

April 28, 2010

**UNDERGRADUATE
Research & Creative
Achievement Day**



**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Scroll Down to see Presenters from

CWIT

Golden Key

HHMI

Honors College

Humanities Scholars

Imaging Research Center

Linehan Artist Scholars

LRC/SSS Tutors

MARC U*STAR

McNair Scholars Program

Meyerhoff Scholars

National Society of Black Engineers

Phi Beta Kappa

Pre-MARC

Sondheim Scholars

CWIT Scholar

Oral Presentation, 1:45 - 2:00 p.m., UC 310

Student: **Priyanka Bushana**
Mentor: **Dr. Gary Gallia**
Dr. Avadhut Joshi

**“Small Molecule Inhibitor of
Anti-apoptotic Proteins,
ABT-737, in GBM Stem
Cells”**

*Department of Biological
Sciences*

Golden Key National Honor Society

Oral and Film Presentation, Fine Arts 221

Student: **Katie Dix**
Mentors: **Dr. Nicole King**
Dr. Edward Orser
Oral
1:45 - 2:00 p.m.

**“The Humane Metropolis:
Using Environmental
Initiatives to Benefit Urban
Neighborhoods”**

*Department of American
Studies*

Student: **Glen Fortner**
Mentor: **Mr. Fred Worden**
2:45 - 3:00 p.m.
FA 221

“Water and Ruins”

Department of Visual Arts

Artistic Exhibit, 10:00 a.m. - 3:00 p.m., UC 115

Students: **Franki Trout,**
Daniell-Vines Payne, Kelly-
Lynne Russell
Mentor: **Dr. Preminda Jacob**

**“Virtual Museum: Life as a
Dance”**

Department of Visual Arts

Oral Presentations, UC 310

Student: **Victory Mohamed**
Mentor: **Dr. Devin Hagerty**
9:30 - 9:45 a.m.

**“The Rise of China and India: What
do Possible New Superpowers Mean
for the United States?”**

*Department of Political
Science*

Student: **Gabrielle Wyatt**
Mentor: **Dr. George La Noue**
10:00 - 10:15 a.m.

**“Homeless Children and the
Foreclosure Crisis:
Implications of the
McKinney-Vento Act”**

*Department of Political
Science*

Student: **Rachana Haliyur**
Mentor: **Dr. Margaret McCarthy**
10:15 - 10:30 a.m.

**“Identifying the Role of
Microglia in Sexual
Differentiation of the Brain”**

*Department of Biological
Sciences*

Student: **Ruby Jackson-Atogi**
Mentor: **Dr. Jeff Leips**
11:00 - 11:15 a.m.

**“The Effect of Prior
Experience on Host Foraging
Behaviors of a Drosophila
Parasitoid”**

*Department of Biological
Sciences*

Student: **Lauren Won**
Mentor: **Dr. Tim Hall**
11:45 - 12:00 a.m.

**“Efficient Algorithms in
Elliptic Curve
Cryptography”**

*Department of Computer
Science*

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**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Student: **Menal Modha**
Mentor: **Mr. Richard Kuhn**
1:15 - 1:30 p.m.

“Combinatorial Software Testing”

Department of Computer Science

Student: **Nathaniel Kim**
Mentor: **Dr. Katherine L. Seley-Radtke**
1:30 - 1:45 p.m.

“Extended Pyrimidine Nucleoside Analogues: Investigations into DNA Structure and Function”

Department of Chemistry

Student: **Lydia Grmai**
Mentor: **Dr. Suzanne Ostrand-Rosenberg**
2:30 - 2:45 p.m.

“Effect of Inflammation on Apoptosis in Myeloid-Derived Suppressor Cells (MDSC) in Breast Cancer”

Department of Biological Sciences

Oral Presentations, UC 312

Student: **Danielle Viens-Payne**
Mentors: **Dr. Thomas Field**
Dr. Ana Oskoz
11:15 - 11:30 a.m.

“Crossing Boundaries: Foreign Language Learning for Learning-Disabled Students”

Department of Modern Languages and Linguistics

Student: **Richard Blissett**
Mentor: **Dr. Andrea Kalfoglou**
1:45 - 2:00 p.m.

“The Business of Marketing Preimplantation Genetic Screening”

Department of Sociology and Anthropology

Student: **Christa Kizito**
Mentor: **Dr. Carolyn Forestiere**
2:00 - 2:15 p.m.

“Women's Representation in sub-Saharan Africa”

Department of Political Science

Poster Presentations, 10:00 a.m. - 12:30 p.m., UC Ballroom

Student: **Shawn Barton**
Mentor: **Dr. Michael Summers**

“Confirmation of a Long-Range Interaction in HIV-1 5'-UTR and its Effect on Dimerization”

Department of Biochemistry and Molecular Biology

Student: **Mikhael Bekkerman**
Mentor: **Dr. Weihong Lin**

**“Developmental Occurrence
of Solitary Chemosensory
Cells in the Airway of Mice”**

*Department of Biological
Sciences*

Student: **Ashleigh Bouchelion**
Mentor: **Dr. Lasse Lindahl**

**“Implication of Ribosomal
Protein on Tubulin
Formation”**

*Department of Biological
Sciences*

Student: **Sai Sachin
Divakaruni**
Mentor: **Dr. Michael
Summers**

**“HIV-1 Packaging is
Regulated by Long-Range
Interaction between the U5
and AUG Regions and its
Effect on NC Binding Sites”**

*Department of Biochemistry
and Molecular Biology*

Student: **Phillip Fitzgerald**
Mentor: **Dr. Suzanne
Ostrand-Rosenberg**

**“Inflammation Induces
Myeloid-Derived Suppressor
Cells in the C57BL/6 Mouse
Model”**

*Department of Biochemistry
and Molecular Biology*

Student: **Gregory Handy**
Mentor: **Dr. Bradford Percy**

**“Extending the IP3 Receptor
Model to Include
Competition with Partial
Agonists”**

Department of Mathematics

Student: **Cameron Johnson**
Mentor: **Dr. Katherine Seley-
Radtko**

**“Design and Synthesis of
Unnatural DNA Containing
Expanded Purine Analogues”**

Department of Chemistry

Student: **Phillip Kang**
Mentor: **Dr. Leah Tolosa**

**“The Development of a
Biological Antioxidant
Capacity Assay Using Green
Fluorescent *E. coli*”**

*Department of Chemical
Engineering*

Student: **Gowry Kulandaivel**
Mentor: **Dr. Michael
Summers**

**“Investigating the HIV-1 5'-
UTR Structure via Nuclear
Magnetic Resonance”**

*Department of Biochemistry
and Molecular Biology*

Student: **Annah Seo**
Mentor: **Dr. Charissa Cheah**

**“Examining Parental
Acculturation, Socialization
Goals, and the Development
of Korean Immigrant
Children”**

Department of Psychology

April 28, 2010

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**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Student: **Melvin Velasquez**
Mentor: **Dr. Katherine Seley-Radtke**

**“Developing a New Class of
Chemotherapeutic Drugs:
2’ Deoxy Proximal Flexible
Nucleosides”**

Department of Chemistry

Student: **Robert D. Wardlow II**
Mentor: **Dr. Terry B. Rogers**

**“Mesenchymal Stem Cells
Provide Protection of
Cardiac Ventricular
Myocytes by Paracrine
Mechanism”**

*Department of Biochemistry
and Molecular Biology*

Student: **Albert Zhou**
Mentor: **Dr. Charles
Bieberich**

**“Characterization of Prostate
Specific Regulatory Elements
in Transgenic Mice”**

*Department of Biological
Sciences*

Student: **Rebecca Zia**
Mentor: **Dr. Charissa Cheah**

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

Department of Psychology

Poster Presentations, 12:30 - 3:00 p.m., UC Ballroom

Student: **Anissa Alexander**
Mentor: **Dr. Christopher
Plowe**

**“Microsatellite Analysis to
Improve the Measurement of
Efficacy of Sulfadoxine-
Pyrimethamine for the
Treatment of Malaria”**

*Department of Biochemistry
and Molecular Biology*

Student: **Yohance Allette**
Mentor: **Dr. Lasse Lindahl**

**“Bioinformatics Study of
Cancer Mutations: Using
Protein Domains to Link
Diseases and Mutations”**

*Department of Biological
Sciences*

Student: **Anu Aluvathingal**
Mentor: **Dr. Laura Stapleton**

**“The Relation of the
Response Distribution to Self-
Report Questionnaires and
Cognitive Ability among
Children”**

Department of Psychology

Student: **Stephanie Battle**
Mentor: **Dr. Hua Lu**

**“Structure-function Analysis
of the Novel Defense Protein
SUP3 in *Arabidopsis thaliana*”**

*Department of Biochemistry
and Molecular Biology*

Student: **Keisha Carr**
Mentor: **Dr. Julia Ross**

**“Analysis of
Polymorphonuclear
Leukocyte Penetration in
Staphylococcus aureus
Biofilms”**

*Department of Chemical
Engineering*

Student: **Patricia Castillo**
Mentor: **Dr. Alessio Fasano**

**“Infant Nutrition and Risk of
Celiac Disease”**

*Department of Biological
Sciences*

Student: **Elisia Clark**
Mentor: **Dr. Charles
Bieberich**

**“Effect of Protein Kinase
CK2 Blockade on Prostate
Cancer Progression in a
Mouse Model”**

*Department of Biological
Sciences*

Student: **Ryan Connor**
Mentor: **Dr. Mariajose
Castellanos**

**“Modeling the Impact of
CNS-derived HIV-1 in the
Emergence of Anti-Retroviral
Drug Resistance”**

*Department of Chemical
Engineering*

Student: **Phillip Geter**
Mentor: **Dr. Daniele Fabris**

**“Structure Elucidation of the
HIV-1 5'-UTR Using MS3D”**

*Department of Biochemistry
and Molecular Biology*

Student: **Lucas Horn**
Mentors: **Dr. Jeff Leips
Michelle Starz-Gaiano**

**“Genetic Controls of Age-
Related Phagocytic Ability in
Drosophila melanogaster”**

*Department of Biological
Sciences*

Student: **Benyam Kinde**
Mentor: **Dr. Andrea Meredith**

**“Insights into the
Molecular Mechanisms of
Circadian Rhythm”**

*Department of Biological
Sciences*

Student: **Richard Maduka**
Mentor: **Dr. Veronika Szalai**

**“The Affinity of Cu¹⁺ for the
Amyloid-Beta Peptide of
Alzheimer's Disease”**

Department of Chemistry

Student: **Gabrielle McRae**
Mentors: **Dr. David Weber
Kira Gianni**

**“The Correlation Between
S100B and Cellular Damage”**

*Department of Biochemistry
and Molecular Biology*

Student: **Sonia Metangmo**
Mentor: **Dr. John McLenithan**

**“The Role of Altered
Omentin Expression in the
Mesothelial Cell
Inflammatory Response”**

*Department of Biological
Sciences*

April 28, 2010

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**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Student: **Archana Murali**
Mentor: **Dr. Michelle Starz-Gaiano**

**“Apontic, a Novel Regulator
of the JAK/STAT Pathway in
Drosophila Testis”**

*Department of Biological
Sciences*

Student: **Chikezie Okoro**
Mentor: **Dr. Katherine Seley-Radtke**

**“Carbocyclic Fleximers as
Anti-Trypanosomal Agents”**

Department of Chemistry

Student: **Nicole Parker**
Mentor: **Dr. Jia Bei Wang**

**“PKCI/HINT1 Involvement
in Morphine Addiction Using
Conditioned Place Preference
Test”**

*Department of Biochemistry
and Molecular Biology*

Student: **Dina Popovkina**
Mentor: **Dr. Scott Thompson**

**“TrkB Receptor
Downregulation Contributes
to Dendritic Spine Density
Decrease Due to Chronic
Elevation of Corticosterone”**

*Department of Biochemistry
and Molecular Biology*

Student: **Anna Ramirez**
Mentors: **Ms. Laura Scaletti
Maureen Black**

**“Parental Depression in
Toddlerhood and Child
Growth from Two to Four
Years of Age”**

Department of Psychology

Student: **Lael Scarborough**
Mentor: **Dr. Tom Blanchard**

**“Identifying Difference in
Murine TLR Stimulation
Between *H. pylori* and *H.
felis*”**

*Department of Biological
Sciences*

Student: **Onajite Shemi**
Mentor: **Dr. James Polli**

**“An Apical Sodium Bile Acid
Transporter (ASBT)
Targeted Prodrug Design for
Sustained Release of Niacin”**

Department of Chemistry

Student: **Gary Thompson**
Mentor: **Dr. Maricel Kann**

**“An Improved Approach to
Extracting Disease-Related
Mutations from Biomedical
Literature”**

*Department of Bioinformatics
and Computational Biology*

Student: **Monica Tith**
Mentors: **Ms. Laura Scaletti**
Maureen Black

**“Caregiver Negative Life
Events and Coping with
Stress in Children”**

Department of Psychology

Student: **Margarita Tsionsky**
Mentor: **Mr. Kurt
Krumperman**

**“Public Understanding, Use,
and Support for Emergency
Medical Services”**

*Department of Emergency
Health Services*

Student: **Margarita Tsionsky**
Mentor: **Dr. Hua Lu**

**“Characterization of SUP3
Homologues in Arabidopsis
defense”**

*Department of Biological
Sciences*

Student: **Melissa Velasquez**
Mentors: **Dr. Julia Ross**
Dr. Jennie Leach

**“Analysis of Oxygen Levels
within S. aureus Biofilms
Using Fluorescent
Microparticles”**

*Department of Chemical
Engineering*

Student: **Melanie Wiley**
Mentor: **Dr. Erik Lillehoj**

**“The Role of Human
Endogenous Retroviruses
(HERVS) in the Pathogenesis
of Acute Onset
Schizophrenia”**

*Department of Biochemistry
and Molecular Biology*

Poster Presentations, 12:30 - 3:00 p.m., UC Second Floor

Student: **Jarrett Farmer**
Mentor: **Dr. Michael Lane**

**“The Megaron at Pylos: A
New Interpretation”**

Department of Ancient Studies

Student: **Elizabeth Lynch**
Mentor: **Ms. Mary Hickernell**

**“The Challenged Identities of
Speakers of World Englishes:
Identity Validation as a
Strategy to Encourage
Bidialectalism”**

*Department of Modern
Languages and Linguistics*

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**Presenters from
Scholarly Organizations**

University Center 3rd Floor

HHMI Scholarship Program

Oral Presentation, UC 310

Student: **Igor Shusterman**
Mentor: **Dr. Patricio
O'Donnell**
10:30 - 10:45 a.m.

**“Prefrontal Cortex Deficits in
a Value-Based Odor-
Discrimination Task in a Rat
Model of Schizophrenia”**

*Department of Biochemistry
and Molecular Biology*

Poster Presentations, 10:00 a.m., 12:30 p.m., UC Ballroom

Student: **Shawn Barton**
Mentor: **Dr. Michael
Summers**

**“Confirmation of a Long-
Range Interaction in HIV-1
5'-UTR and its Effect on
Dimerization”**

*Department of Biochemistry
and Molecular Biology*

Student: **Ashleigh Bouchelion**
Mentor: **Dr. Lasse Lindahl**

**“Implication of Ribosomal
Protein on Tubulin
Formation”**

*Department of Biological
Sciences*

Student: **Phillip Fitzgerald**
Mentor: **Dr. Suzanne
Ostrand-Rosenberg**

**“Inflammation Induces
Myeloid-Derived Suppressor
Cells in the C57BL/6 Mouse
Model”**

*Department of Biochemistry
and Molecular Biology*

Student: **Nicholas Pinkin**
Mentor: **Dr. Ramachandra
Hosmane**

**“Synthesis of Potential
Inhibitors of Thymidylate
Synthase Based on
Quinazoline Structural
Skeleton”**

Department of Chemistry

Student: **Alexandria Scott**
Mentor: **Dr. Tamra
Mendelson**

**“Estimating Phylogenetic
Divergence Time Between
Populations of Western
Cutthroat Trout”**

*Department of Biological
Sciences*

Student: **Rashmi Singh,
Venkateswaran Ramakrishnan**
Mentor: **Dr. Michael Summers**

**“Investigation of the Long-
Range Interaction between
the U5' and AUG Regions of
the HIV-2 5'UTR”**

*Department of Biochemistry
and Molecular Biology*

Student: **Robert D. Wardlow II**
Mentor: **Dr. Terry B. Rogers**

**“Mesenchymal Stem Cells
Provide Protection of
Cardiac Ventricular
Myocytes by Paracrine
Mechanism”**

*Department of Biochemistry
and Molecular Biology*

Poster Presentations, 12:30 - 3:00 p.m., UC Ballroom

Student: **Anissa Alexander**
Mentor: **Dr. Christopher
Plowe**

**“Microsatellite Analysis to
Improve the Measurement of
Efficacy of Sulfadoxine-
Pyrimethamine for the
Treatment of Malaria”**

*Department of Biochemistry
and Molecular Biology*

Student: **Erwin Cabrera**
Mentor: **Dr. Phyllis Robinson**

**“Analyzing and Expressing
the Visual Pigment Genes of
the *Astyanax mexicanus*”**

*Department of Biological
Sciences*

Student: **Keisha Carr**
Mentor: **Dr. Julia Ross**

**“Analysis of
Polymorphonuclear
Leukocyte Penetration in
Staphylococcus aureus
Biofilms”**

*Department of Chemical
Engineering*

Student: **Elisia Clark**
Mentor: **Dr. Charles
Bieberich**

**“Effect of Protein Kinase
CK2 Blockade on Prostate
Cancer Progression in a
Mouse Model”**

*Department of Biological
Sciences*

Student: **Phillip Geter**
Mentor: **Dr. Daniele Fabris**

**“Structure Elucidation of the
HIV-1 5'-UTR Using MS3D”**

*Department of Biochemistry
and Molecular Biology*

Student: **Chioma Ihekweazu**
Mentor: **Dr. Tamra
Mendelson**

**“Evolutionary Patterns of
Ultraviolet Reflectance in the
genus *Etheostoma*”**

*Department of Biological
Sciences*

Student: **Benyam Kinde**
Mentor: **Dr. Andrea Meredith**

**“Insights into the Molecular
Mechanisms of Circadian
Rhythm”**

*Department of Biological
Sciences*

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Scholarly Organizations**

University Center 3rd Floor

Student: **Richard Maduka**
Mentor: **Dr. Veronika Szalai**

**“The Affinity of Cu¹⁺ for the
Amyloid-Beta Peptide of
Alzheimer's Disease”**

Department of Chemistry

Student: **Gabrielle McRae**
Mentors: **Dr. David Weber**
Kira Gianni

**“The Correlation Between
S100B and Cellular Damage”**

*Department of Biochemistry
and Molecular Biology*

Student: **Brandon Nemieboa**
Mentor: **Dr. Angela Brodie**

**“Growth Inhibitory Effect of
Zoledronic Acid on Breast
Cancer Cell Lines”**

*Department of Biochemistry
and Molecular Biology*

Student: **Nana Owusu-Boaitey**
Mentor: **Dr. David Scott**

**“The Utilization of CD20-
Specific Lentiviruses for
Tolerance Induction”**

*Department of Biological
Sciences*

Student: **Nicole Parker**
Mentor: **Dr. Jia Bei Wang**

**“PKCI/HINT1 Involvement
in Morphine Addiction Using
Conditioned Place Preference
Test”**

*Department of Biochemistry
and Molecular Biology*

Student: **Dina Popovkina**
Mentor: **Dr. Scott Thompson**

**“TrkB Receptor
Downregulation Contributes
to Dendritic Spine Density
Decrease Due to Chronic
Elevation of Corticosterone”**

*Department of Biochemistry
and Molecular Biology*

Student: **Patrice Starck**
Mentor: **Dr. Michael
Summers**

**“NMR Analysis of the
Conserved Bulge in the Core
Encapsidation Signal of
Type-C Gammaretroviruses”**

*Department of Biochemistry
and Molecular Biology*

Student: **Melanie Wiley**
Mentor: **Dr. Erik Lillehoj**

**“The Role of Human
Endogenous Retroviruses
(HERVS) in the Pathogenesis
of Acute Onset
Schizophrenia”**

*Department of Biochemistry
and Molecular Biology*

Honors College

Artistic Exhibits, 10:00 a.m. - 3:00 p.m., UC 115

Student: **Benjamin Hong**
Sarah Carney
Mentor: **Dr. Preminda Jacob**

**“Virtual Museum: Glass: The
Transparent Connection
Between Art and Science”**

Department of Visual Arts

Students: **Franki Trout,**
Daniell-Vines Payne,
Kelly-Lynne Russell
Mentor: **Dr. Preminda Jacob**

**“Virtual Museum: Life as a
Dance”**

Department of Visual Arts

Oral Presentations, UC 310

Student: **Rachana Haliyur**
Mentor: **Dr. Margaret McCarthy**
10:15 - 10:30 a.m.

**“Identifying the Role of
Microglia in Sexual
Differentiation of the
Brain”**

*Department of Biological
Sciences*

Student: **Lauren Won**
Mentor: **Dr. Tim Hall**
11:45 - 12:00 a.m.

**“Efficient Algorithms in
Elliptic Curve
Cryptography”**

*Department of Computer
Science*

Student: **Priyanka Bushana**
Mentor: **Dr. Gary Gallia**
Dr. Avadhut Joshi
1:45 - 2:00 p.m.

**“Small Molecule Inhibitor of
Anti-apoptotic Proteins,
ABT-737, in GBM Stem
Cells”**

*Department of Biological
Sciences*

Student: **Sunaina Khandelwal**
Mentor: **Dr. Alessio Fasano**
2:15 - 2:30 p.m.

**“Gliadin is a Chemo-
Attractant Factor for
Neutrophils”**

*Department of Biochemistry
and Molecular Biology*

Oral Presentations, UC 312

Student: **Erick Geil**
Mentor: **Dr. Ilsa Lottes**
10:30 - 10:45 a.m.

**“Variations in Perceptions of
Sexual Misconduct by
Gender”**

*Department of Sociology and
Anthropology*

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**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Student: Scott Gautney Mentor: Dr. Thomas Field 10:45 - 11:00 a.m.	“Cultural Effects on the Gay Male Lexicon”	<i>Department of Modern Languages and Linguistics</i>
Student: Vivian Ekey Mentor: Dr. Sara Poggio 11:30 - 11:45 a.m.	“Afro-Porteño Identity Today”	<i>Department of Modern Languages and Linguistics</i>
Student: Alexandria Volkening Mentor: Dr. Jonathan Bell 1:15 - 1:30 p.m.	“A Mathematical Model of Vulnerable Plaque Growth and Rupture”	<i>Department of Mathematics</i>
Student: Susan Wilmes Mentor: Dr. Michele Osherow 2:15 - 2:30 p.m.	“Lemony Snicket as a Gateway to Children's Holocaust Literature”	<i>Department of English</i>
Student: Elizabeth Scott Mentor: Mr. Joseph Coates 3:00 - 3:15 p.m.	“The Effect of Nationalism on Czech Design”	<i>Department of Visual Arts</i>
Student: Rebecca Reeves Mentor: Dr. Christopher Swan 3:30 - 3:45 p.m.	“Spatial Dynamics of the Eastern Mud Turtle Kinosternon subrubrum in a Freshwater Tidal Marsh”	<i>Department of Environmental Science</i>

Poster Presentations, 10:00 a.m. - 12:30 p.m., UC Ballroom

Student: Maria Bednarek Mentor: Dr. Marie-Christine Daniel	“Optimization of Drug Nanocarriers via the Construction of a Stealth Dendron”	<i>Department of Chemistry</i>
Student: Abigail Bratcher Mentor: Dr. Anne Rubin	“Reclaiming Maryland: Confederate Nationalism in Popular Print Culture”	<i>Department of History</i>
Students: Stephanie Chan, Asante Hatcher Mentor: Dr. Weihong Lin	“Effects of Zinc Sulfate Intranasal Irrigation on Semiochemical Sensing in the Mouse”	<i>Department of Biological Sciences</i>

Student: **Geoffrey Clapp**
Mentor: **Dr. Kathleen Hoffman**

“Modeling Sensory Input to the Lamprey Spinal Cord”

Department of Mathematics

Student: **Kimberly Daniels**
Mentor: **Dr. Suzanne Ostrand-Rosenberg**

“The Role of Interferon Gamma on the Induction and Suppressive Activity of Myeloid-Derived Suppressor Cells”

Department of Biological Sciences

Student: **Sai Sachin Divakaruni**
Mentor: **Dr. Michael Summers**

“HIV-1 Packaging is Regulated by Long-Range Interaction between the U5 and AUG Regions and its Effect on NC Binding Sites”

Department of Biochemistry and Molecular Biology

Student: **David Mason**
Mentors: **Dr. Zaven Arzoumanian Keith Gendreau**

“Simulation Software for the Chromatic Mineral Identification and Surface Texture (CMIST) Instrument”

Department of Physics

Student: **Elizabeth Plum**
Mentor: **Dr. Richard Karpel**

“Aggregation of Potential Drug Delivery Vehicle”

Department of Biochemistry and Molecular Biology

Student: **Regina Ulis**
Mentor: **Dr. Elsa Garcin**

“Optimizing *Escherichia coli* Expression and Solubility of Mammalian Soluble Guanylate Cyclase Constructs”

Department of Biochemistry and Molecular Biology

Student: **Albert Zhou**
Mentor: **Dr. Charles Bieberich**

“Characterization of Prostate Specific Regulatory Elements in Transgenic Mice”

Department of Biological Sciences

Poster Presentation, 10:00 a.m. - 12:30 p.m., UC Second Floor

Student: **Betty Irungu**
Mentor: **Dr. Tyson King-Meadows**

“An Analysis of Ethnic Identity in the 2007 Kenyan General Election”

Department of Political Science

April 28, 2010

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**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Poster Presentations, 2:30 - 3:00 p.m., UC Ballroom

Student: **Brittany Earnest**
Mentor: **Dr. Theresa Good**

**“Analysis of the Formation,
Stability and Toxicity of
Myoglobin Amyloid Fibrils”**

*Department of Chemical
Engineering*

Student: **Irma Hashmi**
Mentor: **Dr. Philip Farabaugh**

**“Role of Ribosomal Protein
rps9B in Translational
Accuracy”**

*Department of Biological
Sciences*

Student: **Margaret Kott**
Mentor: **Dr. Thomas Cronin**

**“Sequencing of *Callinectes
sapidus* Opsins”**

*Department of Biological
Sciences*

Student: **Matthew Murphy**
Mentor: **Dr. Kevin Omland**

**“Which Blackbirds Are
Black? The Evolution of
Countershading and
Temperate Breeding”**

*Department of Biological
Sciences*

Student: **Gary Thompson**
Mentor: **Dr. Maricel Kann**

**“An Improved Approach to
Extracting Disease-Related
Mutations from Biomedical
Literature”**

*Department of Bioinformatics
and Computational Biology*

Student: **Devyani Ujla**
Mentor: **Dr. Phyllis Robinson**

**“The Development of a
Phospho-null Melanopsin
Mutant”**

*Department of Biological
Sciences*

Student: **Momoka Watanabe**
Mentor: **Dr. Charissa Cheah**

**“An Ecological Examination
of Psychological Control in
Korean Immigrant Families”**

Department of Psychology

Student: **Melanie Wiley**
Mentor: **Dr. Erik Lillehoj**

**“The Role of Human
Endogenous Retroviruses
(HERVS) in the Pathogenesis
of Acute Onset
Schizophrenia”**

*Department of Biochemistry
and Molecular Biology*

Humanities Scholars

Poster Presentations, UC Ballroom

Student: **Abigail Bratcher**
Mentor: **Dr. Anne Rubin**
10:00 a.m. - 12:30 p.m.

**“Reclaiming Maryland:
Confederate Nationalism in
Popular Print Culture”**

Department of History

Student: **Irma Hashmi**
Mentor: **Dr. Philip Farabaugh**
12:30 - 3:00 p.m.

**“Role of Ribosomal Protein
rps9B in Translational
Accuracy”**

*Department of Biological
Sciences*

Oral Presentations

Students: **Catherine Pasqualoni,
Christina Ross, Katherine Bentz**
Mentor: **Dr. Richard Mason**

**“New Perspectives on
Old Views”**

Department of Ancient Studies

**Oral Presentation
11:15 - 11:30 a.m.
UC 310**

**Exhibit and Discussion
12:00 a.m. - 1:00 p.m.
Library Rotunda**

**Poster Presentation
12:30 - 3:00 p.m.
University Center 2nd Floor**

Student: **Vivian Ekey**
Mentor: **Dr. Sara Poggio**
11:30 - 11:45 a.m., UC 312

**“Afro-Porteño Identity
Today”**

*Department of Modern
Languages and Linguistics*

April 28, 2010

**UNDERGRADUATE
Research & Creative
Achievement Day**



**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Imaging Research Center Fellows

Game Demonstration, 10:00 a.m. – 3:00 p.m., UC Ballroom Lobby

Students: **Timothy Bubb,
Maxwell Hathaway, Rachel
Kreutzinger, Alex
Ehrensberger, Jenna Ullrich,
Bradley Tinney, Abby Salvo,
Shane Logue, Elena Debold**
Mentor: **Mr. Neal McDonald**

**“UMBC IRC Fellows iPhone
Strategy Game”**

Department of Visual Arts

Linehan Artist Scholars

Artistic Performances, Fine Arts Recital Hall

Student: **Ellen Line**
Mentor: **Ms. Lynn Watson**
9:50 - 10:10 a.m.

“Getting over Tom”

Department of Theatre

Student: **Jessica Baker**
Mentor: **Dr. Alan Kreizenbeck**
10:10 - 10:40 a.m.

“Nuns and Sex”

Department of Theatre

Student: **Michal Levitas**
Mentor: **Mr. David Smith**
10:40 - 11:00 a.m.

**“Learning the Essence of
German Leider and
Introducing it to the
UMBC Community”**

Department of Music

Oral Presentations, UC 312

Student: **Shane Parks**
Mentors: **Dr. Anna Rubin
Susan McCully**
Oral Presentation

**“A Thematic Analysis of
Stephen Schwartz
Children of Eden”**

Department of Music

Student: **Elizabeth Scott**
Mentor: **Mr. Joseph Coates**
3:00 - 3:15 p.m.

**“The Effect of
Nationalism on Czech
Design”**

Department of Visual Arts

Artistic Exhibit and Demonstration, 10:00 a.m. – 3:00 p.m., UC 115

Student: **Franki Trout,
Daniell-Vines Payne,
Kelly-Lynne Russell**
Mentor: **Dr. Preminda Jacob**

**“Virtual Museum: Life as
a Dance”**

Department of Visual Arts

LRC/SSS Tutors

Oral Presentations, UC 312

Student: **Danielle Viens-Payne**
Mentor: **Dr. Thomas Field**
Dr. Ana Oskoz
11:15 - 11:30 a.m.

**“Crossing Boundaries:
Foreign Language Learning
for Learning-Disabled
Students”**

*Department of Modern
Languages and Linguistics*

Student: **Vivian Ekey**
Mentor: **Dr. Sara Poggio**
Oral
11:30 - 11:45 a.m.

**“Afro-Porteño Identity
Today”**

*Department of Modern
Languages and Linguistics*

Student: **Christa Kizito**
Mentor: **Dr. Carolyn
Forestiere**
2:00 - 2:15 p.m.

**“Women's Representation in
sub-Saharan Africa”**

*Department of Political
Science*

Oral Presentation, UC 310

Student: **Menal Modha**
Mentor: **Mr. Richard Kuhn**
1:15 - 1:30 p.m.

**“Combinatorial Software
Testing”**

*Department of Computer
Science*

Student: **Destiney Buelto**
Mentor: **Dr. Laundette Jones**
2:00 - 2:15 p.m.

**“Identification of Brown
Adipose Tissue in the Adult
Mammary Gland of Brca1-
mutant Mice”**

*Department of Biochemistry
and Molecular Biology*

April 28, 2010

**UNDERGRADUATE
Research & Creative
Achievement Day**



**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Student: **Megan Hardy**

Mentor: **Dr. Michelle Scott**

Oral Presentation

11:30 - 11:45 a.m.

**“Harlem at its Best: Popular
Culture, Nightlife Venues and
Emergence of a Queer
Subculture during the
Harlem Renaissance”**

Department of History

Poster Presentations, 10:00 a.m. - 12:30 p.m., UC Ballroom

Student: **Jessandra Hough**

Mentor: **Dr. Liang Zhu**

**“Temperature Elevations in
Extracted Teeth Induced by a
System B Heating Catheter”**

*Department of Mechanical
Engineering*

Student: **Phillip Kang**

Mentor: **Dr. Leah Tolosa**

**“The Development of a
Biological Antioxidant
Capacity Assay Using Green
Fluorescent *E. coli*”**

*Department of Chemical
Engineering*

Student: **Anand Patel**

Mentor: **Dr. Timmie Topoleski**

**“Friction Testing of
Materials Used in Artificial
Joints”**

*Department of Mechanical
Engineering*

Student: **Robert D. Wardlow II**

Mentor: **Dr. Terry B. Rogers**

**Mesenchymal Stem Cells
Provide Protection of
Cardiac Ventricular
Myocytes by Paracrine
Mechanism”**

*Department of Biochemistry
and Molecular Biology*

Student: **Regina Ullis**

Mentor: **Dr. Elsa Garcin**

**“Optimizing *Escherichia
coli* Expression and
Solubility of Mammalian
Soluble Guanylate Cyclase
Constructs”**

*Department of Biochemistry
and Molecular Biology*

Student: **Immanuel Williams**

Mentor: **Dr. Jinglai Shen**

**“An Approach to Lowering
Gang Levels”**

Department of Mathematics

Poster Presentations, 12:30 - 3:00 p.m.

Student: **Momoka Watanabe**
Mentor: **Dr. Charissa Cheah**
UC Ballroom

**“An Ecological Examination
of Psychological Control in
Korean Immigrant Families”**

Department of Psychology

Student: **Elizabeth Lynch**
Mentor: **Ms. Mary Hickernell**
UC Second Floor

**“The Challenged Identities of
Speakers of World Englishes:
Identity Validation as a
Strategy to Encourage
Bidialectalism”**

*Department of Modern
Languages and Linguistics*

Student: **Elliot White**
Mentor: **Dr. Phyllis Robinson**
Megan Porter

“Grizzled Opsins”

*Department of Biochemistry
and Molecular Biology*

Student: **Evelyn Ojo**
Mentor: **Dr. Jennie Leach**
Dr. Julia Ross

**“Effect of Substrate
Patterning on *S. aureus*
Biofilm Formation”**

*Department of Chemical
Engineering*

Student: **Gary Thompson**
Mentor: **Dr. Maricel Kann**

**“An Improved Approach to
Extracting Disease-Related
Mutations from Biomedical
Literature”**

Department of Bioinformatics

Poster Presentations, 10:00 a.m. - 12:30 p.m., UC Ballroom

Student: **Immanuel Williams**
Mentor: **Dr. Jinglai Shen**

**“An Approach to Lowering
Gang Levels”**

Department of Mathematics

Student: **Megan Hardy**
Mentor: **Dr. Michelle Scott**
Oral Presentation
11:30 - 11:45 a.m.
UC 310

**“Harlem at its Best: Popular
Culture, Nightlife Venues and
Emergence of a Queer
Subculture during the
Harlem Renaissance”**

Department of History

MARC U*Star

Oral Presentations, UC 310

Student: **Igor Shusterman**
Mentor: **Dr. Patricio**
O'Donnell
10:30 - 10:45 a.m.

**“Prefrontal Cortex Deficits in
a Value-Based Odor-
Discrimination Task in a Rat
Model of Schizophrenia”**

*Department of Biochemistry
and Molecular Biology*

April 28, 2010

**UNDERGRADUATE
Research & Creative
Achievement Day**



**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Student: **Ruby Jackson-Atogi**
Mentor: **Dr. Jeff Leips**
11:00 - 11:15 a.m.

**“The Effect of Prior
Experience on Host Foraging
Behaviors of a Drosophila
Parasitoid”**

*Department of Biological
Sciences*

Student: **Destiney Buelto**
Mentor: **Dr. Laundette Jones**
2:00 - 2:15 p.m.

**“Identification of Brown
Adipose Tissue in the Adult
Mammary Gland of Brca1-
mutant Mice”**

*Department of Biochemistry
and Molecular Biology*

Student: **Lydia Grmai**
Mentor: **Dr. Suzanne
Ostrand-Rosenberg**
2:30 - 2:45 p.m.

**“Effect of Inflammation on
Apoptosis in Myeloid-Derived
Suppressor Cells (MDSC) in
Breast Cancer”**

*Department o Biological
Sciences*

Poster Presentations, 10:00 a.m. - 12:30 p.m., UC Ballroom

Student: **Ashleigh Bouchelion**
Mentor: **Dr. Lasse Lindahl**

**“Implication of Ribosomal
Protein on Tubulin
Formation”**

*Department of Biological
Sciences*

Student: **George Cutsail III**
Mentor: **Dr. Veronika Szalai**

**“Copper Amyloid-beta Complex
in Alzheimer's Disease”**

Department of Chemistry

Student: **Timi Fadiran**
Mentor: **Dr. Timmie
Topoleski**

**“Characterizing Fracture
Force of Hyoid Bone:
Investigation of Suicides and
Homicides”**

*Department of Mechanical
Engineering*

Student: **Phillip Fitzgerald**
Mentor: **Dr. Suzanne
Ostrand-Rosenberg**

**“Inflammation Induces
Myeloid-Derived Suppressor
Cells in the C57BL/6 Mouse
Model”**

*Department of Biochemistry
and Molecular Biology*

Student: **Joshua Francois**
Mentor: **Dr. Chalres Eggleton**

**“Computational Modeling of
Atomic Force Microscopy
Tip Loading and Unloading
on a Biological Cell”**

*Department of Mechanical
Engineering*

Student: **Jessandra Hough**
Mentor: **Dr. Liang Zhu**

**“Temperature Elevations in
Extracted Teeth Induced by a
System B Heating Catheter”**

*Department of Mechanical
Engineering*

Student: **Cameron Johnson**
Mentor: **Dr. Katherine Seley-
Radtke**

**“Design and Synthesis of
Unnatural DNA Containing
Expanded Purine Analogues”**

Department of Chemistry

Student: **Gowry Kulandaivel**
Mentor: **Dr. Michael
Summers**

**“Investigating the HIV-1 5'-
UTR Structure via Nuclear
Magnetic Resonance”**

*Department of Biochemistry
and Molecular Biology*

Student: **Nicholas Pinkin**
Mentor: **Dr. Ramachandra
Hosmane**

**“Synthesis of Potential
Inhibitors of Thymidylate
Synthase Based on
Quinazoline Structural
Skeleton”**

Department of Chemistry

Student: **Alexandria Scott**
Mentor: **Dr. Tamra
Mendelson**

**“Estimating Phylogenic
Divergence Time Between
Populations of Western
Cutthroat Trout”**

*Department of Biological
Sciences*

Student: **Melvin Velasquez**
Mentor: **Dr. Katherine Seley-
Radtke**

**“Developing a New Class of
Chemotherapeutic Drugs:
2' Deoxy Proximal Flexible
Nucleosides”**

Department of Chemistry

Student: **Immanuel Williams**
Mentor: **Dr. Jinglai Shen**

**“An Approach to Lowering
Gang Levels”**

Department of Mathematics

Poster Presentations, 12:30 - 3:00 p.m., UC Ballroom

Student: **Anissa Alexander**
Mentor: **Dr. Christopher
Plowe**

**“Microsatellite Analysis to
Improve the Measurement of
Efficacy of Sulfadoxine-
Pyrimethamine for the
Treatment of Malaria”**

*Department of Biochemistry
and Molecular Biology*

April 28, 2010

**UNDERGRADUATE
Research & Creative
Achievement Day**



**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Student: **Yohance Allette**
Mentor: **Dr. Lasse Lindahl**

**“Bioinformatics Study of
Cancer Mutations: Using
Protein Domains to Link
Diseases and Mutations”**

*Department of Biological
Sciences*

Student: **Stephanie Battle**
Mentor: **Dr. Hua Lu**

**“Structure-function Analysis
of the Novel Defense Protein
SUP3 in *Arabidopsis
thaliana*”**

*Department of Biochemistry
and Molecular Biology*

Student: **Maria Beckford**
Mentor: **Dr. Ilsa Lottes**

**“Low-Income Women's Perceptions
of the Quality of Their Infant Care:
Supports and Barriers”**

*Department of Sociology and
Anthropology*

Student: **Erwin Cabrera**
Mentor: **Dr. Phyllis Robinson**

**“Analyzing and Expressing
the Visual Pigment Genes of
the *Astyanax mexicanus*”**

*Department of Biological
Sciences*

Student: **Kedy Edme**
Mentor: **Dr. Michael Summers**

**“NMR Structure of the
Core Packaging Signal of
HIV-1”**

Department of Chemistry

Student: **Chioma Ihekweazu**
Mentor: **Dr. Tamra
Mendelson**

**“Evolutionary Patterns of
Ultraviolet Reflectance in the
genus *Etheostoma*”**

*Department of Biological
Sciences*

Student: **Benyam Kinde**
Mentor: **Dr. Andrea Meredith**

**“Insights into the Molecular
Mechanisms of Circadian
Rhythm”**

*Department of Biological
Sciences*

Student: **Gabrielle McRae**
Mentors: **Dr. David Weber
Kira Gianni**

**“The Correlation Between
S100B and Cellular Damage”**

*Department of Biochemistry
and Molecular Biology*

Student: **Brandon Nemieboka**
Mentor: **Dr. Angela Brodie**

**“Growth Inhibitory Effect of
Zoledronic Acid on Breast
Cancer Cell Lines”**

*Department of Biochemistry
and Molecular Biology*

Student: **Nana Owusu-Boaitey**
Mentor: **Dr. David Scott**

**“The Utilization of CD20-
Specific Lentiviruses for
Tolerance Induction”**

*Department of Biological
Sciences*

Student: **Nicole Parker**
Mentor: **Dr. Jia Bei Wang**

**“PKCI/HINT1 Involvement in
Morphine Addiction Using
Conditioned Place Preference
Test”**

*Department of Biochemistry
and Molecular Biology*

Student: **Dina Popovkina**
Mentor: **Dr. Scott Thompson**

**“TrkB Receptor
Downregulation Contributes to
Dendritic Spine Density
Decrease Due to Chronic
Elevation of Corticosterone”**

*Department of Biochemistry
and Molecular Biology*

Student: **Onajite Shemi**
Mentor: **Dr. James Polli**

**“An Apical Sodium Bile Acid
Transporter (ASBT) Targeted
Prodrug Design for Sustained
Release of Niacin”**

*Department of
Chemistry*

Student: **Melissa Velasquez**
Mentor: **Dr. Julia Ross**
Dr. Jennie Leach

**“Analysis of Oxygen Levels within
S. aureus Biofilms Using
Fluorescent Microparticles”**

*Department of Chemical
Engineering*

Student: **Hannah Wilson**
Mentor: **Dr. Julia Ross**

**“The Role of *Staphylococcus
aureus* Soluble Biofilm Proteins in
Inhibiting Neutrophil Migration”**

*Department of Chemical
Engineering*

McNair Scholars

Oral Presentations

Student: **Michael Jenkins**
Mentors: **Dr. Andrea Kalfoglou**
Dr. Roland Thorpe
Dr. Thomas LaVeist
3:00 - 3:15 p.m., UC 310

**“Racial Disparities in
Hypertension Awareness
and Management”**

Department of Psychology

Student: **Christa Kizito**
Mentor: **Dr. Carolyn Forestiere**
2:00 - 2:15 p.m., UC 312

**“Women's Representation
in sub-Saharan Africa”**

*Department of Political
Science*

April 28, 2010

**UNDERGRADUATE
Research & Creative
Achievement Day**



**Presenters from
Scholarly Organizations**

Poster Presentations,

University Center 3rd Floor

UC Ballroom

Student: **Danielle Chestang**
Mentor: **Dr. Judah Ronch**
10:00 a.m. - 12:30 p.m

**“Impact of Images in
Advertisements on Older
Adults”**

*Department of Management of
Aging Services*

Student: **Immanuel Williams**
Mentor: **Dr. Jinglai Shen**
10:00 a.m. - 12:30 p.m

**“An Approach to Lowering
Gang Levels”**

Department of Mathematics

Student: **Yohance Allette**
Mentor: **Dr. Lasse Lindahl**
12:30 - 3:00 p.m.

**“Bioinformatics Study of
Cancer Mutations: Using
Protein Domains to Link
Diseases and Mutations”**

*Department of Biological
Sciences*

Meyerhoff

Artistic Exhibit, 10:15 - 11:45 a.m., Fine Arts 107

Students: **Kant Klingenstein,
Jamyla Williams**
Mentors: **Ms. Sally Shivnan
Ms. Guenet Abraham**

**“Bartleby 2010: Image Joins
the Written Word in a
Convergence of Creative
Writing and Art”**

*Department of Visual and
Performing Arts*

Oral Presentations, UC 310

Student: **Rachana Haliyur**
Mentor: **Dr. Margaret
McCarthy**
10:15 - 10:30 a.m.

**“Identifying the Role of
Microglia in Sexual
Differentiation of the Brain”**

*Department of Biological
Sciences*

Student: **Igor Shusterman**
Mentor: **Dr. Patricio O'Donnell**
10:30 - 10:45 a.m.

“Prefrontal Cortex Deficits in a Value-Based Odor-Discrimination Task in a Rat Model of Schizophrenia”

Department of Biochemistry and Molecular Biology

Student: **Anupama Divakaruni**
Mentor: **Dr. Kaveh Ashrafi**
10:45 - 11:00 a.m.

“Identifying Components of the AMPK Pathway in *C. elegans*”

Department of Biological Sciences

Student: **Ruby Jackson-Atogi**
Mentor: **Dr. Jeff Leips**
11:00 - 11:15 a.m.

“The Effect of Prior Experience on Host Foraging Behaviors of a *Drosophila* Parasitoid”

Department of Biological Sciences

Student: **Lauren Won**
Mentor: **Dr. Tim Hall**
11:45 - 12:00 a.m.

“Efficient Algorithms in Elliptic Curve Cryptography”

Department of Computer Science

Student: **Menal Modha**
Mentor: **Mr. Richard Kuhn**
1:15 - 1:30 p.m.

“Combinatorial Software Testing”

Department of Computer Science

Student: **Nathaniel Kim**
Mentor: **Dr. Katherine L. Seley-Radtke**
1:30 - 1:45 p.m.

“Extended Pyrimidine Nucleoside Analogues: Investigations into DNA Structure and Function”

Department of Chemistry

Student: **Destiney Buelto**
Mentor: **Dr. Laundette Jones**
2:00 - 2:15 p.m.

“Identification of Brown Adipose Tissue in the Adult Mammary Gland of Brca1-mutant Mice”

Department of Biochemistry and Molecular Biology

Student: **Sunaina Khandelwal**
Mentor: **Dr. Alessio Fasano**
2:15 - 2:30 p.m.

“Gliadin is a Chemo-Attractant Factor for Neutrophils”

Department of Biochemistry and Molecular Biology

Student: **Lydia Grmai**
Mentor: **Dr. Suzanne Ostrand-Rosenberg**
2:30 - 2:45 p.m.

“Effect of Inflammation on Apoptosis in Myeloid-Derived Suppressor Cells (MDSC) in Breast Cancer”

Department of Biological Sciences

April 28, 2010

**UNDERGRADUATE
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Achievement Day**



**Presenters from
Scholarly Organizations**

Oral Presentation,

University Center 3rd Floor

UC 312

Student: **Alexandria Volkening**
Mentor: **Dr. Jonathan Bell**
1:15 - 1:30 p.m.

**“A Mathematical Model
of Vulnerable Plaque
Growth and Rupture”**

Department of Mathematics

Poster Presentations, 10:00 a.m., 12:30 p.m., UC Ballroom

Student: **Shawn Barton**
Mentor: **Dr. Michael
Summers**

**“Confirmation of a Long-
Range Interaction in HIV-1
5'-UTR and its Effect on
Dimerization”**

*Department of Biochemistry
and Molecular Biology*

Student: **Ashleigh Bouchelion**
Mentor: **Dr. Lasse Lindahl**

**“Implication of Ribosomal
Protein on Tubulin Formation”**

*Department of Biological
Sciences*

Student: **Stephanie Chan
Asante Hatcher**
Mentor: **Dr. Weihong Lin**

**“Effects of Zinc Sulfate
Intranasal Irrigation on
Semiocemical Sensing in the
Mouse”**

*Department of Biological
Sciences*

Student: **George Cutsail III**
Mentor: **Dr. Veronika Szalai**

**“Copper Amyloid-beta
Complex in Alzheimer's
Disease”**

Department of Chemistry

Student: **Sai Sachin
Divakaruni**
Mentor: **Dr. Michael
Summers**

**“HIV-1 Packaging is
Regulated by Long-Range
Interaction between the U5
and AUG Regions and its
Effect on NC Binding Sites”**

*Department of Biochemistry
and Molecular Biology*

Student: **Timi Fadiran**
Mentor: **Dr. Tim Topoleski**

**“Characterizing Fracture
Force of Hyoid Bone:
Investigation of Suicides and
Homicides”**

*Department of Mechanical
Engineering*

Student: **Phillip Fitzgerald**
Mentor: **Dr. Suzanne Ostrand-Rosenberg**

“Inflammation Induces Myeloid-Derived Suppressor Cells in the C57BL/6 Mouse Model”

Department of Biochemistry and Molecular Biology

Student: **Joshua Francois**
Mentor: **Dr. Chalres Eggleton**

“Computational Modeling of Atomic Force Microscopy Tip Loading and Unloading on a Biological Cell”

Department of Mechanical Engineering

Student: **Kimeya Ghaderi**
Mentor: **Dr. Daniele Fabris**

“Development of an Isolation Protocol for *in vivo* Transcription and Recovery of RNA”

Department of Biochemistry and Molecular Biology

Student: **Gregory Handy**
Mentor: **Dr. Bradford Peercy**

“Extending the IP3 Receptor Model to Include Competition with Partial Agonists”

Department of Mathematics

Student: **Jessandra Hough**
Mentor: **Dr. Liang Zhu**

“Temperature Elevations in Extracted Teeth Induced by a System B Heating Catheter”

Department of Mechanical Engineering

Student: **Phillip Kang**
Mentor: **Dr. Leah Tolosa**

“The Development of a Biological Antioxidant Capacity Assay Using Green Fluorescent *E. coli*”

Department of Chemical Engineering

Student: **Gowry Kulandaivel**
Mentor: **Dr. Michael Summers**

“Investigating the HIV-1 5'-UTR Structure via Nuclear Magnetic Resonance”

Department of Biochemistry and Molecular Biology

Student: **Olivia Nwankwo**
Mentor: **Dr. Michael Donnenberg**

“Integration of GFP into the Chromosome of *E. coli* Bacteria”

Department of Biochemistry and Molecular Biology

Student: **Nicholas Pinkin**
Mentor: **Dr. Ramachandra Hosmane**

“Synthesis of Potential Inhibitors of Thymidylate Synthase Based on Quinazoline Structural Skeleton”

Department of Chemistry

Student: **Alexandria Scott**
Mentor: **Dr. Tamra Mendelson**

“Estimating Phylogenetic Divergence Time Between Populations of Western Cutthroat Trout”

Department of Biological Sciences

April 28, 2010

**UNDERGRADUATE
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Achievement Day**



**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Student: **Rashmi Singh,
Venkateswaran
Ramakrishnan**
Mentor: **Dr. Michael
Summers**

**“Investigation of the Long-
Range Interaction between
the U5' and AUG Regions of
the HIV-2 5'UTR”**

*Department of Biochemistry
and Molecular Biology*

Student: **Melvin Velasquez**
Mentor: **Dr. Katherine Seley-
Radtke**

**“Developing a New Class of
Chemotherapeutic Drugs:
2' Deoxy Proximal Flexible
Nucleosides”**

Department of Chemistry

Student: **Donna Viola**
Mentors: **Ms. Devon M. Burr
Cynthia B. Phillips**

**“Some Observations on
Titan's Fluvial Networks and
Channel/valley Delineation
Using Cassini Radar
Imagery”**

*Department of Interdisciplinary
Studies*

Student: **Robert D. Wardlow II**
Mentor: **Dr. Terry B. Rogers**

**“Mesenchymal Stem Cells
Provide Protection of
Cardiac Ventricular
Myocytes by Paracrine
Mechanism”**

*Department of Biochemistry
and Molecular Biology*

Student: **Lana Zhang**
Mentor: **Dr. Weihong Lin**

**“TRPM5 Expressed in SCCs
is Important in Regulating
Chemical Access to the
Vomer nasal Organ”**

*Department of Biological
Sciences*

Student: **Albert Zhou**
Mentor: **Dr. Charles
Bieberich**

**“Characterization of Prostate
Specific Regulatory Elements
in Transgenic Mice”**

*Department of Biological
Sciences*

Poster Presentations, 12:30 - 3:00 p.m., UC Ballroom

Student: **Asa Adadey**
Mentor: **Dr. Maricel Kann**

**“Bioinformatics Study of
Cancer Mutations: Using
Protein Domains to Link
Diseases and Mutations”**

*Department of Bioinformatics
and Computational Biology*

Student: **Anissa Alexander**
Mentor: **Dr. Christopher Plowe**

“Microsatellite Analysis to Improve the Measurement of Efficacy of Sulfadoxine-Pyrimethamine for the Treatment of Malaria”

Department of Biochemistry and Molecular Biology

Student: **Yohance Allette**
Mentor: **Dr. Lasse Lindahl**

“Bioinformatics Study of Cancer Mutations: Using Protein Domains to Link Diseases and Mutations”

Department of Biological Sciences

Student: **Stephanie Battle**
Mentor: **Dr. Hua Lu**

“Structure-function Analysis of the Novel Defense Protein SUP3 in *Arabidopsis thaliana*”

Department of Biochemistry and Molecular Biology

Student: **Maria Beckford**
Mentor: **Dr. Ilsa Lottes**

“Low-Income Women's Perceptions of the Quality of Their Infant Care: Supports and Barriers”

Department of Sociology and Anthropology

Student: **Erwin Cabrera**
Mentor: **Dr. Phyllis Robinson**

“Analyzing and Expressing the Visual Pigment Genes of the *Astyanax mexicanus*”

Department of Biological Sciences

Student: **Keisha Carr**
Mentor: **Dr. Julia Ross**

“Analysis of Polymorphonuclear Leukocyte Penetration in *Staphylococcus aureus* Biofilms”

Department of Chemical Engineering

Student: **Patricia Castillo**
Mentor: **Dr. Alessio Fasano**

“Infant Nutrition and Risk of Celiac Disease”

Department of Biological Sciences

Student: **Elisia Clark**
Mentor: **Dr. Charles Bieberich**

“Effect of Protein Kinase CK2 Blockade on Prostate Cancer Progression in a Mouse Model”

Department of Biological Sciences

Student: **Ryan Connor**
Mentor: **Dr. Mariajose Castellanos**

“Modeling the Impact of CNS-derived HIV-1 in the Emergence of Anti-Retroviral Drug Resistance”

Department of Chemical Engineering

April 28, 2010

**UNDERGRADUATE
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Achievement Day**



**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Student: **Thomas Dakermanji
Maria Vitery**
Mentor: **Dr. Richard Karpel**

**“Development of an Assay
to Determine the Affinity of
the Snake Venom Protein
CrotaMine for Heparin”**

Department of Chemistry

Students: **Robert Deloatch, Amy
Ciavolino, Mary Lewis, Eliana
feasley, Iris Kwok, Chris Mai**
Mentor: **Dr. Marie desJardins**

**“Developing an Intelligent
Tutoring System for CS1
Students”**

*Department of Computer
Science*

Student: **Phillip Geter**
Mentor: **Dr. Daniele Fabris**

**“Structure Elucidation of
the HIV-1 5'-UTR Using
MS3D”**

*Department of Biochemistry
and Molecular Biology*

Student: **Chioma Ihekweazu**
Mentor: **Dr. Tamra Mendelson**

**“Evolutionary Patterns of
Ultraviolet Reflectance in
the genus Etheostoma”**

*Department of Biological
Sciences*

Student: **Benyam Kinde**
Mentor: **Dr. Andrea Meredith**

**“Insights into the Molecular
Mechanisms of Circadian
Rhythm”**

*Department of Biological
Sciences*

Student: **Richard Maduka**
Mentor: **Dr. Veronika Szalai**

**“The Affinity of Cu¹⁺ for the
Amyloid-Beta Peptide of
Alzheimer's Disease”**

Department of Chemistry

Student: **Gabrielle McRae**
Mentors: **Dr. David Weber
Kira Gianni**

**“The Correlation Between
S100B and Cellular Damage”**

*Department of Biochemistry
and Molecular Biology*

Student: **Sonia Metangmo**
Mentor: **Dr. John McLenithan**

**“The Role of Altered
Omentin Expression in the
Mesothelial Cell
Inflammatory Response”**

*Department of Biological
Sciences*

Student: **Brandon Nemieboka**
Mentor: **Dr. Angela Brodie**

**“Growth Inhibitory Effect of
Zoledronic Acid on Breast
Cancer Cell Lines”**

*Department of Biochemistry
and Molecular Biology*

Student: **Evelyn Ojo**
Mentors: **Dr. Jennie Leach
Dr. Julia Ross**

**“Effect of Substrate
Patterning on *S. aureus*
Biofilm Formation”**

*Department of Chemical
Engineering*

Student: **Chikezie Okoro**
Mentor: **Dr. Katherine Seley-Radtke**

“Carbocyclic Fleximers as Anti-Trypanosomal Agents”

Department of Chemistry

Student: **Daryl Omire-Mayor**
Mentor: **Dr. William LaCourse**

“The Effect of Molecular Characteristics on Sugar Recovery Using *in-vitro* Microdialysis”

Department of Chemistry

Student: **Nana Owusu-Boaitey**
Mentor: **Dr. David Scott**

“The Utilization of CD20-Specific Lentiviruses for Tolerance Induction”

Department of Biological Sciences

Student: **Nicole Parker**
Mentor: **Dr. Jia Bei Wang**

“PKCI/HINT1 Involvement in Morphine Addiction Using Conditioned Place Preference Test”

Department of Biochemistry and Molecular Biology

Student: **Dina Popovkina**
Mentor: **Dr. Scott Thompson**

“TrkB Receptor Downregulation Contributes to Dendritic Spine Density Decrease Due to Chronic Elevation of Corticosterone”

Department of Biochemistry and Molecular Biology

Student: **Christelle Samen**
Mentor: **Dr. Violeta Rus**

“IL-21-IL-21R Interactions on Host B Cells, not Donor CD4 Cells, Is Critical for Development of Autoimmune Features in cGVHD”

Department of Biochemistry and Molecular Biology

Student: **Lael Scarborough**
Mentor: **Dr. Tom Blanchard**

“Identifying Difference in Murine TLR Stimulation Between *H. pylori* and *H. felis*”

Department of Biological Sciences

Student: **Onajite Shemi**
Mentor: **Dr. James Polli**

“An Apical Sodium Bile Acid Transporter (ASBT) Targeted Prodrug Design for Sustained Release of Niacin”

Department of Chemistry

Student: **Patrice Starck**
Mentor: **Dr. Michael Summers**

“NMR Analysis of the Conserved Bulge in the Core Encapsulation Signal of Type-C Gammaretroviruses”

Department of Biochemistry and Molecular Biology

April 28, 2010

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**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Student: **Devyani Ujla**
Mentor: **Dr. Phyllis Robinson**

**“The Development of a
Phospho-null Melanopsin
Mutant”**

*Department of Biological
Sciences*

Student: **Melissa Velasquez**
Mentors: **Dr. Julia Ross**
Dr. Jennie Leach

**“Analysis of Oxygen Levels
within *S. aureus* Biofilms
Using Fluorescent
Microparticles”**

*Department of Chemical
Engineering*

Student: **Melanie Wiley**
Mentor: **Dr. Erik Lillehoj**

**“The Role of Human
Endogenous Retroviruses
(HERVS) in the Pathogenesis
of Acute Onset Schizophrenia”**

*Department of Biochemistry
and Molecular Biology*

Student: **Hannah Wilson**
Mentor: **Dr. Julia Ross**

**“The Role of *Staphylococcus
aureus* Soluble Biofilm
Proteins in Inhibiting
Neutrophil Migration”**

*Department of Chemical
Engineering*

Student: **Breanne Wright**
Mentor: **Dr. Andrea Meredith**

**“The Effect of Transgenic
Manipulation of the BK
Channel (Kcna1) on
Circadian Rhythmicity”**

*Department of Biochemistry
and Molecular Biology*

National Society of Black Engineers

Oral Presentation, UC 310

Students: **Brian Cottrell, Jon
Bollinger, Akanska Raja,
Benjamin D'Alessio, Amy
Tsai**
Mentor: **Dr. Mariajose
Castellanos**
1:00 -1:15 p.m.

**“Development and
Optimization of an Iso-octene
Production Scheme”**

*Department of Chemical
Engineering*

Poster Presentations, 10:00 a.m. - 12:30 p.m., UC Ballroom

Students: **Jenny Donoghue,
Kirbi Hawkins, Jerry Flynn,
Michael Boone-Felder,
Robert Henderson**
Mentor: **Dr. Mariajose
Castellanos**

**“Production of Styrene from
the Dehydrogenation of
Ethylbenzene”**

*Department of Chemical
Engineering*

Student: **Timi Fadiran**
Mentor: **Dr. TimTopoleski**

**“Characterizing Fracture
Force of Hyoid Bone:
Investigation of Suicides and
Homicides”**

*Department of Mechanical
Engineering*

Student: **Jessandra Hough**
Mentor: **Dr. Liang Zhu**

**“Temperature Elevations in
Extracted Teeth Induced by a
System B Heating Catheter”**

*Department of Mechanical
Engineering*

Students: **Dominique Monteil,
Phil Cutler, Rohan Durbal,
Imhotep Jackson, Hanna
Worku, Hannah Wilson**
Mentor: **Dr. Mariajose
Castellanos**

**“Design of an Ethylbenzene
Production Scheme of a
Styrene Chemical Plant by
Innobox Engineering, Inc.”**

*Department of Chemical
Engineering*

Poster Presentations, 12:30 - 3:00 p.m., UC Ballroom

Student: **Yohance Allette**
Mentor: **Dr. Lasse Lindahl**

**“Bioinformatics Study of
Cancer Mutations: Using
Protein Domains to Link
Diseases and Mutations”**

*Department of Biological
Sciences*

Student: **Maria Beckford**
Mentor: **Dr. Ilsa Lottes**

**“Low-Income Women's
Perceptions of the Quality of
Their Infant Care: Supports
and Barriers”**

*Department of Sociology and
Anthropology*

Student: **Nicole Parker**
Mentor: **Dr. Jia Bei Wang**

**“PKCI/HINT1 Involvement
in Morphine Addiction Using
Conditioned Place Preference
Test”**

*Department of Biochemistry
and Molecular Biology*

April 28, 2010

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**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Phi Beta Kappa

Artistic Performance, 9:30 – 9:50 a.m., Fine Arts Recital Hall

Student: **Sarah Paquette**
Mentor: **Dr. Airi Yoshioka**

**“Back to Bach: A
Historically Informed
Interpretation of a Gavotte”**

Department of Music

Poster Presentations, 10:00 a.m. – 12:30 p.m., UC Ballroom

Student: **Wayne Heavener**
Mentor: **Dr. Jeffrey Davis**

**“Consensus and Legitimacy
in Supreme Court Opinions”**

*Department of Political
Science*

Student: **Melvin Velasquez**
Mentor: **Dr. Katherine Seley-
Radtke**

**“Developing a New Class of
Chemotherapeutic Drugs:
2’ Deoxy Proximal Flexible
Nucleosides”**

Department of Chemistry

Poster Presentations, 12:30 – 3:00 p.m., UC Ballroom

Student: **Benyam Kinde**
Mentor: **Dr. Andrea Meredith**

**“Insights into the Molecular
Mechanisms of Circadian
Rhythm”**

*Department of Biological
Sciences*

Student: **Nana Owusu-Boaitey**
Mentor: **Dr. David Scott**

**“The Utilization of CD20-
Specific Lentiviruses for
Tolerance Induction”**

*Department of Biological
Sciences*

Students: **Michael Pacella,
Jason Loiland, Brooke
Liebforth, Chijioke
Irrechukwu, Fabiola Rincon**
Mentor: **Dr. Mariajose
Castellanos**

**“Production of Styrene
Monomer from Ethylene and
Benzene”**

*Department of Chemical
Engineering*

Pre-Marc

Oral Presentation, UC 310

Student: **Rachana Haliyur**
Mentor: **Dr. Margaret
McCarthy**
10:15 - 10:30 a.m.

**“Identifying the Role of
Microglia in Sexual
Differentiation of the Brain”**

*Department of Biological
Sciences*

Poster Presentations, 10:00 a.m. - 12:30 p.m., UC Ballroom

Student: **Stephanie Chan**
Asante Hatcher
Mentor: **Dr. Weihong Lin**

**“Effects of Zinc Sulfate
Intranasal Irrigation on
Semiochemical Sensing in the
Mouse”**

*Department of Biological
Sciences*

Student: **Kimeya Ghaderi**
Mentor: **Dr. Daniele Fabris**

**“Development of an Isolation
Protocol for *in vivo*
Transcription and Recovery
of RNA”**

*Department of Biochemistry
and Molecular Biology*

Student: **Phillip Kang**
Mentor: **Dr. Leah Tolosa**

**“The Development of a
Biological Antioxidant
Capacity Assay Using Green
Fluorescent *E. coli*”**

*Department of Chemical
Engineering*

Student: **Olivia Nwankwo**
Mentor: **Dr. Michael
Donnenberg**

**“Integration of GFP into the
Chromosome of *E. coli*
Bacteria”**

*Department of Biochemistry
and Molecular Biology*

Student: **Robert D. Wardlow II**
Mentor: **Dr. Terry B. Rogers**

**“Mesenchymal Stem Cells
Provide Protection of
Cardiac Ventricular
Myocytes by Paracrine
Mechanism”**

*Department of Biochemistry
and Molecular Biology*

April 28, 2010

**UNDERGRADUATE
Research & Creative
Achievement Day**



**Presenters from
Scholarly Organizations**

University Center 3rd Floor

Poster Presentations, 12:30 - 3:00 p.m., UC Ballroom

Student: Keisha Carr Mentor: Dr. Julia Ross	“Analysis of Polymorphonuclear Leukocyte Penetration in <i>Staphylococcus aureus</i> Biofilms”	<i>Department of Chemical Engineering</i>
Student: Patricia Castillo Mentor: Dr. Alessio Fasano	“Infant Nutrition and Risk of Celiac Disease”	<i>Department of Biological Sciences</i>
Student: Elisia Clark Mentor: Dr. Charles Bieberich	“Effect of Protein Kinase CK2 Blockade on Prostate Cancer Progression in a Mouse Model”	<i>Department of Biological Sciences</i>
Student: Phillip Geter Mentor: Dr. Daniele Fabris	“Structure Elucidation of the HIV-1 5'-UTR Using MS3D”	<i>Department of Biochemistry and Molecular Biology</i>
Student: Sonia Metangmo Mentor: Dr. John McLenithan	“The Role of Altered Omentin Expression in the Mesothelial Cell Inflammatory Response”	<i>Department of Biological Sciences</i>
Student: Richard Maduka Mentor: Dr. Veronika Szalai	“The Affinity of Cu¹⁺ for the Amyloid-Beta Peptide of Alzheimer's Disease”	<i>Department of Chemistry</i>
Student: Chikezie Okoro Mentor: Dr. Katherine Seley-Radtke	“Carbocyclic Fleximers as Anti-Trypanosomal Agents”	<i>Department of Chemistry</i>
Student: Lael Scarborough Mentor: Dr. Tom Blanchard	“Identifying Difference in Murine TLR Stimulation Between <i>H. pylori</i> and <i>H. felis</i>”	<i>Department of Biological Sciences</i>
Student: Patrice Starck Mentor: Dr. Michael Summers	“NMR Analysis of the Conserved Bulge in the Core Encapsidation Signal of Type-C Gammaretroviruses”	<i>Department of Biochemistry and Molecular Biology</i>

Student: **Melanie Wiley**
Mentor: **Dr. Erik Lillehoj**

**“The Role of Human
Endogenous Retroviruses
(HERVS) in the Pathogenesis of
Acute Onset Schizophrenia”**

*Department of Biochemistry
and Molecular Biology*

Student: **Breanne Wright**
Mentor: **Dr. Andrea Meredith**

**“The Effect of Transgenic
Manipulation of the BK
Channel (Kcnma1) on
Circadian Rhythmicity”**

*Department of Biochemistry
and Molecular Biology*

Sondheim Scholars

Oral Presentation, UC 310

Student: **Gabrielle Wyatt**
Mentor: **Dr. George La Noue**
10:00 - 10:15 a.m.

**“Homeless Children and the
Foreclosure Crisis:
Implications of the
McKinney-Vento Act”**

*Department of Political
Science*

Oral Presentations, UC 312

Student: **Sarah Solomon**
Mentor: **Dr. Gloria Chuku**
10:15 - 10:30 a.m.

**“No Development Without
Girls: Gender, Development
and Youth Activism in Mali”**

*Department of Gender and
Women's Studies*

Student: **Christa Kizito**
Mentor: **Dr. Carolyn
Forestiere**
2:00 - 2:15 p.m.

**“Women's Representation in
sub-Saharan Africa”**

*Department of Political
Science*

Poster Presentations, 10:00 a.m. - 12:30 p.m.

Student: **Wayne Heavener**
Mentor: **Dr. Jeffrey Davis**
UC Ballroom

**“Consensus and Legitimacy
in Supreme Court Opinions”**

*Department of Political
Science*

Student: **Betty Irungu**
Mentor: **Dr. Tyson King-
Meadows**
UC Second Floor

**“An Analysis of Ethnic
Identity in the 2007 Kenyan
General Election”**

*Department of Political
Science*