

***11th 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 11, 2008



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The National Institutes of Health
(NIGMS)***

**11th Annual Undergraduate Research Symposium
in the
Chemical and Biological Sciences**

Poster Session I

(A) Chemical Sciences 1

1st Place MONITORING OF EPOXY/AMINE CURE USING DIELECTRIC SPECTROSCOPY AND DIFFERENTIAL SCANNING CALORIMETRY

Abdul-Rahman Raji

Alvin P. Kennedy

Department of Chemistry, Morgan State University,
1700 E. Cold Spring Lane, Baltimore, 21251 MD

2nd Place CHITOSAN-ASSISTED SYNTHESIS OF SILVER NANOPARTICLES BY ELECTRODEPOSITION

Melissa Pinard

Dr. Yongchao Zhang

Chemistry Department, Morgan State University, NSF-RISE, 1700 East Cold Spring Lane, Baltimore, Maryland 21251.

(B) Chemical Sciences 2

1st Place LINEAR AND TIME-RESOLVED VIBRATIONAL SPECTROSCOPY OF BIOMIMETIC CATALYSTS FOR HYDROGEN PRODUCTION

Casey Kohnhorst and Elizabeth Rakowski

Christopher J. Stromberg

Department of Chemistry and Physics, Hood College
401 Rosemont Avenue, Frederick, Maryland

2nd Place THE AFFECT OF STRUCTURE MODIFICATION ON LOW-MOLECULAR-WEIGHT ORGANOGELATORS

Paris Hamilton

Kevin Caran

Department of Chemistry & Biochemistry, James Madison University, MSC
4501, Harrisonburg VA 22807

(C) Chemical Sciences 3

1st Place INVESTIGATING HOST-GUEST INTERACTIONS BETWEEN BIPYRIDINE AZACROWN-ETHER MACROCYCLES AND ALKALI ION GUESTS

Samantha Burkey, Timothy Garrett Jr.

Marc Harris

Department of Chemistry, Lebanon Valley College, Annville, PA

2nd Place ENANTIOSEPARATION OF PROFEN DRUGS BY CAPILLARY ELECTROPHORESIS: USING GLYCOPEPTIDE ANTIBIOTICS AS CHIRAL SELECTORS

Rebecca A. Hunter

Kevin H. Bennett

Department of Chemistry and Physics, Hood College
401 Rosemont Avenue, Frederick, Maryland 21701

(D) Chemical Sciences 4

1st Place STORAGE CONTAINER LINER AND GASKET MOISTURE STUDIES

Kayla Flanigan

King College, Dept. of Chemistry, 1350 King College Rd., Bristol, TN 37620

Ashley C. Stowe and *Jonathan S. Morrell*

Y-12 National Security Complex, Oak Ridge, TN 37830

2nd Place ENVIRONMENTAL FATE OF N-METHYL CARBAMATE PESTICIDES AND THEIR PHENOXIDE DEGRADANTS

Sonja Gamby

Clare N. Muhoro

Towson University, Fisher College of Science and Mathematics, Department of Chemistry, 8000 York Road, Towson, MD 21252, United States

(E) Chemical Sciences 5

1st Place LEAVING GROUP EFFECTS IN ACYL IMINIUM CHEMISTRY:
OPPORTUNITIES FOR NOVEL REACTIVITY

Nathaniel C. Bair

Timothy J. Peelen

Department of Chemistry, Lebanon Valley College,
101 N. College Ave., Annville, PA., 17003

2nd Place THERMODYNAMIC AND KINETIC MEASUREMENTS ON MAGNESIUM
HYDRIDE

Olumuyiwa Fagbami

Dr. Andrew J. Goudy

Department of Chemistry, Delaware State University, 1200 N. Dupont Highway,
Dover, Delaware 19901

(F) Chemical Sciences 6

1st Place IDENTIFYING BIOMARKERS OF THE MHC GENE TO INVESTIGATE
CHEMOSENSORY DISCRIMINATION

Tyler C. Bazzoli

Steven D. Brown

Department of Chemistry and Biochemistry, University of Delaware,
210 Drake Laboratory, Newark, Delaware 19717

2nd Place DEVELOPMENT OF A USER-FRIENDLY SOFTWARE PROGRAM FOR
TEMPERATURE-PROGRAMMED DESORPTION STUDIES OF
INTERSTELLAR CHEMISTRY

Michael W. Porambo, Heather R. Howard, Jason K. Navin, and

Anderson L. Marsh

Department of Chemistry, Lebanon Valley College
101 N. College Avenue, Annville, Pennsylvania 17003

(G) Chemical Sciences 7

1st Place SYNTHESIS AND CHARACTERIZATION OF A NEW 'PS^{iPr}₂' LIGAND AND [PS^{iPr}₂NiCl]BPh₄ FOR COORDINATION CHEMISTRY AND BIOINORGANIC MODELING

Stephen J. Tereniak, Nathan A. Eckert

Charles G. Riordan

Department of Chemistry & Biochemistry, University of Delaware, 102 Brown Laboratory, Newark, DE 19716

2nd Place PREPARATION AND SPECTRAL CHARACTERIZATION OF RU(CO)₂(PPH₂CH₂CH₂P(O)PH₂)₃

Vanessa Shepperson

John W. Gilje & Donna S. Amenta

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

(H) Biological Sciences 1

1st Place DETERMINING A RELATIONSHIP BETWEEN STANDING WATER AREA AND AMPHIBIAN POPULATION AND DIVERSITY IN A CONSTRUCTED WETLAND AT ARGONNE NATIONAL LABORATORY, ILLINOIS.

Anne Marie Czawlytko

Kirk LaGory

Department of Biology, Immaculata University, 1145 King Road, Immaculata, Pennsylvania 19345, Argonne National Laboratory, Environmental Science Division, 9700 Cass Avenue, Argonne, Illinois 60439

2nd Place MICROTOPOGRAPHY AND ITS RELATIONSHIP TO DISTURBANCE

Ryan P. Normandeau-Brown

Judith Stribling

Salisbury University, Henson School of Science, 1101 Camden Ave, Salisbury, MD 21801

(I) Biological Sciences 2

1st Place REMODELING OF BOVINE MILK OLIGOSACCHARIDE TO SCHISTOSOME OLIGOSACCHARIDE USING CHEMI-ENZYMATIC SYNTHESIS

Oneil Gardner

Msano Mandalasi, Anthony K. Nyame, PhD.

Department of Natural Sciences, University of Maryland Eastern Shore, Princess Anne, Maryland 21853

2nd Place ANALYSIS OF MUTATIONS IN RIBOSOMAL PROTEINS L4 AND L22 IN SPIRAMYCIN-REISTANT DEINOCOCCUS RADIODURANS

Andrew Ciupek

Janice M. Zengel

Department of Biological Sciences, University of Maryland Baltimore County, 1000 Hilltop Circle, Baltimore, MD 21401

(J) Biological Sciences 3

1st Place IDENTIFICATION AND CHARACTERIZATION OF THE ROLE OF HYAL2 IN MAMMALIAN REPRODUCTION

Tejal U. Naik

Patricia DeLeon

Department of Biological Sciences, University of Delaware, 118 Wolf Hall, Newark, Delaware, 19716

2nd Place MODULATION OF MUC1 PROTEIN EXPRESSION BY PPAR γ IN PANCREATIC CANCER CELLS

Obinna Mmagu

Daniel Carson

Department of Biological Sciences, University of Delaware, 118 Wolf Hall, Newark, DE 19716

(K) Biological Sciences 4

1st Place QUANTITATIVE ANALYSIS OF BREAST CANCER METASTASIS TO BRAIN

Kathryn Teixeira

Deni S. Galileo

Department of Biological Sciences, University of Delaware, Newark DE

2nd Place COMBINATION OF CANCER GENE THERAPY WITH TUMOR IMMUNOTHERAPY FOR THE CONTROL OF HEAD AND NECK CANCER

Annie Wu

Dr. Sara I. Pai

Department of Otolaryngology/Head and Neck Surgery, Johns Hopkins University, Baltimore, MD

(L) Biological Sciences 5

1st Place PROTEIN KINASE C MEDIATES PURINERGIC RECEPTOR INDUCED CONTRACTION IN MC3T3-E1 OSTEOBLASTS.

Patricia Timothee

Victor Fomin, Kirk Czymbek and Randall L. Duncan

Department of Biological Sciences, University of Delaware, Newark, DE

2nd Place P-AMINOSALICYLIC ACID BLOCKS MANGANESE FROM IMPAIRING THE DOPAMINERGIC INNERVATION OF THE GILL OF THE BIVALVE MOLLUSC, *CRASSOSTREA VIRGINICA*

Turkesha Huggins¹, Roshney Licorish²,

*Margaret A. Carroll*¹ and *Edward J. Catapane*¹

Biology Departments, ¹Medgar Evers College and

¹Kingborough Community College, Brooklyn, NY, USA

(M) Biological Sciences 6

1st Place CHARACTERIZATION OF STEROID SULFATASE IN THE HUMAN MG-63 PRE-OSTEOBLASTIC CELL LINE

Jordan C. Humphrey

Kyle W. Selcer

Department of Biological Sciences, Duquesne University, 600 Forbes Avenue, Pittsburgh, Pennsylvania, 15282

2nd Place ACID –ACTIVE HYALURONIDASES IN MOUSE AND HUMAN SPERM

Diniece Barran, Tejal U. Naik, Rolands Aravind,

Patricia A. Martin-DeLeon

Biological Sciences, University Of Delaware, Newark DE, 19717

(N) Biochemistry and Molecular Biology 1

1st Place DESIGN OF A CELL-RESPONSIVE DE-PEGYLATION DNA DELIVERY SYSTEM

Stephanie L. Myrick¹, Peter G. Millili²
*Millicent O. Sullivan*²

Department of Chemistry and Biochemistry¹, Department of Chemical Engineering², University of Delaware, 720 Academy Street, Newark, DE 19716

2nd Place MULTIPLE SOLVENT CRYSTALLIZATION OF BAF

Kliment Verba¹, *Miriam Segura-Totten*¹, Greg Burhman², *Carla Mattos*².
Biology Department, The College of New Jersey, Ewing, New Jersey, 08628¹
Biochemistry Department, North Carolina State University,
Raleigh, North Carolina, 27695

(O) Biochemistry and Molecular Biology 2

1st Place CDK5: A CONTRIBUTOR TO THE INSULIN PHENOTYPE OF TRANSDIFFERENTIATED PANCREATIC β CELLS

Jessica Stevens
Ann Aguanno

Department of Natural Sciences, Marymount Manhattan College
221 E. 74th St., New York, NY 10021

2nd Place DIFFERENTIAL RESPONSE OF HUMAN ERYTHROLEUKEMIA CELLS TO HETEROAROTINOIDS

Brandon W. Wilds, Matthew R. Miller, Timothy L. Evans, and *Paul J. Birckbichler*

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

(P) Biochemistry and Molecular Biology 3

1st Place THE PATERNAL ROLE OF THE *PAM-1* GENE IN MEIOTIC PROGRESSION IN SPERM OF CAENORHABDITIS ELEGANS

Pamela Odorizzi
Dr. Rebecca Lyczak

Department of Biochemistry and Molecular Biology, Ursinus College
1000 E. Main Street, Collegeville, PA 19426

2nd Place AN EXERCISE IN DRUG DISCOVERY: PARALLEL SYNTHESIS OF LIDOCAINE DERIVATIVES AND ANALYSIS OF THEIR METABOLIC STABILITY USING LC-MS-MS

Brandon Parks

Timothy J. Peelen

Department of Chemistry, Lebanon Valley College, 101 N. College Ave.,
Annville, Pennsylvania, 17003

(Q) Biochemistry and Molecular Biology 4

1st Place STUDYING THE BINDING AFFINITY OF PDT PHOTOSENSITIZERS FOR DNA USING ISOTHERMAL TITRATION CALORIMETRY

Bilgehan Önogul, Manuel Pintado & *Ruel E. McKnight*

Department of Chemistry, State University of New York at Geneseo,
1 College Circle, Geneseo, NY 14454

2nd Place RUTHENIUM BIPYRIDINE COMPOUNDS AS SDS-PAGE- AND MALDI-COMPATIBLE PROTEIN LABELS

Charles R. Schmidt and Brandon W. Parks

Walter A. Patton

Department of Chemistry & Program in Biochemistry and Molecular Biology
Lebanon Valley College, Annville, PA 17003

(R) Biochemistry and Molecular Biology 5

1st Place STRUCTURAL AND FUNCTIONAL CHARACTERIZATION OF A UBIQUITIN MUTANT I13S

Shirley Lee, Seth Thomas, Urszula Nowicka, Daoning Zhang, Nicole LaRonde-LeBlanc *David Fushman*

Center for Biomolecular Structure and Organization, Department of Chemistry and Biochemistry, University of Maryland, College Park, MD 20742

2nd Place ON DISPROVING THE EXISTENCE OF A LONG-RANGE INTERACTION BETWEEN THE PRIMER BINDING SITE AND THE SL4 STEMLOOP OF THE HIV-1 RNA GENOME

Gowry Kulandaivel

Bilguujin Dorjsuren, Dr. Kun Lu, *Dr. Michael F. Summers*

Department of Chemistry and Biochemistry, Howard Hughes Medical Institute,
University of Maryland, Baltimore County, 1000 Hilltop Circle, Baltimore, MD 21250

Poster Session II

(A) Chemical Sciences 1

1st Place DIASTEREOMERIC INTERACTIONS OF CHIRAL TRIFLUORMETHYL COMPOUNDS: A WINDOW INTO THE ORIGINS OF HOMOCIRALITY

Sara E. Schwanger

Timothy J. Peelen

Department of Chemistry, Lebanon Valley College, 101 North College Avenue,
Annville, PA 17003

2nd Place VAPOR PHASE NMR

Curtis White

Tom DeVore

Department of Chemistry & Biochemistry, James Madison University,
MSC 4501, Harrisonburg VA 22807

(B) Chemical Sciences 2

1st Place USING DIFFERENCE INFRARED SPECTROSCOPY TO INVESTIGATE THE EFFECTS OF pH ON PGK-SUBSTRATE COMPLEXES

Adam Colbert

Gina MacDonald

Department of Chemistry & Biochemistry, James Madison University,
901 Carrier Drive; MSC 4501, Harrisonburg VA 22807

2nd Place ANALYSIS OF NICOTINE'S EFFECT ON RAPID DOPAMINE RELEASE IN THE STRIATUM

Emmanuel Dowuona

R. Mark Wightman

Department of Chemistry and Neuroscience Center,
The University of North Carolina at Chapel Hill, Chapel Hill, NC 27599

(C) Chemical Sciences 3

1st Place SYNTHETIC ION CHANNEL FROM GUANOSINE-STEROL CONJUGATE

Jin Hoon Park

Jeffery T. Davis

Department of Chemistry and Biochemistry, University of Maryland,
College Park, Maryland 20742

2nd Place OXIDATION OF PRIMARY AND SECONDARY ALCOHOLS BY 4-ACETYLAMINO-2,2,6,6-TETRAMETHYLPYPERIDINE-1-OXOAMMONIUM TETRAFLUOROBORATE IN AQUEOUS MEDIA

Phillip R. Sharrow, Audrey N. Mamros, and *Matthew R. Luderer*

Department of Natural Science, Mathematics, and Engineering, University of
Pittsburgh at Greensburg, 150 Finoli Drive, Greensburg, PA 15601

(D) Chemical Sciences 4

1st Place SYNTHESIS AND COLLOIDAL PROPERTIES OF NOVEL BISCATIONIC BICEPHALIC (DOUBLE HEADED) AMPHIPHILES

Kristina M. Hamill

Kevin L. Caran

Department of Chemistry & Biochemistry, James Madison University,
MSC 4501, Harrisonburg VA 22807

2nd Place AN EXERCISE IN DRUG DISCOVERY: PARALLEL SYNTHESIS OF LIDOCAINE DERIVATIVES AND ANALYSIS OF THEIR METABOLIC STABILITY USING LC-MS-MS

Brandon Parks

Timothy J. Peelen

Department of Chemistry, Lebanon Valley College, 101 N. College Ave.,
Annville, Pennsylvania, 17003

(E) Chemical Sciences 5

1st Place MIXED PHOSPHOLIPID MONOLAYERS AT THE WATER/VAPOR INTERPHASE

Tatyana Aliyeva

Dr. Robert A. Walker

Department of Chemistry and Biochemistry
University of Maryland
College Park, MD 20740

2nd Place CATALYTIC ROUTES TO TWO PHOSPHANYL(ORGANYL)BORANES AND THEIR COORDINATION TO METAL COMPLEXES

Andrea M. Castillo

Dr. Clare N. Muhoro

Towson University, Fisher College of Science and Mathematics, Department of Chemistry, 8000 York Rd, Towson, MD 21252, USA

(F) Chemical Sciences 6

1st Place SYNTHESIS OF A NOVEL NITROSAMINE METABOLITE NUCLEOSIDE ADDUCT

Steven J. McKerrall, Charles N. Zink

James C. Fishbein

Department of Chemistry and Biochemistry, University of Maryland Baltimore County,
1000 Hilltop Circle, Baltimore, Maryland 21250

2nd Place SURFACTANT EFFECTS ON PHOSPHOLIPID STRUCTURE AND ORGANIZATION IN MODEL MEMBRANES

Elizabeth H. Jensen

Dr. Robert A. Walker

Department of Chemistry and Biochemistry
University of Maryland
College Park, MD 20740

(G) Biological Sciences 1

1st Place CHARACTERIZATION OF PROTECTIVE CONVALESCENT SERUM GENERATED FROM *YERSINIA* INFECTED MICE

Sohil N. Golwala¹, Torsten Joerger¹

Michelle A. Parent^{1,2}

¹Department of Medical Technology, ²Department of Biological Sciences,
University of Delaware, Newark, DE 19711

2nd Place ASSAYING MANGANESE TOXICITY USING POSITRON EMISSION TOMOGRAPHY

Jordan Smith

Dr. Vanessa Fitsanakis

Departments of Physics and Biology, King College,
1350 King College Road, Bristol, TN 37620

(H) Biological Sciences 2

1st Place CHARACTERIZATION OF CROSSOVER CONTROL IN *C. ELEGANS*

Frazer Heinis^{1,2}

*Judith L. Yanowitz*²

¹Johns Hopkins University, Department of Biology,
3400 N Charles St, Baltimore, MD 21218 ² Carnegie Institution of Washington,
Department of Embryology, 3520 San Martin Drive, Baltimore, MD 21218

2nd Place GALLBLADDER BRUSH CELLS EXPRESS ION CHANNEL TRPM5

Dawood Tafti

Tatsuya Ogura, Weihong Lin

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

(I) Biological Sciences 3

1st Place ISOLATION AND CHARACTERIZATION OF FOUR NOVEL
MICROBIAL SPECIES FOR PUBLICATION

Brittane L. Strahan

Jeffrey D. Newman

Department of Biology, Lycoming College, 700 College Place, Williamsport, PA
17701

2nd Place VARIED MECHANISM OF PHAGOCYIC CLEARANCE OF GRAM-
NEGATIVE BACTERIA

Currington, R., Amiel, E., and Berwin, B.

Dartmouth Medical Center, Lebanon, NH 03756

(J) Biological Sciences 4

1st Place INHIBITION OF HUMAN DENDRITIC CELLS WITH APOPTOTIC MATERIAL

Chinonyerem Okoro^{1,2}, Davor Frleta³ and
*Nina Bhardwaj*³

¹ Department of Biological Sciences, University of Maryland, Baltimore County, 1000 Hilltop Circle, Baltimore, Maryland 21250, ²New York University, Sackler Institute of Biomedical Sciences, Summer Undergraduate Research Program (SURP), ³ Cancer Research Center, New York University Langone Medical Center, 521 First Avenue, New York, NY, 10016

2nd Place MODELING NEURONAL REGENERATION IN PC12 CELLS

Patricia Cunfer and Khevna Shukla
Dr. Kristen Boeshore

Biology Department, Lebanon Valley College, 101 N. College Ave., Annville, PA 17003

(K) Biological Sciences 5

1st Place EXCITATORY ACTIONS OF NORADRENALINE ON GRANULE CELLS IN THE ACCESSORY OLFACTORY BULB

Richard S. Smith
Ricardo C. Araneda

Department of Biology, University of Maryland, College Park, MD 20742

2nd Place EFFECTS OF DIMINISHED PROTEIN SYNTHESIS ON BONE ANABOLIC RESPONSE TO LOAD IN RPL29-DEFICIENT MICE

Laura G. Sloofman¹, David Chen², Xiaozhou Zhou², Christopher Price²,
John E. Novotny², Liyun Wang²,
*Catherine B. Kirn-Safran*¹

¹ Department of Biological Sciences, University of Delaware, 310 Wolf Hall, Newark, Delaware 19716 ² Department of Mechanical Engineering, University of Delaware, Newark, DE 19716

(L) Biological Sciences 6

1st Place DEVELOPMENT OF SPRAY-DRIED AEROSOLS FOR THE TREATMENT OF RESPIRATORY BIOFILMS

Nearco Rodriguez¹, *Jennifer Fiegel*² and Emily Thomas²

¹Biology Dept., Medgar Evers College, Brooklyn, NY, USA and

²University of Iowa, Iowa City, IA, USA.

2nd Place LOCALIZING ENDO B-1,4 GLUCANASE ATCEL6 (ATGH9C1) PROTEIN IN ARABIDOPSIS *THALIANA* ECOTYPE COLUMBIA

Sivacharan Gaddam

Elena del Campillo

Dept. of Cell Biology and Molecular Genetics, University of Maryland College Park, University of Maryland, College Park, MD 20742

(M) Biological Sciences 7

1st Place DETERMINING THE FUNCTION OF FIBRILLINS IN *SYNECHOCYSTIS* PCC6803

Christina Pham

Dr. Francis X. Cunningham & Dr. Elisabeth Gantt

Department of Cell Biology and Molecular Genetics, University of Maryland College Park, Microbiology Building, College Park, MD

2nd Place EFFECTS OF P-AMINOSALICYLIC ACID ON THE NEUROTOXIC EFFECTS OF MANGANESE ON THE DOPAMINERGIC INNERVATION OF THE GILL OF THE BIVALVE MOLLUSC, *CRASSOSTREA VIRGINICA*

Michael Nelson, Edward J. Catapane and Margaret A. Carroll

Biology Department, Medgar Evers College, Brooklyn, NY, USA

(N) Biochemistry and Molecular Biology 1

1st Place ESI FT-ICR MS CHARACTERIZATION OF DEOXYRIBOZYMES TARGETING CONSERVED DOMAINS OF HIV-1

Michael S. German, Kevin B. Turner

Daniele Fabris

Department of Chemistry and Biochemistry, University of Maryland, Baltimore County, 1000 Hilltop Circle, Baltimore, MD 21250

2nd Place THE EFFECT OF A-TRACT-INDUCED DNA BENDING ON TRANSCRIPTIONAL ELONGATION BY E. COLI RNA POLYMERASE

Chandana Lanka* and Laura Marino*

Judith R. Levin[#]*

Departments of *Biology and [#]Chemistry, Goucher College, 1021 Dulany Valley Rd., Baltimore, MD 21204

(O) Biochemistry and Molecular Biology 2

1st Place THE USE OF CHARMM IN ANALYZING TETRACYCLINE REPRESSOR (TETR)

Paul La Plante

Mary Lowe

Department of Physics, Loyola College in Maryland
4501 N Charles Street, Baltimore, MD 21210

2nd Place INTERFACING SHAPE-RESTRICTED DNA MOLECULES WITH SEMICONDUCTORS FOR FUTURE BIOSENSING APPLICATIONS AND FOR SINGLE MOLECULE INVESTIGATIONS

Yianna Antonopoulos

Xiaochun Zhang, Sandip Kumar, Junghuei Chen

Andrew V. Teplyakov

Department of Chemistry and Biochemistry, University of Delaware
Lammot du Pont Laboratory, Newark, DE 19716

(P) Biochemistry and Molecular Biology 3

1st Place THE EFFECT OF PROTEIN ADSORPTION COMPETITION ON FXIa GENERATION IN MATERIAL-INDUCED BLOOD PLASMA COAGULATION

Nicholas Boaz¹

James Bauer^{2,4}, *Christopher Siedlecki*^{2,3}

Department of Chemistry¹, Lebanon Valley College, Annville, PA 17003,
Departments of Bioengineering² and Surgery³, MD/ Ph.D. Program⁴,
Pennsylvania State University College of Medicine, Hershey, PA 17033

2nd Place EFFECT OF OVEREXPRESSION OF SIGNAL RECOGNITION PARTICLE (SRP) PROTEIN SUBUNITS ON HIV-1 VIRUS PRODUCTION

Kaushiva Alpana, Goila-Gaur Ritu, Miyagi Eri, Kao Sandra, Walker Robert,
Andrew Amy, Strebel Klaus and *Khan Mohammad Ali*

Laboratory of Molecular Microbiology, Viral Biochemistry Section; NIAID, NIH;
Bethesda

(Q) Biochemistry and Molecular Biology 4

1st Place THE AFRICAN SWINE FEVER VIRUS G5R PROTEIN POSSESSES MRNA
DECAPPING ACTIVITY

Megan Hurchalla

Susan Parrish

Biology Department, McDaniel College, 2 College Hill, Westminster MD 21157

2nd Place BINDING OF BLOOD PROTEIN SERUM ALBUMIN TO PRIMARY
ALKANOLS: GENERAL ANESTHETIC AGENTS

Matthew Bell

Eric Williamsen

Biochemistry and Molecular Biology Program, Ursinus College, 601 E. Main
Street, Collegeville, PA 19426