor



Poster Presentations

University Center Ballroom

12:30 – 3:00 p.m.

Asa Adadey	Bioinformatics and Computational Biology Program “Computational Methods for Linking Domain Loss or Substitution in Alternative Splicing Variants with Diseases” Professor Maricel Kann, Mentor	Poster # 60
Anissa Alexander	Biochemistry and Molecular Biology Program “The Serine Repeat Antigen5: A Promising Malaria Vaccine Candidate” Professor Christopher Plowe, Mentor	Poster # 93
Yohance Allette	Department of Biological Sciences “Analysis of the MAP dclk1 and its Effect on Microtubule Stabilization During Neurulation in the Zebrafish” Professor Rachel Brewster, Mentor	Poster # 67
Penina Backer	Department of Psychology “The Effects of Educational Content and Gender on the Perception of Individuals with Schizophrenia” Professor Mariano Sto. Domingo, Mentor	Poster # 73
Stephanie Battle	Biochemistry and Molecular Biology Program “Structure-Function Analysis of the Novel Defense Protein SUP3 in <i>Arabidopsis thaliana</i> ” Professor Hua Lu, Mentor	Poster # 62
Samantha Bier	Interdisciplinary Studies Program “Perspectives in Global Health: Working with Survivors of Torture and Trauma” Professor Bambi Chapin, Mentor	Poster # 25
Richard Blissett	Bioinformatics and Computational Biology Program “Optimization of Species Selection for Genome-Wide Application of the Mirrortree Method” Professor Maricel Kann, Mentor	Poster # 51

Poster Presentations

UNDERGRADUATE Research & Creative Achievement Day



Jonathan Bollinger Goncalo Maia Michael Pacella Michael German	Department of Chemical Engineering “ <i>In silico</i> Modeling and Optimization of Algal Biomass Production” Professor Mariajose Castellanos, Mentor	Poster # 65
Brandon Borde Oluwatimilehin Fadiran	Department of Mechanical Engineering “Analysis of the Mechanical Behavior of Bovine Descending Aorta Under Various Conditions” Professor Timmie Topoleski, Mentor	Poster # 35
Ashleigh Bouchelion	Department of Biological Sciences “The Wnt Pathway: Identification of Target Genes in <i>C. elegans</i> ” Professor David Eisenmann, Mentor	Poster # 70
Cally Brandt Sarah Ryan	Department of Ancient Studies “‘Ways of Seeing’ - Looking at <i>The Creative Photograph in Archaeology</i> Exhibit in the Albin O. Kuhn Library Gallery” Professor Richard Mason, Mentor	Poster # 20
Destiney Buelto Nkechinyere A. Emezienna	Biochemistry and Molecular Biology Program “Characterization of Brown Adipose Tissue in the Adult Mammary Gland of Brca1-Mutant Mice” Professor Laudette Jones, Mentor	Poster # 55
Erwin Cabrera	Department of Biological Sciences “Probing the Structure of Rhodopsin and Human Green Opsin Using Site Directed Spin Labeling” Professor Phyllis Robinson, Mentor	Poster # 79
Elizabeth Campbell	Department of Chemistry “Solvent Effects on Charge Transfer Complexes” Professor Bradley Arnold, Mentor	Poster # 14
Michael Castello	Department of Biological Sciences “Changes in MMP-9 Protein Levels as an Indicator of Brain Perturbation by Nicotine Exposure” Professor Jessica Mong, Mentor	Poster # 77
Mohsan Chaudhry	Biochemistry and Molecular Biology Program “Ring-Expanded Nucleosides/Nucleotides as Potential Anti-Viral and Anti-Cancer Agents” Professor Ramachandra Hosmane, Mentor	Poster # 26



Poster Presentations

Nancy Chiles	Department of Biological Sciences “Education and its Role in Recovery from a Hip Fracture” Professor Ann Gruber-Baldini, Mentor	Poster # 81
Nwamaka Dike	Biochemistry and Molecular Biology Program “Regulation of the Antiviral Tumor Suppressor RNase-L by MicroRNAs” Professor Bret Hassel, Mentor	Poster # 84
Monique Foster	Biochemistry and Molecular Biology Program “Impact of Cu(I) Binding to Amyloid-beta in Alzheimer's Disease” Professor Veronika Szalai, Mentor	Poster # 49
Tyler Frankel	Department of Biological Sciences “Disassortative Mating Based on Color in the Freshwater Platyfish <i>Xiphophorus maculatus</i> (Poeciliidae)” Professor Tamra Mendelson, Mentor	Poster # 38
Lydia Grmai	Department of Biological Sciences “Mechanisms of Suppression in Breast Cancer” Professor Suzanne Ostrand-Rosenberg, Mentor	Poster # 44
Robert Henderson	Department of Chemical Engineering “HIV Dynamics: Infection Kinetics” Professor Mariajose Castellanos, Mentor	Poster # 63
Daniel Jones	Department of Environmental Science “3D Tour of an Urban Environmental Research Site Using Google® Earth and KML” Professor Junmei Tang, Mentor	Poster # 39
Amanda Karp Eric Borman Anrieth Gomes Lawrence Hetzel Daniel Kostick	Department of Chemical Engineering “Feasibility Study for Constructing and Aspartame Plant” Professor Mariajose Castellanos, Mentor	Poster # 74
Benyam Kinde	Biochemistry and Molecular Biology Program “An NMR Protocol for the High-Resolution Structure Determination of Large RNAs” Professor Michael Summers, Mentor	Poster # 57

Poster Presentations

UNDERGRADUATE Research & Creative Achievement Day



Gowry Kulandaivel	Biochemistry and Molecular Biology Program “Disproving the Existence of an Interaction Between the Primer Binding Site and the SL4 Stemloop of the HIV-1 RNA Genome” Professor Michael Summers, Mentor	Poster # 90
Albert Kung	Bioinformatics and Computational Biology Program “Training a Neural Network to Detect Binding Sites Based on Bendability and Curvature Information” Professor Ivan Erill, Mentor	Poster # 7
Elizabeth Lamontagne	Department of Psychology “Pain-Related Anxiety Correlates with Sensory Aspects of Pain” Professor Lynanne McGuire, Mentor	Poster # 58
Paula McCusker	Department of Chemical Engineering “A Mathematical Model of the HPV Infection Mechanism” Professor Mariajose Castellanos, Mentor	Poster # 92
Jessica Michaels	Biochemistry and Molecular Biology Program “Novel Site Directed Affinity Reagent for Cross-Linking Human Hemoglobin: A Tetra-Aldehyde Cross-Linking Reagent” Professor Ramachandra Hosmane, Mentor	Poster # 28
Ian Nolen	Department of Physics “Ellipsometric Measurements of the Electro-Optic Coefficient” Professor Michael Hayden, Mentor	Poster # 12
Oluwaseun Olayiwola	Department of Chemical Engineering “GTPases Mathematical Framework Dynamics” Professor Mariajose Castellanos, Mentor	Poster # 99
Nana Owusu-Boaitey	Department of Biological Sciences “The Utilization of TAT Fusion Protein for Tolerance Induction in the EAE Model” Professor David Scott, Mentor	Poster # 45



Poster Presentations

Michael Pacella	Department of Chemical Engineering “Creating a Mathematical Model of <i>Chlamydomonas reinhardtii</i> Metabolism” Professor Mariajose Castellanos, Mentor	Poster # 96
Ryan Park Ryan Connor Benjamin Link Joel Gwinn	Department of Chemical Engineering “Industrial Production of Aspartame: Economic Feasibility Study on Entering the Market” Professor Mariajose Castellanos, Mentor	Poster # 83
Nicole Parker	Department of Biological Sciences “PKCI/HINT1 Involvement in the Learning and Behavior of the Morris Water Maze Test Using Proximal Cues” Professor Jia Bei Wang, Mentor	Poster # 41
Nick Pinkin	Department of Chemistry “Synthesis of Potential Inhibitors of Thymidylate Synthase Based on Quinazoline Structural Skeleton” Professor Ramachandra Hosmane, Mentor	Poster # 76
Michael Reid	Department of Mathematics “Parallel Performance Studies for a Numerical Simulator of Atomic Layer Deposition” Professor Matthias Gobbert, Mentor	Poster # 5
Aileen Richards Mike S. German Ashrith Mathias Olu Olayiwola Benjamin Schultz	Department of Chemical Engineering “The Economic Feasibility of Algae as a Green Energy Source” Professor Mariajose Castellanos, Mentor	Poster # 71
Christelle Samen	Biochemistry and Molecular Biology Program “IL-21 is Increased in CD4 ⁺ T Cells and Serum of Patients with SLE” Professor Violeta Rus, Mentor	Poster # 32
Melissa Santos	Department of Chemical Engineering “Development of Intuitive Fluorescent Biosensor for Glucose” Professor Leah Tolosa, Mentor	Poster # 48

Poster Presentations

Barbara Scheffter	Department of Music “Getting a <i>Handel</i> on Bells: Designing a Summer Music Camp that ‘Rings True’ with Music Education Theory” Professor Airi Yoshioka, Mentor	Poster # 2
Alexandria Scott	Department of Biological Sciences “Using Phylogenetic Differences Between Species to Estimate Geological Timing” Professor Tamra Mendelson, Mentor	Poster # 31
Tanu Sharma	Biochemistry and Molecular Biology Program “Searching for the Counterion to the Protonated Schiff Base in Melanopsin” Professor Phyllis Robinson, Mentor	Poster # 8
Igor Shusterman	Biochemistry and Molecular Biology Program “Prefrontal Cortex Deficits in a Delay Odor Discrimination Task in a Rat Model of Schizophrenia” Professor Patricio O'Donnell, Mentor	Poster # 19
Priya Tiwari Betty Irungu Gillian Yeadon Katie Papagjika	Department of Political Science “Delegated to Represent? Exploring the Racial and Gender Differences in Delegate Demographics at the 2008 Democratic National Convention” Professor Tyson King-Meadows, Mentor	Poster # 37



Poster Presentations

**UMBC Game
 Developer's Club**

Department of Computer Science
*Officers: Lesa Wilcox, Joel Bowers, Taylor Evans,
 Luis Rivera; Programming: Jonathan Moriarty,
 Alex Lacey, Alex Brindley, Brian Caine, Shawn Marsden,
 David Hack, Matt Song, Matthew Kalkbrenner,
 Jonathan Merkle, Gini Bailey, Colin Taylor, Jan Zheng,
 Joshua Tunzi, Kevin Markey, Daniel Hogberg, Alex Evers,
 Ben Harris, Jurrell Brown, Greg Aring, James Weaver;*
*Art: Jonathan Pack, Eve Addison, Tommy Truong,
 Wallace Brown, Scott Stevens, Richard Lee, Isaac Sohn,
 Cody Pearson, Jon Schubbe, Donovan Hall;*
Sound: Gavin O'Leary, Erin Terwilliger, Danny Hollis
 "Explorations in Game Development: Creating 2D
 and 3D Worlds"
**Professor Marc Olano and Graduate Assistants
 Charles Lohr and David Chapman, Mentors**

Poster # 1

Melvin Velasquez

Department of Chemistry
 "Design and Synthesis of Flexible 2'-Deoxy
 Nucleoside Analogs (Fleximers) As Potential
 Chemotherapeutic Agents"
Professor Katherine Seley-Radtke, Mentor

Poster # 97

Samantha Watts

Department of Social Work
 "Examining the Barriers and Facilitators to
 Breastfeeding in Women Attending a Post-Secondary
 Educational Institution"
Professor Tiffany Baffour, Mentor

Poster # 54

Hannah Wilson

Department of Chemical Engineering
 "Effect of Nutrient Conditions on *Staphylococcus
 aureus* Biofilm Formation"
Professor Julia Ross, Mentor

Poster # 23