

**The National Institute on Aging and
The National Institute on Drug Abuse
Intramural Research Programs**

Present

2005 Summer Student Poster Day

Tuesday, August 2, 2005

Poster Presentations

1:00 p.m. - 5:00 p.m.

**Gerontology Research Center
Lobby and Rooms 1-117 and 1-D-12**

Light Refreshments Will be Served

National Institute on Aging

Brain Physiology and Metabolism Section

(1) Marissa D. Dixon (2005 Graduate)

University of Maryland Eastern Shore - Princess Anne, MD

Plasma PGE2 Concentration in Patients with Bipolar Disorder: A Case Control Study

Mentors: Francesca Bosetti, Ph.D., and Christopher Toscano, Ph.D.

Clinical Research Branch

(2) Laura M. Gabby (Junior)

Carnegie Mellon University - Pittsburgh, PA

Radiographic Osteoarthritis of the Knee is Associated with Electromyographic Features of Muscle Fatigue

Mentors: Shari Ling, M.D., and E. Jeffrey Metter, M.D.

(3) Muthiah Vaduganathan (2005 Graduate)

Bellaire Senior High School - Bellaire, TX

The Relationship between Osteoarthritis and Bone Mineral Density in BLSA Families

Mentors: Shari Ling, M.D., and Luigi Ferrucci, MD, Ph.D.

Laboratory of Cardiovascular Science

(4) Amanda D. French (Senior)

University of Maryland - College Park, MD

Optimization of MCP-1 RNA Interference by siRNA in Rat Aortic VSMC: an Important Tool to Analyze Age-associated Arterial Remodeling Mechanisms

Mentors: Gaia Spinetti, Ph.D., and Mingyi Wang, Ph.D.

Laboratory of Cellular and Molecular Biology

(5) Laura A. Novack (Junior)

University of North Carolina at Chapel Hill - Chapel Hill, NC

Evolutionary Conservation of RAG1-RAG2 Interactions

Mentor: Sebastian Fugmann, Ph.D.

(6) Kyle J. Hewitt (2005 Graduate)

The Colorado College - Colorado Springs, CO

Expression of Claudin Proteins in Normal and Neoplastic Tissues

Mentor: Patrice Morin, Ph.D.

(7) Stephanie A. Dirla (Junior)
McDaniel College - Westminster, MD
Regulation of the Chromatin Remodeling Enzyme hSNF2L in a T Cell Line
Mentor: Michael Pazin, Ph.D.

Laboratory of Clinical Investigation

(8) Chandamany Arya (Junior)
Towson High - Towson, MD
IFN-Gamma Expression in Dendritic Cells: Signaling Pathways
Mentor: Igor Espinoza-Delgado, M.D., and Huifen Li, Ph.D.

(9) Adam C. Weber (Sophomore)
Yale University - New Haven, CT
Characterization of Multiple Subtypes of the Nicotinic Receptor by Bioaffinity
Chromatography
Mentor: Ruin Moaddel, Ph.D., Irving Wainer, Ph.D.

(10) Donnetta S. McFadden (Sophomore)
University of Maryland, Baltimore County - Baltimore, MD
Determination of the Enantiomers of Ifosfamide in Human Plasma using Enantioselective
Liquid Chromatography with Mass Spectrometric Detection
Mentors: Irving Wainer, Ph.D., and Maria Rodriguez-Rosas, Ph.D.

(11) Jerry N. Hsieh (Sophomore)
University of Virginia - Charlottesville, VA
Signal-to-Noise Ratio and Resonance Line Distortion in NMR Spectroscopy using the
Matched Filter and the TRAF Function: Implications for Quantitation
Mentor: Richard Spencer, M.D., Ph.D.

Laboratory of Epidemiology, Demography and Biometry

(12) Dustin T. Duncan (2005 Graduate)
Morehouse College - Atlanta, GA
Prevalence and Trends of High-Risk Health Behaviors among Older Americans,
1994-2004
Mentors: Jack Guralnik, M.D., Ph.D., and Kushang Patel, Ph.D.

Laboratory of Experimental Gerontology

(13) Stuart O. Mushala (Senior)
Brigham Young University-Idaho - Rexburg, ID
High Fat, Protein, and Cholesterol Diets: Neurophysiological Effects
Mentors: Rafael de Cabo, Ph.D., and Bryan Devan, Ph.D.

(14) Scott S. Emerson (2nd Year)
University of North Texas Health Science Center-TCOM - Fort Worth, TX
The Effects of Caloric Restriction on Adenine and Pyridine Nucleotides
Mentor: Rafael de Cabo, Ph.D., and Deng-Hoon Hyun

(15) Joy W. Chang (Junior)
Georgetown University - Washington, DC
Characterization of the Drosophila Ortholog of the Mammalian Anti-apoptotic Protein
Aven
Mentor: Sige Zou, Ph.D.

Laboratory of Genetics

(16) Tara C. Howard (Freshman)
University of Maryland - College Park, MD
Characterization of the Expression Patterns of RNA Binding Proteins in Mouse ES Cells
Mentors: Minoru Ko, Ph.D., and Mark Carter, Ph.D.

(17) Steve Milord (Senior)
Queens College - New York, NY
Recombination Based Target Vector Construction for Knock-out Mouse Generation
Mentors: Ramaiah Nagaraja, Ph.D., and David Schlessinger, Ph.D.

(18) Jesse Karmazin (Sophomore)
Princeton University - Princeton, NJ
Toward a Characterization of Ectopic Expression of the Forkhead Transcription Factor
Foxl2 Required for Ovarian Development
Mentor: Chris Ottolenghi, M.D., Ph.D.

(19) Arpun R. Nagaraja (2005 Graduate)
Parkville High School - Parkville, MD
Customizable User Interfaces for Experimental Descriptions, Displays and Online
Publication in the Open Microscopy Environment
Mentors: Ilya Goldberg, Ph.D., and Josiah Johnston, B.S.

(20) Mary E. Burchett (Freshman)	Ana Gustafson (Freshman)
Centre College - Danville, KY	Brown University – Providence, RI
The Use of Identifiable Nude Photographs in Medical Genetic Textbooks: Ethical Considerations	
Mentors: Nazli McDonnell, M.D., Ph.D., and Clair Francomano, M.D.	

Laboratory of Immunology

(21) Robert A. Henderson (Junior)
University of Pennsylvania - Philadelphia, PA
Identification and Implication of Signature and Shared Transcriptional Features to the Functional States of Naive and Memory CD8 T-cells at Rest and upon Activation
Mentor: Nan-ping Weng, M.D., Ph.D.

(22) Elaine L. Pranski (Sophomore)
Washington College - Chestertown, MD
Effects of PTEN on mTOR Signaling
Mentors: Paritosh Ghosh, Ph.D., and Rachel Munk, B.S.

(23) Devin T. Rosenthal (Junior)
University of North Carolina at Wilmington - Wilmington, NC
Wnt5a Regulates MART1 in Melanoma Cells
Mentor: Ashani Weeraratna, Ph.D.

(24) Tiffany N. Newman (Senior)
University of Maryland Eastern Shore - Princess Anne, MD
Chemokine-Mediated Antigen Presentation
Mentor: Arya Biragyn, Ph.D.

Laboratory of Molecular Gerontology

(25) Patrice N. Cook (Junior)
University of Maryland Eastern Shore - Princess Anne, MD
Analysis of DNA Repair in Human Embryonic Stem Cells
Mentor: Nadja Lardner, Ph.D.

(26) Elizabeth G. Gillenwater (Sophomore)
Massachusetts Institute of Technology - Cambridge, MA
Interaction of Site-Specific Mutants of XRCC1 with Other Single-strand Break Repair (SSBR) Proteins
Mentor: David Wilson, Ph.D.

(27) Christopher F. Villalta (2005 Graduate)
San Jose State University - San Jose, CA
Role of Werner Syndrome Protein in the Cellular Response to DNA Interstrand Cross-links
Mentors: Wen-Hsing Cheng, Ph.D., and Vilhelm Bohr, M.D., Ph.D.

(28) Jinnifer K. Faulkner (Junior)
Gettysburg College - Gettysburg, PA
Role of Human RECQ1 in DNA Damage Response
Mentors: Robert Brosh, Ph.D., and Sudha Sharma, Ph.D.

Laboratory of Neurosciences

(29) Rebecca L. Grammer (Sophomore)
Johns Hopkins University - Baltimore, MD
Developmental Mouse Gene Array
Mentor: Judith Medoff, Ph.D.

(30) Lisa M. Kebejian (Junior)
Columbia University - New York, NY
Lipid and Proteomic Analysis of Alzheimer's Disease
Mentors: Bronwen Martin, Ph.D., and Stuart Maudsley, Ph.D.

(31) Priti K. Julka (Junior)
Tufts University - Medford, MA
Generation of a Bcl-2 Lentivirus
Mentors: Marc Gleichmann, M.D., and Mark Mattson, Ph.D.

(32) Stacey B. Dutton (2005 Graduate)
The University of Maryland Eastern Shore - Princess Anne, MD
Effect of Steroids on Neural Stem Cells Proliferation and Differentiation
Mentors: Roy Cutler, M.S., and Aiwu Cheng, Ph.D.

(33) Carol N. Ibe (Graduate Student)
Georgetown University - Washington, DC
Identifying Mouse Central Nervous System Age-responsive Genes by Transcriptomic Approaches
Mentor: Xiangru Xu, Ph.D.

(34) Ankita Saxena (Sophomore)
Centennial High School - Ellicott City, MD
Identification of Candidate Dopaminergic Inducing Factors
Mentors: Catherine Schwartz, B.S., and Mahendra Rao, Ph.D.

Laboratory of Personality and Cognition

(35) Ben J. Friedman (Freshman)
Cornell University - Ithaca, NY
Changes in Regional Brain Activity in Women who Stop Hormone Therapy
Mentor: Susan Resnick, Ph.D.

Molecular Dynamics Section

(36) Adrienne K. Jones (Junior)
University of Maryland Eastern Shore - Princess Anne, MD
Red Cell Oxidative Stress in HANDLS Subjects
Mentor: Joy Mohanty, Ph.D.

Research Resources Branch

(37) Megan L. McCain (Junior)
Washington University - St. Louis, MO
Immunofluorescent Analysis of Chemokine Trafficking
Mentor: Fred Indig, Ph.D.

(38) Alexander Chavez (Senior)
San Jose State University - San Jose, CA
Preliminary Analysis of Stress Levels In Relation to Socioeconomic Status, Race, and
Self-Rated Health in HANDLS
Mentor: Alan Zonderman, Ph.D.

National Institute on Drug Abuse

Behavioral Neuroscience Research Branch

(39) Sneha Tella (Junior)
Atholton High School - Clarksville, MD
Cardiovascular Effects of Adenosine Agonists Following Chronic Caffeine
Mentor: Charles Schindler, Ph.D.

(40) Kristina A. Wihbey (Senior)
Franklin & Marshall College - Lancaster, PA
A Rat Model of Relapse to Palatable Food-seeking Behavior
Mentor: Yavin Shaham, Ph.D.

(41) Michael E. Kiyatkin (Sophomore)
University of Maryland, College Park - College Park, MD
The Role of NAALADase in Cocaine Addiction
Mentor: Eliot Gardner, Ph.D.

(42) Adam J. Setren (Junior)
Vanderbilt University - Nashville, TN
Phosphorylation of Calcium/Calmodulin Kinase IV Following Acute and Repeated
Cocaine Administration to Rats
Mentor: Bruce Hope, Ph.D.

(43) Dyandra Brown (2005 Graduate)
Central High School - Philadelphia, PA
Naloxone Induces Conditioned Place Aversion in C57b16 Mice
Mentors: Eric Oh, B.S., and Toni Shippenberg, Ph.D.

(44) Janet L. Mahoney (2005 Graduate)
The Pennsylvania State University - University Park, PA
The Antinociceptive Effect of RVM DAMGO Is Potentiated during Persistent
Inflammatory Pain
Mentor: Toni Shippenberg, Ph.D.

Cellular Neurobiology Research Branch

(45) Christina S. Dasrath (2005 Graduate)
The Nightingale-Bamford School - New York, NY
Cocaine Inhibits Proliferation of a Central Nervous System Progenitor Cell Line and
Downregulates Expression of Cyclin A Gene
Mentor: Chun-Ting Lee, Ph.D.

(46) Gabrielle C. Galvez (Senior)
Reservoir High School - Fulton, MD
CRF Binding Protein is Present in Dopaminergic and GABAergic Neurons in the Ventral Tegmental Area
Mentors: Marisela Morales, Ph.D., and Jenny Howell, M.S.

(47) Katrina J. Hein (Senior)
Roberts Wesleyan College - Rochester, NY
Co-expression of the CB1 Receptor and Alpha 7 Subunit of the Nicotinic Receptor in the Hippocampus
Mentors: Marisela Morales, Ph.D., and Emma Roach, B.S.

Clinical Pharmacology and Therapeutics Research Branch

(48) Steven Schech (Senior)
Mount St. Mary's University - Emmitsburg, MD
Do Specific Life Stressors Predict Substance Use?
Mentor: Michelle Leff, M.D., Ph.D.

(49) Brittany E. Kelly (Sophomore)
Western High School - Baltimore, MD
Recruitment of Adolescents in a Baltimore Tobacco Cessation Study
Mentor: Eric Moolchan, M.D.

(50) Jaime L. Zerhusen (Junior)
Towson State University - Baltimore, MD
Does Recent Marijuana and/or Alcohol Use Influence the Likelihood of Cigarette Use in Adolescent Smokers?
Mentor: Eric Moolchan, M.D.

(51) Kenneth H. Levin (Junior)
Johns Hopkins University - Baltimore, MD
Longitudinal ECG Changes in Cocaine Users during Withdrawal
Mentors: David Gorelick, M.D., Ph.D., and Marc Copersino, Ph.D.

(52) Benjamin N. Khazan (Sophomore)
University of Virginia - Charlottesville, VA
Characteristics of Drug Users Reporting to an Urban Hospital Emergency Department
Mentors: David Gorelick, M.D., Ph.D., and Marc Copersino, Ph.D.

(53) Steven J. Voskanian (2nd Year)
New York Medical College - Valhalla, NY
Adverse Events and Pre-Existing Morbidity in Drug Using Research Participants
Mentors: Kenzie Preston, Ph.D., and John Schmittner, M.D.

(54) Carolynne P. Minkowski (2005 Graduate)
Loyola College in Maryland - Baltimore, MD
Subjective and Physiological Responses to Cocaine over an 11-week Withdrawal Period
in Experienced Cocaine Users
Mentors: David Gorelick, M.D., Ph.D., and Marc Copersino, Ph.D.

Medications Discovery Research Branch

(55) Ameet S. Nagpal (1st Year)
New York Medical College - Valhalla, NY
Interaction of Neurotoxic and non-Neurotoxic Amphetamines and Phenylpiperazines at
the Vesicular Monoamine Transporter
Mentors: Richard Rothman, M.D., Ph.D., and John Partilla, Ph.D.

(56) Katherine M. Prevatt (Senior)
Emory University - Atlanta, GA
Design and Synthesis of Molecular Tools for the Dopamine D3 Receptor
Mentors: Amy Newman, Ph.D., and Peter Grundt, Ph.D.

(57) Neel S. Joshi (Junior)
Henry M. Gunn Senior High School - Palo Alto, CA
Differential Effects of Delta Opioid Agonists on G Protein Expression in CHO Cells
Expressing the Cloned Human Delta Opioid Receptor
Mentor: Heng Xu, Ph.D.

(58) Jasmine A. Taylor (Junior)
Chamblee High School - Chamblee, GA
Effects of Bzptropine Analogues and Cocaine on Feeding Behavior in Rats
Mentor: Rajeev Desai, Ph.D.

(59) Motunrayo O. Ogunkua (Freshman)
Plymouth Whitemarsh Highschool - Plymouth Meeting, PA
Effect of Salvinorin A Analogs on Opioid Receptors
Mentors: Richard Rothman, M.D., Ph.D., and Christina Dersch, M.S.

(60) Cameron L. Noland (Senior)
Carleton College - Northfield, MN
The Effects of Cocaine Training Dose on the Subjective Effects of Dopamine Uptake
Inhibitors
Mentors: Jonathan Katz, Ph.D., and Matthew O'Callaghan, Ph.D.

(61) Peter G. Kardel (Graduate Student)
American University - Washington, DC
Locomotor Effects of Putative Dopamine D3 Receptor Antagonists
Mentors: Jonathan Katz, Ph.D., and Matthew O'Callaghan, Ph.D.

Molecular Neurobiology Research Branch

(62) Roger B. Murayi (Sophomore)

Mount Hebron High School - Ellicott City, MD

The Effects of V73 Gene Knockout on Measures of Anxiety and Learning

Mentors: George Uhl, M.D., Ph.D., and Scott Hall, Ph.D.

(63) Jocelyn D. McKenzie (2005 Graduate)

North Springs High School - Atlanta, GA

The Effects of Gene NrCAM Knockout on Measure of Anxiety and Learning

Mentors: George Uhl, M.D., Ph.D., and F Hall, Ph.D.

(64) Lacy M. Gwynn (2005 Graduate)

Friends' Central School - Wynnewood, PA

Dopamine and cAMP Regulated Phosphoprotein (DARP-32): Regulation in Brain and Heart Tissues

Mentors: George Uhl, M.D., Ph.D., and Qing-Rong Liu, Ph.D.

(65) Mu Yang (Sophomore)

Swarthmore College - Swarthmore, PA

Association Study of Vesicular Monoamine Transporter 2 (VMAT2) Haplotype and Methylation Levels

Mentors: Tomas Drgon, Ph.D., and George Uhl, M.D., Ph.D.

(66) Elijah Clark Jr. (Graduate Student)

Howard University - Washington, DC

The Interaction of VMAT and SERT Gene Knockout on Measures of Anxiety

Mentors: George Uhl, M.D., Ph.D., and Frank Hall, Ph.D.

Molecular Neuropsychiatry Research Branch

(67) Veronica F. Krehbiel (2005 Graduate)

University of Maryland Baltimore County - Baltimore, MD

Psychiatric Treatment History and Drug Preference in Drug Abuse Research Applicants

Mentors: Judith Hess, M.A., and Carlo Contoreggi, M.D.

(68) Helen Zhang (2005 Graduate)

Centennial High School - Ellicott City, MD

Comparison of Adeno-associated Viral Vector Serotypes 1, 2, 5, and 6 for Gene Transfer to Neurons and Glia In Vitro

Mentors: Brandon Harvey, Ph.D, and Yun Wang, M.D., Ph.D.

- (69) Maria E. Carananti (2005 Graduate)
Palm Beach Gardens High School - Palm Beach Gardens, FL
Gene Expression of Cocaine-Induced CPP in the Rat Striatum
Mentor: Mike McCoy, M.S.
- (70) Stephanie M. Tolbert (2005 Graduate)
Goucher College - Baltimore, MD
Effects of Tetrahydrocannabinol (THC) and Cocaine on the Immune System
Mentor: Ronald Hering, Ph.D.
- (71) Ope A. Asanbe (Senior)
Duke University - Durham, NC
Methamphetamine (METH) -induced Gene Expression in the Frontal Cortex of Rats following an Escalating Dose-binge Regimen that Mimics Drug Intake by METH Abusers
Mentors: Jean Lud Cadet, M.D., and Devon Graham, B.S.
- (72) Jennifer I. Burroughs (Senior)
Centennial High School - Ellicott City, MD
The Effects Methamphetamine on Tubulin Expression in the Heart
Mentor: Benvinda dos Santos, Ph.D.
- (73) Christopher C. Day (Junior)
UMBC - Baltimore, MD
In-utero Methamphetamine Exposure Causes Significant Alterations in Gene Expression in Adult Male Rat Cortex
Mentors: Jean Lud Cadet, M.D., and Pierre-Antoine Noailles, Ph.D.
- (74) Yanique I. Rattigan (2005 Graduate)
University of Maryland Eastern Shore – Princess Anne, MD
Amphetamine Causes Activation of Cell Cycle-related Proteins in the Striatum
Mentor: Irina Krasnova, Ph.D.
- (75) Grace C. Yeh (2005 Graduate)
Centennial High School - Ellicott City, MD
Toxicity Studies of Methamphetamine and Methylenedioxymethamphetamine in Neuronal Cell Lines
Mentors: Brandon Harvey, Ph.D., and Yun Wang, Ph.D.
- (76) Andre R. Durham (2005 Graduate)
Howard High School - Ellicott City, MD
Using PCR to Measure Expression of the Novel Gene
Mentors: Ning Sheng Cai, Ph.D., and Jean Lud Cadet, M.D.

(77) Jacob E. Hartman (Senior)
Duke University - Durham, NC
The Effects of In-utero Methamphetamine Exposure on Gene Expression in Developing Rat Cortex
Mentors: Pierre-Antoine Noailles, Ph.D., and Jean Lud Cadet, M.D.

(78) Glenda N. Smiley (2005 Graduate)
Germantown Friends School - Philadelphia, PA
Comparison of Gene Delivery to Rat Brains using Various Serotypes of Adeno Associated Viral Vectors
Mentor: Brandon Harvey, Ph.D.

(79) Usiwoma Abugo (Freshman)
University of Notre Dame - Notre Dame, IN
The Relationship between Primitive Reflexes, Electroencephalogram (EEG), and Transcranial Doppler in Cocaine
Mentors: Dr. Ronald Herning and Dr. Natascha Wilson

Neuroimaging Research Branch

(80) Jeanine D. Pollard (Senior)
Notre Dame Preparatory School - Baltimore, MD
Mapping Neuronal Activity using Manganese Enhanced MRI
Mentors: Elliot Stein, Ph.D., and Hanbing Lu, Ph.D.