

**Winners List**

***14<sup>th</sup> ANNUAL UNDERGRADUATE  
RESEARCH SYMPOSIUM IN THE  
CHEMICAL AND BIOLOGICAL  
SCIENCES***

**Hosted by**

**Department of Chemistry and Biochemistry  
Department of Biological Sciences  
University of Maryland, Baltimore County**

***Saturday, October 22, 2011***



***Sponsored in part through the generosity of  
The National Institutes of Health  
(NIGMS)***

**14<sup>th</sup> Annual Undergraduate Research Symposium  
in the  
Chemical and Biological Sciences**

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Poster Session I (Morning Session)

(A) Chemical Sciences 1

**1<sup>st</sup> Place** ADAPTABLE SENSING APPROACH BASED ON RIGIDOCROMIC AND SOLVATOCHROMIC LUMINOPHORES EMBEDDED IN THIN HYDROGEL FILMS

Sarah Strohecker, Elaina Truax, Morgan Mckenney, and *Kristi A. Kneas*  
*Elizabethtown College of Department of Chemistry and Biochemistry*  
*1 Alpha Drive, Elizabethtown, Pennsylvania 17022*

**2<sup>nd</sup> Place** NMR SPECTROSCOPIC AND COMPUTATIONAL STUDY OF CONFORMATIONAL MOBILITY IN 2-ARYL-3H-1-BENZAZEPINES

Allen Ko,<sup>1</sup> Nathan Dvorkin,<sup>1</sup> Laura Boulos,<sup>1</sup> Jiansan Gu<sup>1</sup>  
*Keith Ramig*,<sup>1</sup> *Edyta Greer*,<sup>1</sup> *David J. Szalda*,<sup>1</sup> *Sasan Karimi*,<sup>2</sup> *Gopal Subramaniam*<sup>3</sup>

<sup>1</sup>*Department of Natural Sciences, Baruch College of the City University of New York, 17 Lexington Ave., New York, NY 10010.* <sup>2</sup>*Department of Chemistry, Queensborough Community College of the City University of New York, 222-05 56<sup>th</sup> Ave., Bayside, NY 11364.* <sup>3</sup>*Department of Chemistry and Biochemistry, Queens College of the City University of New York, 65-30 Kissena Blvd., Flushing, NY 11367*

(B) Chemical Sciences 2

**1<sup>st</sup> Place** EXPLOITING PHOTOCHROMISM FOR THE DEVELOPMENT OF MOLECULAR SWITCHES

Kathleen Flanagan  
*Kevin P. Schultz*  
*Department of Chemistry, Goucher College*  
*1021 Dulaney Valley Road, Towson, Maryland 21204*

**2<sup>nd</sup> Place** STABILITY OF CONDUCTING POLYMER COATINGS FOR IMPLANT ELECTRODE APPLICATIONS

Julia H. Roberts, Anthony D. Kammerich, *Judith F. Rubinson*  
*Department of Chemistry, Georgetown University, Washington D.C. 20007*

(C) Chemical Sciences 3

**1<sup>st</sup> Place** BODIPY APPENDED RHENIUM BASED MOLECULAR PLATFORMS FOR PHOTOCATALYTIC REDUCTION OF CO<sub>2</sub>

Justin J. Teesdale

*Joel Rosenthal*

*Department of Chemistry and Biochemistry, University of Delaware, Newark, Delaware 19716*

**2<sup>nd</sup> Place** PHOTOACOUSTIC MEASUREMENTS OF COLLISIONAL WIDTHS AND SHIFTS OF WATER VAPOR NEAR 7180 cm<sup>-1</sup>

Victoria E. Awadalla, Courtney N. Anderson, Chae yeun Jeon, Colin J. Wallace, Eric M. Vess

*Daniel K. Havey*

*Department of Chemistry and Biochemistry, James Madison University, MSC 4501, Harrisonburg, Virginia 22807*

(D) Chemical Sciences 4

**1<sup>st</sup> Place** STUDIES ON AN ALLENOLATE VARIANT OF THE RAUHUT CURRIER REACTION AFFORDING FUNCTIONALIZED FIVE- AND SIX-MEMBERED

Stephen Motika

*James A. MacKay*

*Department of Chemistry and Biochemistry, Elizabethtown College, 1 Alpha Drive, Elizabethtown, Pennsylvania 17022*

**2<sup>nd</sup> Place** SYNTHESIS OF TWO ALKYL SOLUBILIZED [11]PHENACENE DERIVATIVES

Kim Mullane, Dr. Frank B. Mallory, Dr. Sally W. Mallory

*Chemistry Dept., Bryn Mawr College (101 N. Merion Ave Bryn Mawr, PA 19010)*

(E) Chemical Sciences 5

**1<sup>st</sup> Place** EXPLORATIONS INTO THE POTENTIAL ANTI-TUMOR PROPERTIES OF RUTHENIUM (II) TRIS-CHELATE COMPLEXES

Meredith Skiba

*Sharon J. N. Burgmayer*

*Department of Chemistry, Bryn Mawr College*

*101 North Merion Avenue, Bryn Mawr, PA 19010*

**2<sup>nd</sup> Place** MOLECULAR MECHANISM OF HIV INDICED DEMENTIA: CLONING AND EXPRESSION OF RECOMBINANT TAT AND NMDA RECEPTOR PROTEINS

Bella Sarjoh, Anita Ghosh, L. Mario Amzel, and Mario A. Bianchet

*Monica Feazell*

*Trinity Washington University. Chemistry Department 125 Michigan Ave. NE Washington DC 20017*

(F) Chemical Sciences 6

**1<sup>st</sup> Place** DI-IRON PROTEINS: FORMATION OF A RUBRERYTHRIN REPLICA  
PROTEIN FROM A DF<sub>sc</sub> MODEL PROTEIN

Sabrina N. Cimerol

*Dr. Amanda Reig*

*Department of Chemistry, Ursinus College*

*601 East Main St., Collegeville Pa, 19426*

**2<sup>nd</sup> Place** SYNTHESIS AND CHARACTERIZATION OF  
CATIONIC TRANSITION METAL - CARBENE COMPLEXES

Ashley L. Huttenstine

*Jeffrey A. Rood*

*Department of Chemistry and Biochemistry, Elizabethtown College,*

*1 Alpha Drive, Elizabethtown, PA 17022*

(G) Chemical Sciences 7

**1<sup>st</sup> Place** USE OF SOLAR ENERGY TO DRIVE CHEMICAL FUEL PRODUCTION

Michael Ghidiu

*Joel Rosenthal*

*Dept. of Chemistry and Biochemistry, University of Delaware, Newark, DE*

**2<sup>nd</sup> Place** SYNTHESIS OF BIOCOMPATIBLE ZINC SULFIDE NANOCRYSTALS  
AND THEIR USE IN PHOTODEGRADATIONS

Lindsay M. Carl, Collin J. Straka, Michael P. Schmidt, Christopher M. Berg

*Dr. Anderson Marsh*

*Department of Chemistry, Lebanon Valley College, Annville, PA 17003*

(H) Chemical Sciences 8

**1<sup>st</sup> Place** KINETICS OF HAIRPIN-DUPLEX CONVERSION FOR (CAG)<sub>10</sub>  
IN PRESENCE OF (CTG)<sub>11</sub> ANALOGS

Venise Rita De Etoulem

*Monica Feazell*

*Trinity Washington University. Chemistry Department 125 Michigan Ave. NE*

*Washington DC 20017*

**2<sup>nd</sup> Place** BINDING SITE MODIFICATION BY SITE-DIRECTED MUTAGENESIS OF  
PLASMA PLATELET-ACTIVATING FACTOR ACETYLHYDROLASE

Elizabeth Glinka

*Brian J. Bahnson*

*Department of Chemistry and Biochemistry, University of Delaware, Newark, DE*

*19716*

(I) Biological Sciences 1

**1<sup>st</sup> Place** THE ROLE OF *ATG18* IN SIGNAL TRANSDUCTION PATHWAYS DURING *DROSOPHILA* DEVELOPMENT

Erica L. Boetefuer

David L. Raden and *Erica M. Selva*

*Department of Biological Sciences, University of Delaware*

*118 Wolf Hall, Newark, DE 19716*

**2<sup>nd</sup> Place** INHIBITORY EFFECTS OF GABA ON SEROTONERGIC INNERVATION IN THE BIVALVE MOLLUSC *CRASSOSTREA virginica*

Cherryle Brown and Sadchla Mathieu

*Edward J. Catapane, and Margaret A. Carroll*

*Department of Biology, Medgar Evers College*

*1638 Bedford Ave, Brooklyn, NY 11225*

(J) Biological Sciences 2

**1<sup>st</sup> Place** A MATHEMATICAL MODEL OF THE INACTIVATION OF MELANOPSIN

Kimberly Daniels<sup>1</sup>, Jacquelyn Meisel<sup>2</sup>, Dr. Joseph Blasic, Evan Cameron,  
*Dr. Kathleen Hoffman<sup>1</sup>, Dr. Phyllis Robinson<sup>2</sup>*

*1Department of Mathematics and Statistics, UMBC, 1000 Hilltop Circle,  
Baltimore, MD 21250*

*2Department of Biology, UMBC, 1000 Hilltop Circle, Baltimore, MD 21250*

**2<sup>nd</sup> Place** BIOBAR: A SEQUENCE MANIPULATION AND EDITING TOOLKIT FOR MICROSOFT WORD

Laura J. Anzaldi

*Ivan Erill*

*Department of Biological Sciences, University of Maryland Baltimore County,*

*1000 Hilltop Circle, Baltimore, Maryland 21250*

(K) Biological Sciences 3

**1<sup>st</sup> Place** FOREARM VERSUS UPPER ARM BLOOD PRESSURE DIFFERENCES

Joshua Wallace, Kathleen A. Schell, *William C. Rose*

*Department of Kinesiology and Applied Physiology, University of Delaware*

*Newark, Delaware, USA*

**2<sup>nd</sup> Place** INFLUENCE OF PRIOR EPISODES OF INSTABILITY AFTER ANTERIOR CRUCIATE LIGAMENT (ACL) INJURY ON VERTICAL GROUND REACTION FORCES DURING WALKING IN NON-COPERS

Alexia Hay<sup>a</sup>

*Emily Gardiner<sup>b</sup>, Stephanie Di Stasi<sup>c</sup>, Lynn Snyder-Mackler<sup>d</sup>*

*University of Delaware, Newark, DE, Delaware INBRE Program<sup>a</sup>, Biomechanics  
and Movement Science Program<sup>b,d</sup>, Department of Physical Therapy<sup>d</sup>*

*The Ohio State University, Sports Health and Performance Institute and the  
Department of Physiology and Cell Biology<sup>c</sup>*

(L) Biological Sciences 4

**1<sup>st</sup> Place** RAPID DESTRUCTION OF BIOFILM MATRICES BY BACTERIOPHAGE-ENCODED ENZYMES  
Emilija Miljkovic Renke<sup>1,2</sup>, Yang Shen<sup>1,3</sup>, and Daniel C. Nelson<sup>1,3,4,\*</sup>  
<sup>1</sup>*Institute for Bioscience and Biotechnology Research, University of Maryland, Rockville, MD, USA.* <sup>2</sup>*Howard Hughes Medical Institute Undergraduate Research Fellow.* <sup>3</sup>*Molecular and Cellular Biology Graduate Program, University of Maryland, College Park, MD, USA.* <sup>4</sup>*Department of Veterinary Medicine, Virginia-Maryland Regional College of Veterinary Medicine, College Park, MD, USA.* \*nelsond@umd.edu

**2<sup>nd</sup> Place** SYNOPTIC SAMPLING OF LITTLE STONY CREEK, MOUNTAIN RUN, AND SMITH CREEK  
Michael P. Morris<sup>1</sup> and Caitlyn Siemens<sup>2</sup>  
*Dr. Daniel Downey*<sup>1</sup>  
*Chemistry Department*  
*James Madison University*<sup>1</sup>*MSC 4501 Harrisonburg, Virginia 22807*  
*RIT/NTID*<sup>2</sup>

(M) Biological Sciences 5

**1<sup>st</sup> Place** EXPRESSION OF HYALURONIDASES IN PROSTATE CANCER CELL LINES  
Lyana Labrada, Lisa Gurski, *Dr. Kenneth van Golen*  
*Department of Biological Sciences, University of Delaware, Newark DE 19716*

**2<sup>nd</sup> Place** SUPERTRANSFECTION OF COSTIMULATORY MOLECULE CD80 DECREASES EXPRESSION OF INHIBITORY MOLECULE THAT CAUSES T CELL DEATH  
Sonia Dalal, Samuel T. Haile, Suzanne Ostrand-Rosenberg  
*Department of Biological Sciences, University of Maryland Baltimore County*  
*1000 Hilltop Circle, Baltimore, MD 21250*

(N) Biological Sciences 6

**1<sup>st</sup> Place** MECHANISMS OF RESISTANCE TO QUATERNARY AMMONIUM COMPOUNDS AND OTHER ANTIMICROBIALS IN *SALMONELLA ENTERICA*  
Sarah Stamm  
*Dr. Diane Herson*  
*Department of Biological Sciences, University of Delaware, 118 Wolf Hall, Newark, DE 19716*

**2<sup>nd</sup> Place** SIMULATION OF THE EVOLUTION OF INFORMATION CONTENT IN TRANSCRIPTION FACTOR BINDING SITES USING A PARALLELIZED GENETIC ALGORITHM  
Joseph Cornish<sup>1</sup>, Robert Forder<sup>2</sup>  
*Ivan Erill*<sup>1</sup>, *Matthias K. Gobbert*<sup>2</sup>  
<sup>1</sup>*Department of Biological Sciences, University of Maryland, Baltimore County 1000 Hilltop Circle, Baltimore, Maryland, 21250*  
<sup>2</sup>*Department of Mathematics and Statistics, University of Maryland, Baltimore County, 1000 Hilltop Circle, Baltimore, Maryland, 21250*

(O) Biological Sciences 7

**1<sup>st</sup> Place** METABOLIC DYSFUNCTION ASSOCIATED WITH ADIPONECTIN DEFICIENCY ENHANCES KAINIC ACID-INDUCED SEIZURE SEVERITY  
Edward B. Lee<sup>1</sup>, Genevieve Warmann<sup>2</sup>, Ravindra Dhir<sup>1</sup>, *Rexford S. Ahima*<sup>1</sup>  
<sup>1</sup>*Department of Medicine, Division of Endocrinology, Diabetes and Metabolism, University of Pennsylvania, Philadelphia, PA 19104*  
<sup>2</sup>*Department of Natural Sciences, University of Maryland Eastern Shore, Princess Anne MD 21853*

**2<sup>nd</sup> Place** VARIATION IN CUTICULAR HYDROCARBONS WITH AGE, FEEDING, AND INSEMINATION STATUS OF *ANOPHELES GAMBIAE*  
Monica L. Artis<sup>1</sup>  
*Diana L. Huestis*<sup>2</sup> and *Tovi Lehmann*<sup>2</sup>  
<sup>1</sup>*Department of Natural Sciences, University of Maryland Eastern Shore, Princess Anne, MD*  
<sup>2</sup>*Laboratory of Malaria and Vector Research, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Rockville MD*

(P) Biochemistry & Molecular Biology 1

**1<sup>st</sup> Place** GENETIC VARIATION IN CARD15 AND ALLERGY

Anna Katenta<sup>1</sup>

Stefano Guerra<sup>2</sup>

<sup>1</sup>*Department of Natural Sciences, University of Maryland Eastern Shore  
1 Backbone Road, Princess Anne, Maryland 21853*

<sup>2</sup>*Department of Epidemiology and Biostatistics, University of Arizona,  
1501 N. Campbell Avenue, Tucson, Arizona 85721*

**2<sup>nd</sup> Place** DIFFERENTIAL APOPTOTIC RESPONSE IN NORMAL AND VIRUS –  
TRANSFORMED HUMAN CELLS

Melissa A. Maczis

Paul J. Birckbichler

*Department of Chemistry, Slippery Rock University, 1 Morrow Way, Slippery  
Rock, PA 16057*

(Q) Biochemistry & Molecular Biology 2

**1<sup>st</sup> Place** TOWARD PARATRANSGENESIS: SELECTION OF BACTERIA THAT ARE  
VERTICALLY TRANSMITTED BY VECTOR MOSQUITOES

<sup>1</sup>Chinwendu Amazu, <sup>2</sup>Sibao Wang,

<sup>2</sup>Marcelo Jacobs-Lorena, PhD

<sup>1</sup>*Department of Chemistry and Biochemistry, University of Maryland Baltimore  
County, 1000 Hilltop Circle, Baltimore, Maryland 21250*

<sup>2</sup>*Molecular Microbiology and Immunology, Johns Hopkins Bloomberg School of  
Public Health, 615 N. Wolfe Street Baltimore, MD 21205*

**2<sup>nd</sup> Place** SMALL RNA-MEDIATED GENE EXPRESSION OF THE MANNITOL  
OPERON IN *VIBRIO CHOLERA*E

Ronak Mistry, Robert Scheffler, and Selime Aksit

Jane M. Liu

*Department of Chemistry, Drew University, 36 Madison Avenue, Madison, NJ*

(R) Biochemistry & Molecular Biology 3

**1<sup>st</sup> Place** GLYCOSYLATION AND PHOSPHORYLATION INDUCE ALTERNATIVE  
STRUCTURAL CONFORMATIONS IN TAU'S PROLINE-RICH DOMAIN

Michael A. Brister and Agata A. Bielska

Neal J. Zondlo

*Department of Chemistry and Biochemistry, University of Delaware,  
210 South College Avenue, Newark, DE 19716*

**2<sup>nd</sup> Place** RNA *IN SITU* HYBRIDIZATION ANALYSIS OF G-PROTEIN  $\beta$  AND  $\gamma$   
SUBUNITS IN THE MAIN OLFATORY EPITHELIUM OF MICE

Saloni T. Mehta, Aaron Sathyanesan

Weihong Lin

*Department of Biology, University of Maryland Baltimore County  
1000 Hilltop Circle, Baltimore, MD 21250*

## Poster Session II (Afternoon)

### (A) Chemical Sciences 1

**1<sup>st</sup> Place** SYNTHESIS, CHARACTERIZATION, FLUORESCENT STUDIES OF *Fac*-  
(CO)<sub>3</sub>(Bathocuproin)ReOC(O)C<sub>6</sub>H<sub>4</sub>OC(O)CH<sub>3</sub>  
Pola Olczak, Santosh K. Mandal  
*Morgan State University, Department of Chemistry, 1700 E. Cold Spring Lane,  
Baltimore, MD, 21251, United States*

**2<sup>nd</sup> Place** BIOLOGICAL LIGATIONS OF PEPTIDES  
Kara Martin  
*Neal Zondlo*  
*Department of Chemistry and Biochemistry, University of Delaware,  
210 South College Ave., Newark, Delaware 19716*

### (B) Chemical Sciences 2

**1<sup>st</sup> Place** TWO-COMPONENT GEL FORMATION BASED ON AMINO ACID  
SURFACTANTS  
Anthony DiDomenico, Alexa DeLuca, Justin Hagerman, Leigh Matano,  
*Yanjie Zhang*  
*Department of Chemistry and Biochemistry, James Madison University,  
901 Carrier Dr., Harrisonburg, VA 22807*

**2<sup>nd</sup> Place** LIQUID CHROMATOGRAPHY-MASS SPECTROMETRY OF PHENOXY  
ACIDS, AMINO ACIDS, AND BISPHENOL-A  
Stephanie E. Perkins  
*Kevin H. Bennett*  
*Department of Chemistry and Physics, Hood College, 401 Rosemont Avenue,  
Frederick, Maryland 21701*

### (C) Chemical Sciences 3

**1<sup>st</sup> Place** SYNTHESIS AND COORDINATION CHEMISTRY OF CHIRAL  $\beta$ -IMINO  
SULFOXIDES  
Baktash Moradi, Caroline M. Christensen  
*Tim J. Brunker*  
*Department of Chemistry, Towson University, 8000 York Road, Towson, MD  
21252*

**2<sup>nd</sup> Place** SYNTHESIS AND CHARACTERIZATION OF PEPTIDE-CAPPED ZnS  
NANOPARTICLES  
Kimberly L. Holt<sup>1</sup>  
Walter A. Patton<sup>1,2</sup>  
*<sup>1</sup>Department of Chemistry and the <sup>2</sup>Program in Biochemistry & Molecular  
Biology*  
*Lebanon Valley College, Annville, PA 17003-1400*

(D) Chemical Sciences 4

**1<sup>st</sup> Place** SYNTHESIS AND CHARACTERIZATION OF TRANSITION METAL COMPLEXES FOR USE IN LUMINESCENCE-BASED SENSORS

Elizabeth K. Costello and Sarah A. Strohecker

*Dr. Kristi A. Kneas and Dr. Jeffrey A. Rood*

*Department of Chemistry and Biochemistry, Elizabethtown College*

*One Alpha Drive Elizabethtown PA, 17022*

**2<sup>nd</sup> Place** CO<sub>2</sub>H CONJUGATE DYE

Ranita Mealer

*Dr. Angela Winstead, Dr. Richard Williams*

*Chemistry Department, Morgan State University, 1700 East ColdSpring Lane,*

*21251*

(E) Chemical Sciences 5

**1<sup>st</sup> Place** SYNTHESIS OF PHOSPHANYL(ORGANYL)BORANES AND THEIR USES AS LIGANDS IN TRANSITION METAL COMPLEXES

Anthony Jiang

*Dr. Clare N. Muhoro*

*Department of Chemistry, Towson University*

*8000 York Road, Towson, MD, 21252*

**2<sup>nd</sup> Place** APPLICATION OF THE ENANTIOSELECTIVE AZA-HENRY REACTION TO THE SYNTHESIS OF UNSYMMETRICAL NUTLIN DERIVATIVES

John C. Tellis

*Jeffrey N. Johnston and Tyler A. Davis*

*Department of Chemistry and Vanderbilt Institute of Chemical Biology, Vanderbilt University*

*2301 Vanderbilt Place, Nashville, TN 37235-1822*

*Department of Chemistry and Biochemistry, Elizabethtown College,*

*One Alpha Drive, Elizabethtown, PA 17022*

(F) Chemical Sciences 6

**1<sup>st</sup> Place** METAL-ORGANIC FRAMEWORKS CONSTRUCTED WITH PHOSPHINIC ACID LIGANDS

Steven M. Boyer

*Jeffrey A. Rood*

*Department of Chemistry and Biochemistry*

*Elizabethtown College, 1 Alpha Drive, Elizabethtown, PA 17022*

**2<sup>nd</sup> Place** INVESTIGATION OF THE SYNTHESIS OF Ru(II) DICHLORIDE COMPLEXES WITH A TETRADENTATE AMINO SULFOXIDE LIGAND

Peter Atolagbe

*Tim J Brunker*

*Department of Chemistry Towson University, 8000 York Road, Towson, MD.*

(G) Chemical Sciences 7

**1<sup>st</sup> Place** REAL-TIME MICRO-PHASE SEPARATION KINETIC ANALYSIS OF POSS-  
MA THIN FILMS USING ATOMIC FORCE MICROSCOPY

Skylar White

*Brian Augustine*

*Department of Chemistry and Biochemistry, James Madison University, 901  
Carrier Drive, MSC 4501, Harrisonburg, Virginia 22807*

**2<sup>nd</sup> Place** SALICYLALDIMINATO MAGNESIUM COMPLEXES:  
SYNTHESIS, CHARACTERIZATION, AND USE IN PROPYLENE OXIDE  
POLYMERIZATION

Timothy J. Goldkamp

*Jeffrey A. Rood*

*Department of Chemistry and Biochemistry  
Elizabethtown College, 1 Alpha Drive, Elizabethtown, PA 17022*

(H) Biological Sciences 1

**1<sup>st</sup> Place** CRYSTALLIZATION OF *ESCHERICHIA COLI* 70S RIBOSOME IN  
COMPLEX WITH TRNAS

Brandon Young

*Thomas A. Steitz, Ph.D.; Axel Innis, Ph. D.*

*Department of Molecular Biophysics and Biochemistry, Yale University,  
266 Whitney Avenue New Haven, CT 06520-8114*

**2<sup>nd</sup> Place** PHOSPHORYLATION OF RPS7A PROTEIN: IMPACT ON RIBOSOMAL  
COMPOSITION AND FUNCTION

Reema Sharma

*Dr. Lasse Lindahl*

*Department of Biological Sciences, University of Maryland, Baltimore County,  
1000 Hilltop Circle, Baltimore, Maryland 21250*

(I) Biological Sciences 2

**1<sup>st</sup> Place** MOLECULAR MECHANISMS UNDERLYING CARTILAGE DEFECTS IN PERLECAN MUTANT MICE

Dylan A. Lowe and Padma P. Srinivasan

*Catherine B. Kirn-Safran, Ph.D*

*Department of Biological Sciences, University of Delaware*

*118 Wolf Hall, Newark, Delaware 19716*

**2<sup>nd</sup> Place** EFFICACY AND SELECTIVITY OF A NESTIN-CRE TRANSGENE IN THE MOUSE NERVOUS SYSTEM

Claire Weichselbaum<sup>1</sup>

*Richard J. Miller*<sup>2</sup>

<sup>1</sup>*Department of Biology, Bryn Mawr College, 101 N. Merion Ave, Bryn Mawr PA 19010*

<sup>2</sup>*Department of Molecular Pharmacology and Biological Chemistry, Northwestern University Medical School, 303 E. Superior Street, Chicago, IL 60611*

(J) Biological Sciences 3

**1<sup>st</sup> Place** TIME-LAPSE ANALYSIS OF GLIOMA CELL BEHAVIOR IN EMBRYONIC BRAIN CELL CO-CULTURES

Hamza Bhatti

*Deni S. Galileo*

*Department of Biological Sciences, University of Delaware*

*105 East Delaware Ave, Newark, DE 19716*

**2<sup>nd</sup> Place** ROLE OF SKYWALKER IN COLLECTIVE CELL MIGRATION IN DROSOPHILA

Niambi Brewer

*Michelle Starz-Gaiano*

*Department of Biological Sciences, University of Maryland, Baltimore County*

*1000 Hilltop Circle, Baltimore MD 21250*

(K) Biological Sciences 4

**1<sup>st</sup> Place** SEROTONIN, SIDS, AND THE MATURATION OF CARDIORESPIRATORY CONTROL: THE EFFECTS OF PRENATAL NICOTINE EXPOSURE ON POSTNATAL SURVIVAL IN THE SEROTONIN-DEFICIENT *PET-1* KNOCKOUT MOUSE

Laurie Delatour and Melissa Toledo

*Jeffery T. Erickson*

*Biology Department, The College of New Jersey, 2000 Pennington Road, Ewing, NJ 08628*

**2<sup>nd</sup> Place** EFFECT OF *PHYLLANTHUS NIRURI* EXTRACTS ON HEPATITIS C VIRAL REPLICATION AND CELL VIABILITY

Crystal Wang<sup>1</sup>, Noha Eshera<sup>1</sup>, Liv Johanessen<sup>1</sup>, Gowri Nadmichettu<sup>1</sup>, Steven Ramiro<sup>1</sup>, Song Fu<sup>1</sup>, Alex Zhang<sup>1</sup>, Alex Peters<sup>1</sup>, Greg Polley<sup>1</sup>, Angela Hou<sup>1</sup>, Eunsol Lee<sup>1</sup>, Ke Ma<sup>1</sup>, Rahel Kifle<sup>1</sup>,

*Dr. Andrea Ottesen<sup>2</sup>*

*1. Gemstone Program, University of Maryland College Park, 0100 Ellicott Hall, College Park, MD 20742, 2. Plant Sciences, UMD; FDA, 5100 Paint Branch Parkway, College Park, MD, 20740*

(L) Biological Sciences 5

**1<sup>st</sup> Place** AUTOMATIC DETECTION OF THE MAJOR CODON BIAS IN MUTUATIONALLY BIASED GENOMES

Mindy H. Or

*Ivan Erill*

*Department of Biological Sciences, University of Maryland Baltimore County, 1000 Hilltop Circle, Baltimore, Maryland 21250*

**2<sup>nd</sup> Place** ADENYLYL CYCLASE INHIBITORS REVERSE THE NEUROTOXIC EFFECTS OF MANGANESE ON POST-SYNAPTIC DOPAMINE D2 RECEPTORS

Michael Nelson, Trevon Adams, Christiana Ojo

*Edward J. Catapane, and Margaret A. Carroll*

*Department of Biology, Medgar Evers College*

*1638 Bedford Ave, Brooklyn, NY 11225 and*

*Department of Biology, Kingsborough Community College*

*2001 Oriental Blvd., Brooklyn, NY 11235*

(M) Biological Sciences 6

**1<sup>st</sup> Place** DSCAM AND ITS ROLE IN *DROSOPHILA* IMMUNITY  
Catherine Ami Bessell  
*Dr. Louisa Wu*  
*Cell Biology and Molecular Genetics, University of Maryland, College Park*

**2<sup>nd</sup> Place** GENERATION OF AN IGG MONOCLONAL ANTIBODY TO LACDINAC (LDN) GLYCAN EPITOPES FROM SPLENOCYTES OF SCHISTOSOMA MANSONI INFECTED SWISS WEBSTER MICE  
Victoria Bartlette<sup>1</sup>, Bernard Mamphey<sup>1</sup>, Msano Mandalasi<sup>1</sup>, Richard Cummings<sup>2</sup>  
Kwame Nyame<sup>1</sup>  
<sup>1</sup>*Department of Natural Sciences, University of Maryland Eastern Shore, Princess Anne, MD* <sup>2</sup>*Emory University, Atlanta, GA*

(N) Biochemistry and Molecular Biology 1

**1<sup>st</sup> Place** HYPOPLASTIC LEFT HEART SYNDROME: MOLECULAR CONSEQUENCES OF TRANSCRIPTION FACTOR MUTATIONS  
Ashley Shay  
*Dr. Vicky Funanage*  
*Department of Biological Sciences, University of Delaware, 118 Wolf Hall, Newark, DE 19716*

**2<sup>nd</sup> Place** UNDERSTANDING THE INTERACTION BETWEEN MELANOPSIN AND ARRESTIN USING FRET  
Devyani Ujla, Evan Cameron, *Phyllis Robinson Ph.D.*  
*Department of Biological Sciences, University of Maryland Baltimore County Baltimore, MD 21250*

(O) Biochemistry and Molecular Biology 2

**1<sup>st</sup> Place** INSERTION OF A MONOMERIC CYAN FLUORESCENT PROTEIN INTO YEAST WILD-TYPE AND HUMAN CHIMERAS OF THE G PROTEIN  $\alpha$  SUBUNIT FOR VISUALIZATION IN *SACCHAROMYCES CEREVISIAE*  
Nicolas H. Di Domizio  
*Anne Skaja Robinson, Ph.D.*  
*Department of Chemical Engineering, University of Delaware, Colburn Laboratory, 150 Academy Street, Newark, DE 19716*

**2<sup>nd</sup> Place** INDUCIBLE EXPRESSION OF THE HUNTINGTIN GENE IN DIFFERENTIATED PC12 CELLS: A CELL CULTURE MODEL SYSTEM OF HUNTINGTON'S DISEASE  
José Agustín Sánchez Hernández, Kelly Beth Mankowitz  
*Ricky Regina Hirschhorn, PhD\**  
*Department of Biology, Hood College 401 Rosemont Avenue, Frederick, Maryland 21701 USA*

(P) Biochemistry and Molecular Biology 3

**1<sup>st</sup> Place** THE CLOSING KINETICS OF THE MECHANOSENSITIVE CHANNEL  
MSCS DEPEND ON THE POSITION OF THE HINGE GLYCINES IN THE  
PORE-LINING HELIX

Abigail Cember, Ian Rowe and *Sergei Sukharev*  
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**2<sup>nd</sup> Place** ANTIMICROBIAL NON-CONTACT FLUORESCENCE BASED  
TEMPERATURE SENSOR FOR NEWBORNS

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(Q) Biochemistry and Molecular Biology 4

**1<sup>st</sup> Place** THE INHIBITION OF DNA POLYMERASE LAMBDA BY AN OXIDIZED  
ABASIC SITE

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*Marc M. Greenberg*  
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**2<sup>nd</sup> Place** DETERMINING THE EFFECT OF DITHIOLETHIONE COMPOUNDS ON  
THE ACTIVITY OF HUMAN GLYCERALDEHYDE-3-PHOSPHATE  
DEHYDROGENASE

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