



Fourteenth Annual

Undergraduate Research and Creative Achievement Day

April 28, 2010

UMBC
AN HONORS
UNIVERSITY
IN MARYLAND



Theatre and Music

Fine Arts Recital Hall

Moderator: Gregory Schraven, Theatre

9:30 – 9:50 a.m.	<p>Sarah Paquette <i>“Back to Bach: A Historically Informed Interpretation of a Gavotte”</i> Professor Airi Yoshioka, Mentor</p>	Music
9:50 – 10:10 a.m.	<p>Ellen Line <i>“Getting over Tom”</i> Professor Lynn Watson, Mentor</p>	Theatre
10:10 – 10:40 a.m.	<p>Jessica Baker <i>“Nuns and Sex”</i> Professor Alan Kreizenbeck, Mentor</p>	Theatre
10:40 – 11 a.m.	<p>Michal Levitas <i>“Learning the Essence of German Leider and Introducing it to the UMBC Community”</i> Professor David Smith, Mentor</p>	Music
11 – 11:15 a.m.	<p>Omar Said, Jessica Baker <i>“Edwin and his Associates”</i> Professor Alan Kreizenbeck, Mentor</p>	Theatre

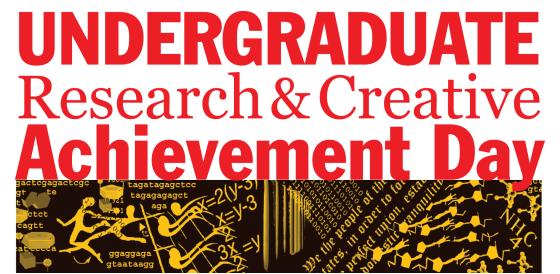
Bartleby

Fine Arts 107

Moderator: Sally Shivnan, English

10:15 – 11:45 a.m.	<p>Kant Klingenstein, Jamyla Williams <i>“Bartleby 2010: Image Joins the Written Word in a Convergence of Creative Writing and Art”</i> Professor Sally Shivnan, Mentor Professor Guenet Abraham, Mentor</p>	Visual and Performing Arts
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** **Ancient Studies**
“New Perspectives on Old Views”
Professor Richard Mason

Film, Animation and Oral Presentations

UNDERGRADUATE Research & Creative Achievement Day



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	Visual Arts
1:45 – 2 p.m.	Katie Dix “ <i>The Humane Metropolis</i> : Using Environmental Initiatives to Benefit Urban Neighborhoods” Professor Nicole King, Mentor Professor Ed Orser, Mentor	American Studies
2 – 2:15 p.m.	Cara Gibson “Diet Coke: America on a Diet” Professor Warren Belasco, Mentor	American Studies
2:30 – 2:45 p.m.	Patrick Rife “The Cyclical Nature of Obsolescence” Professor Steve Bradley, Mentor	Visual Arts
2:45 – 3 p.m.	Glen Fortner “ <i>Water and Ruins</i> ” Professor, Fred Worden, Mentor	Visual Arts

Oral Presentations

University Center, Room 310

Session I

Moderator: Devin Hagerty, Political Science

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

Session II

Moderator: Jeff Leips, Biological Sciences

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



Oral Presentations

11 – 11:15 a.m.	Ruby Jackson-Atogi “The Effect of Prior Experience on Host Foraging Behaviors of a Drosophila Parasitoid” Professor Jeff Leips, Mentor	Biological Sciences
11:15 – 11:30 a.m.	Catherine Pasqualoni, Chrisinta Ross, Katherine Bentz “New Perspectives on Old Views” Professor, Richard Mason	Ancient Studies
11:30 – 11:45 a.m.	Megan Hardy “Harlem at its Best: Popular Culture, Nightlife Venues and Emergence of a Queer Subculture during the Harlem Renaissance” Professor Michelle Scott, Mentor	History
11:45 a.m. – 12 p.m.	Lauren Won “Efficient Algorithms in Elliptic Curve Cryptography” Mr. Tim Hall, Mentor	Computer Science

Session III

Moderator: Suzanne Ostrand-Rosenberg

1 – 1:15 p.m.	Brian Cottrell, Jon Bollinger, Akanska Raja, Benjamin D’Alessio, Amy Tsai “Development and Optimization of an Iso-octene Production Scheme” Professor Mariajose Castellanos, Mentor	Chemical Engineering
1:15 – 1:30 p.m.	Menal Modha “Combinatorial Software Testing” Mr. Richard Kuhn, Mentor	Computer Science
1:30 – 1:45 p.m.	Nathaniel Kim “Extended Pyrimidine Nucleoside Analogues: Investigations into DNA Structure and Function” Professor Katherine L. Seley-Radtke, Mentor	Chemistry
1:45 – 2 p.m.	Priyanka Bushana “Small Molecule Inhibitor of Anti-apoptotic Proteins, ABT-737, in GBM Stem Cells” Professor Gary Gallia, Mentor Professor Avadhut Joshi, Mentor	Biological Sciences



Oral Presentations

2 – 2:15 p.m.	Destiney Buelto “Identification of Brown Adipose Tissue in the Adult Mammary Gland of Brca1-mutant Mice” Professor Laudette 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’ <i>Children of Eden</i> ” Professor Anna Rubin, Mentor Professor Susan McCully, Mentor	Music
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	Gender and Women’s Studies
10 – 10:15 a.m.	JoAnna Gavigan “Gender and Sexual Identity in the Pursuit of Asylum” Professor Carole McCann, Mentor	American Studies
10:15 – 10:30 a.m.	Sarah Solomon “No Development Without Girls: Gender, Development and Youth Activism in Mali” Professor Gloria Chuku, Mentor	Gender and Women’s Studies

Session II

Moderator: Ilsa Lottes, Sociology

10:30 – 10:45 a.m.	Erick Geil “Variations in Perceptions of Sexual Misconduct by Gender” Professor Ilsa Lottes, Mentor	Sociology and Anthropology
10:45 – 11 a.m.	Scott Gautney “Cultural Effects on the Gay Male Lexicon” Professor Thomas Field, Mentor	Modern Languages and Linguistics
11 – 11:15 a.m.	Avery Brow “Gay Male Domestic Violence: A Quantitative Analysis” Professor Ilsa Lottes, Mentor	Sociology and Anthropology



Oral Presentations

11:15 – 11:30 a.m.	Danielle Viens-Payne “Crossing Boundaries: Foreign Language Learning for Learning-Disabled Students” Professor Thomas Field, Mentor Professor Ana Oskoz, Mentor	Modern Languages and Linguistics
11:30 – 11:45 a.m.	Vivian Ekey “Afro-Porteño Identity Today” Professor Sara Poggio, Mentor	Modern Languages and Linguistics
Session III Moderator: Andrea Kalfoglou, Sociology		
1:15 – 1:30 p.m.	Alexandria Volkening “A Mathematical Model of Vulnerable Plaque Growth and Rupture” Professor Jonathan Bell, Mentor	Mathematics
1:30 – 1:45 p.m.	Melissa Chapman “Ashkenazi Young Adults’ Knowledge, Attitudes, and Beliefs about Carrier Testing” Professor Andrea Kalfoglou, Mentor	Psychology
1:45 – 2 p.m.	Richard Blissett “The Business of Marketing Preimplantation Genetic Screening” Professor Andrea Kalfoglou, Mentor	Sociology and Anthropology
2 – 2:15 p.m.	Christa Kizito “Women’s Representation in sub-Saharan Africa” Professor Carolyn Forestiere, Mentor	Political Science
2:15 – 2:30 p.m.	Susan Wilmes “Lemony Snicket as a Gateway to Children’s Holocaust Literature” Professor Michele Osherow, Mentor	English



Oral Presentations

Session IV

Moderator: Joseph Morin, Music

2:30 – 2:45 p.m.	Allison Isberg “Translating a Medieval Will for Modern Readers” Professor Gail Orgelfinger, Mentor	Interdisciplinary Studies
2:45 – 3 p.m.	Meghan Sommers “Medieval and Renaissance Shawms: An Exploration of Embouchure” Professor Joseph Morin, Mentor	Music
3 – 3:15 p.m.	Elizabeth Scott “The Effect of Nationalism on Czech Design” Professor Joseph Coates, Mentor	Visual Arts
3:15 – 3:30 p.m.	Brandon Cottom “Driving Forces Behind Himalayan Glacial Melt” Professor Ali Tokay, Mentor Dr. Eric Wilcox, Mentor	Environmental Science
3:30 – 3:45 p.m.	Rebecca Reeves “Spatial Dynamics of the Eastern Mud Turtle <i>Kinosternon subrubrum</i> in a Freshwater Tidal Marsh” Professor Christopher Swan, Mentor	Environmental Science



Poster Presentations

University Center, Second Floor

10 a.m. – 12:30 p.m.

Shellon George Stephanie Gitukui Phillip-Alexander Downie	Health Administration and Policy “Promoting Healthy Eating Among Children” Professor Andrea Kalfoglou, Mentor	Poster # S1
Betty Irungu	Political Science “An Analysis of Ethnic Identity in the 2007 Kenyan General Election” Professor Tyson King-Meadows, Mentor	Poster # S2
Areej Kuraishi Mary Kearns Philips Khuu Thy Ma	Sociology and Anthropology “Port Discovery Exhibit: Promoting Sun Safety Among Today’s Youth” Professor Andrea Kalfoglou, Mentor	Poster # S3
Jonathan Merkle Matthew Song Kevin Kemp Justin Wall	Computer Science “Brink of Reality: A Power Defense Game” Professor, Neal McDonald	Poster # S13
Stephanie Tkaczyk	English “Comparing Cognitive Writing Processes in the International Community” Professor Lucille McCarthy, Mentor	Poster # S4
Sana Waheed	Health Administration and Policy “Should I Take my Meds or Not? : Pregnant Women’s Decision Making About the Use of Antidepressant Drugs” Professor Andrea Kalfoglou, Mentor	Poster # S5
Gillian Yeadon	Political Science “Why Ethnic Diversity Matters and its Impact on Universal Health Care in the United States” Professor Carolyn Forestiere, Mentor	Poster # S6



Poster Presentations

University Center, Second Floor

12:30 – 3 p.m.

Maria Beckford	Sociology and Anthropology “Low-Income Women’s Perceptions of the Quality of Their Infant Care: Supports and Barriers” Professor Ilsa Lottes, Mentor	Poster # S12
Jarrett Farmer	Ancient Studies “The Megaron at Pylos: A New Interpretation” Professor Michael Lane, Mentor	Poster # S7
Desiree Johnson	Health Administration and Policy “Hand Washing for Children” Professor Andrea Kalfoglou, Mentor	Poster # S8
Elizabeth Lynch	Modern Languages and Linguistics “The Challenged Identities of Speakers of World Englishes: Identity Validation as a Strategy to Encourage Bidialectalism” Professor Mary Hickernell, Mentor	Poster # S9
Jonathan Merkle Matthew Song Kevin Kemp Justin Wall	Computer Science “Brink of Reality: A Power Defense Game” Professor, Neal McDonald	Poster # S13
Catherine Pasqualoni Chrisinta Ross Katherine Bentz	Ancient Studies “New Perspectives on Old Views” Professor, Richard Mason	Poster # S10
David Pourshoushtari	Political Science “Justice Sotomayor and the Legitimacy of the Supreme Court” Professor Tyson King-Meadows, Mentor	Poster # S11

UNDERGRADUATE Research & Creative Achievement Day



Poster Presentations

University Center, Ballroom

10 a.m. – 3 p.m.

Timothy Bubb Maxwell Hathaway Rachel Kreuzinger Alex Ehrensberger Jenna Ullrich Bradley Tinney Abby Salvo Shane Logue Elena Debold	Visual Arts “UMBC IRC Fellows iPhone Strategy Game” Professor Neal McDonald, Mentor	Poster # 135
Chris Cromwell	Visual Arts “Titan Climber” Professor Neal McDonald, Mentor	Poster # 2
Christopher Ferguson Michael Topper Arunkumar Junuthula Sameen Raza Won Woo	Biological Sciences “Genome Wide Association Tests for Age-Specific Immuno-competence in <i>Drosophila</i> ” Professor Jeff Leips, Mentor	Poster # 112
Lauren Long	Psychology “Effects of Exposing Rats to Types of Radiations Encountered in Space on Cognitive Performance” Professor Bernard Rabin, Mentor	Poster # 29
John Perry Alex Ehrensberger Eric Wasser	Visual Arts “Dead Fall” Professor Neal McDonald, Mentor	Poster # 3
Juan Carlos Rivera Derek Ragos Teresa Oswald John Cservek	Visual Arts “Akisakio” Professor Neal McDonald, Mentor	Poster # 4
UMBC Game Developer’s Club	Computer Science “Video Game Development” Professor Neal McDonald, Mentor	Poster # 1

Poster Presentations

University Center, Ballroom

10 a.m. – 12:30 p.m.

Shawn Barton	Biochemistry and Molecular Biology “Confirmation of a Long-Range Interaction in HIV-1 5'-UTR and its Effect on Dimerization” Professor Michael Summers, Mentor	Poster # 72
Maria Bednarek	Biochemistry and Molecular Biology “Optimization of Drug Nanocarriers via the Construction of a Stealth Dendron” Professor Marie-Christine Daniel, Mentor	Poster # 19
Mikhael Bekkerman	Biological Sciences “Developmental Occurrence of Solitary Chemosensory Cells in the Airway of Mice” Professor Weihong Lin, Mentor	Poster # 87
Ashleigh Bouchelion	Biological Sciences “Implication of Ribosomal Protein on Tubulin Formation” Professor Lasse Lindahl, Mentor	Poster # 82
Abigail Bratcher	History “Reclaiming Maryland: Confederate Nationalism in Popular Print Culture” Professor Anne Rubin, Mentor	Poster # 9
Richard Brown	Biochemistry and Molecular Biology “Polymers for Long-Range Photoinduced Proton Transfer” Professor Paul Smith, Mentor	Poster # 84
Stephanie Chan Asante Hatcher	Biological Sciences “Effects of Zinc Sulfate Intranasal Irrigation on Semiochemical Detection in Mice” Professor Weihong Lin, Mentor	Poster # 86
David Chen	Psychology “Beyond the Sophistication of Advanced Statistical Procedures in Psychology” Professor Anne Brodsky, Mentor	Poster # 37



Poster Presentations

Danielle Chestang	Management of Aging Services “Impact of Images in Advertisements on Older Adults” Professor Judah Ronch, Mentor	Poster # 63
Geoffrey Clapp	Mathematics “Modeling Sensory Input to the Lamprey Spinal Cord” Professor Kathleen Hoffman, Mentor	Poster # 111
George Cutsail III	Chemistry “Copper Amyloid-beta Complex in Alzheimer’s Disease” Professor Veronika Szalai, Mentor	Poster # 65
Kimberly Daniels	Biological Sciences “The Role of Interferon Gamma on the Induction and Suppressive Activity of Myeloid-Derived Suppressor Cells” Professor Suzanne Ostrand-Rosenberg, Mentor	Poster # 98
Sai Sachin Divakaruni	Biochemistry and Molecular Biology “HIV-1 Packaging is Regulated by Long-Range Interaction between the U5 and AUG Regions and its Effect on NC Binding Sites” Professor Michael Summers, Mentor	Poster # 61
Han Dong	Computer Science “Computer Visualization of Optical Network Behavior” Professor Yung-Jui (Ray) Chen, Mentor	Poster # 118
Jenny Donoghue Kirbi Hawkins Jerry Flynn Michael Boone-Felder Robert Henderson	Chemical Engineering “Production of Styrene from the Dehydrogenation of Ethylbenzene” Professor Mariajose Castellanos, Mentor	Poster # 96
Rohan Durbal	Chemical Engineering “Influence of Adhesive Ligand on Mechanical Properties of Polyethylene glycol Hydrogels” Professor Jennie Leach, Mentor	Poster # 92
Timi Fadiran	Mechanical Engineering “Characterizing Fracture Force of Hyoid Bone: Investigation of Suicides and Homicides” Professor Timmie Topoleski, Mentor	Poster # 90



Poster Presentations

Phillip Fitzgerald	Biochemistry and Molecular Biology "Inflammation Induces Myeloid-Derived Suppressor Cells in the C57BL/6 Mouse Model" Professor Suzanne Ostrand-Rosenberg, Mentor	Poster # 120
Joshua Francois	Mechanical Engineering "Computational Modeling of Atomic Force Microscopy Tip Loading and Unloading on a Biological Cell" Professor Chalres Eggleton, Mentor	Poster # 15
Wendy Gaultney	Psychology "A Review of Educational Materials for Parents of Food Allergic Children" Professor Lynnda Dahlquist, Mentor	Poster # 134
Kimeya Ghaderi	Biochemistry and Molecular Biology "Development of an Isolation Protocol for <i>in vivo</i> Transcription and Recovery of RNA" Professor Daniele Fabris, Mentor	Poster # 44
Lauren Hall	Psychology "Peer Interactions and Social Competence of Young Food-Allergic Children" Professor Lynnda Dahlquist, Mentor	Poster # 11
Gregory Handy	Mathematics "Extending the IP3 Receptor Model to Include Competition with Partial Agonists" Professor Bradford Peercy, Mentor	Poster # 54
John Haser Zach Vonder Haar Neil Agarwal Colin Kelly Kevin Poff	Chemical Engineering "Iso-octene Production through MTBE Decomposition and Isobutene Dimerization" Professor Mariajose Castellanos, Mentor	Poster # 79
Wayne Heavener	Political Science "Consensus and Legitimacy in Supreme Court Opinions" Professor Jeffrey Davis, Mentor	Poster # 100



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 DNA Containing Expanded Purine Analogues” Professor Katherine Seley-Radtke, Mentor	Poster # 17
Phillip Kang	Chemical Engineering “The Development of a Biological Antioxidant Capacity Assay Using Green Flourescent <i>E. coli</i> ” 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 Phil Cutler Rohan Durbal Imhotep Jackson Hanna Worku Hannah Wilson	Chemical Engineering “Design of an Ethylbenzene Production Scheme of a Styrene Chemical Plant by Innobox Engineering, Inc.” Professor Mariajose Castellanos, Mentor	Poster # 94
Olivia Nwankwo	Biochemistry and Molecular Biology “Integration of GFP into the Chromosome of <i>E. coli</i> Bacteria” Professor Michael Donnenberg, Mentor	Poster # 113



Poster Presentations

Annah Seo	Psychology “Examining Parental Acculturation, Socialization Goals, and the Development of Korean Immigrant Children” Professor Charissa Cheah, Mentor	Poster # 122
Rashmi Singh Venkateswaran Ramakrishnan	Biochemistry and Molecular Biology “Investigation of the Long-Range Interaction between the U5’ and AUG Regions of the HIV-2 5’UTR” Professor Michael Summers, Mentor	Poster # 60
Cristina Teixeira	Chemistry “Development of a Food Quality Indicating Sensor” Professor William LaCourse, Mentor Mr. Aristotle Kalivrentenos, Mentor	Poster # 35
Regina Ullis	Biochemistry and Molecular Biology “Optimizing <i>Escherichia coli</i> Expression and Solubility of Mammalian Soluble Guanylate Cyclase Constructs” Professor Elsa Garcin, Mentor	Poster # 74
Amar Vadalia Jon J. Schubbe	Computer Engineering, Visual Arts “An iKiosk System using Windows7 and a Touch-screen Monitor” Ms. May Chang, Mentor	Poster # 45
Melvin Velasquez	Chemistry “Developing a New Class of Chemotherapeutic Drugs: 2` Deoxy Proximal Flexible Nucleosides” Professor Katherine Seley-Radtke, Mentor	Poster # 31
Donna Viola	Interdisciplinary Studies “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	Poster # 69
Robert D. Wardlow II	Biochemistry and Molecular Biology “Mesenchymal Stem Cells Provide Protection of Cardiac Ventricular Myocytes by Paracrine Mechanism” Professor Terry B. Rogers, Mentor	Poster # 7
Immanuel Williams	Mathematics “An Approach to Lowering Gang Levels” Professor Jinglai Shen, Mentor	Poster # 130



Poster Presentations

Naomi Wolford

Physics

“Examining Cloud Microphysics and Thermodynamics in the Laboratory”

Professor Manfredo Tabacniks, Mentor

Professor Vanderlei Martins, Mentor

Poster # 124

Lana Zhang

Biological Sciences

“TRPM5 Expressed in SCCs is Important in Regulating Chemical Access to the Vomeronasal Organ”

Professor Weihong Lin, Mentor

Poster # 89

Albert Zhou

Biological Sciences

“Characterization of Prostate Specific Regulatory Elements in Transgenic Mice”

Professor Charles Bieberich, Mentor

Poster # 39

Rebecca Zia

Psychology

“Maternal Depressive Symptoms, Parent-Child Relationships, and Children’s Peer Problems in Chinese Immigrants”

Professor Charissa Cheah, Mentor

Poster # 126

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 “The Relation of the Response Distribution to Self-Report Questionnaires and Cognitive Ability among Children” Professor Laura Stapleton, Mentor	Poster # 27
Stephanie Battle	Biochemistry and Molecular Biology “Structure-function Analysis of the Novel Defense Protein SUP3 in <i>Arabidopsis thaliana</i> ” Professor Hua Lu, Mentor	Poster # 85
Erwin Cabrera	Biological Sciences “Analyzing and Expressing the Visual Pigment Genes of the <i>Astyanax mexicanus</i> ” Professor Phyllis Robinson, Mentor	Poster # 102
Keisha Carr	Chemical Engineering “Analysis of Polymorphonuclear Leukocyte Penetration in <i>Staphylococcus aureus</i> Biofilms” Professor Julia Ross, Mentor	Poster # 83



Poster Presentations

Patricia Castillo	Biological Sciences “Infant Nutrition and Risk of Celiac Disease” Professor Alessio Fasano, Mentor	Poster # 129
Mohsan Chaudhry	Biochemistry and Molecular Biology “Ring-Expanded Nucleotides/Nucleotides as Potential Anti-Viral and Anti-Cancer Agents” Professor Ramachandra Hosmane, Mentor	Poster # 59
Elisia Clark	Biological Sciences “Effect of Protein Kinase CK2 Blockade on Prostate Cancer Progression in a Mouse Model” Professor Charles Bieberich, Mentor	Poster # 14
Jaime Compton	Physics “Determination of Planetary Boundary Layer for Air Quality Forecasting” Professor Ruben Delgado, Mentor	Poster # 121
Ryan Connor	Chemical Engineering “Modeling the Impact of CNS-derived HIV-1 in the Emergence of Anti-Retroviral Drug Resistance” Professor Mariajose Castellanos, Mentor	Poster # 78
Joseph Cornish	Bioinformatics and Computational Biology “Computational Methods for the Making of Transcription Factor Binding Sites in Genomic Sequences” Professor Ivan Erill, Mentor	Poster # 91
Thomas Dakermanji Maria Vitery	Chemistry “Development of an Assay to Determine the Affinity of the Snake Venom Protein Crotamine for Heparin” Professor Richard Karpel, Mentor	Poster # 117
Robert Deloatch Amy Ciavolino Mary Lewis Eliana Feasley Iris Kwok Chris Mai	Computer Science “Developing an Intelligent Tutoring System for CS1 Students” Professor Marie desJardins, Mentor	Poster # 22



Poster Presentations

Emily Doughty	Bioinformatics and Computational Biology “Semi-Automatic Method for Mutation Extraction of Cancer Mutations from the Literature” Professor Maricel Kann, Mentor	Poster # 52
Brittany Earnest	Chemical Engineering “Analysis of the Formation, Stability and Toxicity of Myoglobin Amyloid Fibrils” Professor Theresa Good, Mentorr	Poster # 28
Kedy Edme	Chemistry “NMR Structure of the Core Packaging Signal of HIV-1” Professor Michael Summers, Mentor	Poster # 62
Laurette Femnou	Biochemistry and Molecular Biology “Investigation of Structure-function Relationship of HIV-1 Reverse Transcriptions by Mass Spectrometry” Professor Daniele Fabris, Mentor	Poster # 99
James Gerity Tyler Schmitz	Physics “Cloud-CubeSat – Designing a Picosatellite” Professor J. Vanderlei Martins, Mentor	Poster # 119
Phillip Geter	Biochemistry and Molecular Biology “Structure Elucidation of the HIV-1 5'-UTR Using MS3D” Professor Daniele Fabris, Mentor	Poster # 36
Sabah Ghulamali	Gender and Women’s Studies “Exploring Students’ Knowledge and Perceptions of Sexual Assault Resources On-Campus” Professor Sarah Chard, Mentor	Poster # 71
Irma Hashmi	Biological Sciences “Role of Ribosomal Protein rps9B in Translational Accuracy” Professor Philip Farabaugh, Mentor	Poster # 18
Lucas Horn	Biological Sciences “Genetic Controls of Age-Related Phagocytic Ability in <i>Drosophila melanogaster</i> ” Professor Jeff Leips, Mentor Professor Michelle Starz-Gaiano, Mentor	Poster # 107



Poster Presentations

Chioma Ihekweazu	Biological Sciences “Evolutionary Patterns of Ultraviolet Reflectance in the genus <i>Etheostoma</i> ” Professor Tamra Mendelson, Mentor	Poster # 20
Ammar Jaber	Biological Sciences “Umami and Bitter Taste Perception in Acetylcholine Receptor M3 Knockout Mice” Professor Tatsuya Ogura, Mentor	Poster # 116
Matthew Jancasz	Information Systems “Knowledge-guided Crossover in Portfolio Optimization” Professor Roy Rada, Mentor	Poster # 38
Sara Kibrom	Biochemistry and Molecular Biology “Ternary Complexes of Crotonamine” Professor Richard Karpel, Mentor	Poster # 93
Benyam Kinde	Biological Sciences “Insights into the Molecular Mechanisms of Circadian Rhythm” Professor Andrea Meredith, Mentor	Poster # 33
Nyonsuatee Kollue	Chemistry “The Development and Purification of Isotopically Enriched NTPs for Structure Elucidation via Mass Spectrometry” Professor Daniel Fabris, Mentor	Poster # 76
Margaret Kott	Biological Sciences “Sequencing of <i>Callinectes sapidus</i> Opsins” Professor Thomas Cronin, Mentor	Poster # 123
Richard Maduka	Chemistry “The Affinity of Cu ¹⁺ for the Amyloid-Beta Peptide of Alzheimer’s Disease” Professor Veronika Szalai, Mentor	Poster # 55
Gabrielle McRae	Biochemistry and Molecular Biology “The Correlation Between S100B and Cellular Damage” Professor David Weber, Mentor Professor Kira Gianni, Mentor	Poster # 43



Poster Presentations

Sonia Metangmo	Biological Sciences “The Role of Altered Omentin Expression in the Mesothelial Cell Inflammatory Response” Professor John McLenithan, Mentor	Poster # 25
Archana Murali	Biological Sciences “Apontic, a Novel Regulator of the JAK/STAT Pathway in <i>Drosophila</i> Testis” Professor Michelle Starz-Gaiano, Mentor	Poster # 6
Matthew Murphy	Biological Sciences “Which Blackbirds Are Black? The Evolution of Countershading and Temperate Breeding” Professor Kevin Omland, Mentor	Poster # 127
Brandon Nemieboa	Biochemistry and Molecular Biology “Growth Inhibitory Effect of Zoledronic Acid on Breast Cancer Cell Lines” Professor Angela Brodie, Mentor	Poster # 101
Willis Ochieng Xin Ma	Biological Sciences “Genetic Basis of Natural Variation in a Novel Phenotype in <i>Drosophila melanogaster</i> ” Professor Jeff Leips, Mentor	Poster # 75
Evelyn Ojo	Chemical Engineering “Effect of Substrate Patterning on <i>S. aureus</i> Biofilm Formation” Professor Jennie Leach, Mentor Professor Julia Ross, Mentor	Poster # 115
Chikezie Okoro	Chemistry “Carbocyclic Fleximers as Anti-Trypanosomal Agents” Professor Katherine Seley-Radtke, Mentor	Poster # 16
Daryl Omire-Mayor	Chemistry “The Effect of Molecular Characteristics on Sugar Recovery Using <i>in-vitro</i> Microdialysis” Professor William LaCourse, Mentor	Poster # 8
Nana Owusu-Boaitey	Biological Sciences “The Utilization of CD20-Specific Lentiviruses for Tolerance Induction” Professor David Scott, Mentor	Poster # 32



Poster Presentations

Michael Pacella Jason Loiland Brooke Liebforth Chijioke Irrechukwu Fabiola Rincon	Chemical Engineering “Production of Styrene Monomer from Ethylene and Benzene” Professor Mariajose Castellanos, Mentor	Poster # 95
Nicole Parker	Biochemistry and Molecular Biology “PKC α /HINT1 Involvement in Morphine Addiction Using Conditioned Place Preference Test” Professor Jia Bei Wang, Mentor	Poster # 97
Dina Popovkina	Biochemistry and Molecular Biology “TrkB Receptor Downregulation Contributes to Dendritic Spine Density Decrease Due to Chronic Elevation of Corticosterone” Professor Scott Thompson, Mentor	Poster # 48
Anna Ramirez	Psychology “Parental Depression in Toddlerhood and Child Growth from Two to Four Years of Age” Ms. Laura Scaletti, Mentor	Poster # 50
Joseph Ring	Chemistry “Creation and Screening of Second-Generation Peptide Library Targeting HIV-1 Packaging Signal” Professor Daniele Fabris, Mentor	Poster # 46
Kaitlyn Sadtler	Biological Sciences “An Isotachophoretic Method for the Separation and Concentration of DNA and RNA in Food Matrices” Professor Charles Young, Mentor	Poster # 114
Christelle Samen	Biochemistry and Molecular Biology “IL-21-IL-21R Interactions on Host B Cells, not Donor CD4 Cells, Critical for Development of Autoimmune Features in cGVHD” Professor Violeta Rus, Mentor	Poster # 66
Lael Scarborough	Biological Sciences “Identifying Difference in Murine TLR Stimulation Between <i>H. pylori</i> and <i>H. felis</i> ” Professor Tom Blanchard, Mentor	Poster # 10



Poster Presentations

Onajite Shemi	Chemistry “An Apical Sodium Bile Acid Transporter (ASBT) Targeted Prodrug Design for Sustained Release of Niacin” Professor James Polli, Mentor	Poster # 13
Patrice Starck	Biochemistry and Molecular Biology “NMR Analysis of the Conserved Bulge in the Core Encapsidation Signal of Type-C Gammaretroviruses” Professor Michael Summers, Mentor	Poster # 73
Carrie Strachan	Psychology “Toddler Temperament and Parental Depression: Predictors of Poor Emotional Functioning at Age Seven” Ms. Laura Scaletti, Mentor	Poster # 41
Christy Thai	Biological Sciences “Mouse Olfactory Bulb Activation Evoked by Ferret Odors” Professor Weihong Lin, Mentor	Poster # 88
Gary Thompson	Bioinformatics and Computational Biology “An Improved Approach to Extracting Disease- Related Mutations from Biomedical Literature” Professor Maricel Kann, Mentor	Poster # 12
Monica Tith	Psychology “Caregiver Negative Life Events and Coping with Stress in Children” Ms. Laura Scaletti, Mentor	Poster # 40
Margarita Tsionsky	Emergency Health Services “Public Understanding, Use, and Support for Emergency Medical Services” Professor Kurt Krumperman, Mentor	Poster # 80
Margarita Tsionsky	Biological Sciences “Characterization of SUP3 Homologues in Arabidopsis Defense” Professor Hua Lu, Mentor	Poster # 81



Poster Presentations

Devyani Ujla	Biological Sciences “The Development of a Phospho-null Melanopsin Mutant” Professor Phyllis Robinson, Mentor	Poster # 108
Shelby Vargo	Chemical Engineering “Effects of Environment Dimensionality on Sensory Neurons Process Outgrowth: 3D Better Mimics <i>in vivo</i> Features” Professor Jennie Leach, Mentor	Poster # 125
Melissa Velasquez	Chemical Engineering “Analysis of Oxygen Levels within <i>S. aureus</i> Biofilms Using Fluorescent Microparticles” Professor Julia Ross, Mentor Professor Jennie Leach, Mentor	Poster # 57
Aminah Wali	Biological Sciences “Developing a System to Regulate Gene Expression in the Mouse Prostate” Professor Charles Bieberich, Mentor	Poster # 131
Momoka Watanabe	Psychology “An Ecological Examination of Psychological Control in Korean Immigrant Families” Professor Charissa Cheah, Mentor	Poster # 34
Elliot White	Biochemistry and Molecular Biology “Grizzled Opsins” Professor Phyllis Robinson, Mentor Professor Megan Porter, Mentor	Poster # 103
Crystal White	Psychology “Father Absence: A Risk Factor for Developing Behavior Problems in Childhood” Ms. Laura Scaletti, Mentor	Poster # 51
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 # 56

UNDERGRADUATE Research & Creative Achievement Day



Poster Presentations

Hannah Wilson	Chemical Engineering “The Role of <i>Staphylococcus aureus</i> Soluble Biofilm Proteins in Inhibiting Neutrophil Migration” Professor Julia Ross, Mentor	Poster # 77
Michelle Renay Wilson	Visual Arts “Male Breast Cancer: Three Portraits” Professor Calla Thompson, Mentor	Poster # 68
Kevin Winner	Computer Science “Controlling Particle Swarm Optimization with Learned Parameters” Professor Marie desJardins, Mentor Professor Don Miner, Mentor	Poster # 30
Breanne Wright	Biochemistry and Molecular Biology “The Effect of Transgenic Manipulation of the BK Channel (<i>Kcnma1</i>) on Circadian Rhythmicity” Professor Andrea Meredith, Mentor	Poster # 53

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