

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

Present

2006 Summer Student Poster Day

Tuesday, August 1, 2006

12:30 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 & Metabolism Section

(1) Yunyoung Claire Chang (Sophomore)
University of Pennsylvania - Philadelphia, PA
Chronic Mood Stabilizer Administration Upregulates BDNF and Bcl-2 Protein levels in Rat Frontal Cortex
Mentor: Jagadeesh Rao, Ph.D.

Clinical Research Branch

(2) Ashley L. Devonshire (Senior)
Johns Hopkins University - Baltimore, MD
Metabolic Correlates of Aging Muscle: Preliminary Data from the Baltimore Longitudinal Study of Aging
Mentors: Shari Ling, M.D., Edgar Miller, M.D., Ph.D., and Chee Chia, M.D.

(3) Omid Motabar (Junior)
University of Pennsylvania - Philadelphia, PA
Correlates of Heart Rate Variability during Orthostatic Challenge: Preliminary Data from the BLSA
Mentors: Shari Ling, M.D., Chee Chia, M.D., Edgar Miller, M.D., Ph.D., and Gwen B. Windham, M.D.

Laboratory of Cardiovascular Science

(4) Amanda D. French (2006 Graduate)
University of Maryland - College Park, MD
Analysis of the Effect of a High Salt Diet on the Induction of the Senescence-Associated Phenotype and Function in Rhesus Monkey Endothelial Cells
Mentor: Gaia Spinetti, Ph.D.

(5) Anna V. Maltsev (1st Year Graduate)
California Institute of Technology - Pasadena, CA
Exploration of Periodicity of Calcium Releases in Cardiac Myocytes using a Schematic Stochastic 2D Model
Mentors: Edward Lakatta, M.D., and Michael Stern, M.D.

Laboratory of Cellular and Molecular Biology

(6) Shannon S. Roberson (Junior)

Georgia State University - Atlanta, GA

DNA Methylation Changes of the IgH Locus during B Cell Development

Mentors: Roza Selimyan, Ph.D., and Ranjan Sen, Ph.D.

(7) Katharine O. Boles (Senior)

University of North Carolina - Chapel Hill, NC

The Characterization of Sea Urchin RAG1-RAG2 Interaction Domain

Mentor: Sebastian Fugmann, Ph.D.

(8) Cristina Luiggi (Junior)

University of Puerto Rico - Mayaguez, PR

Identification of Gene Expression Patterns Associated with the Development of Cisplatin Resistance

Mentor: Patrice Morin, Ph.D.

Laboratory of Clinical Investigation

(9) Daniel Camacho (Senior)

University of Arizona - Tucson, AZ

The Characterization of a Panel of Cell Surface Receptors on the P815 Mouse Mastocytoma Cell Line

Mentors: Irving Wainer, Ph.D., Julia Hartsenstein, and Chester Frazier

(10) Xu Luo (Junior)

Dulaney High School - Timonium, MD

Experiments with Agents that Lower Blood Glucose in Diabetes

Mentors: Josephine Egan, M.D., and Nigel Greig, Ph.D.

(11) Ana L. Gustafson (Sophomore)

Brown University - Providence, RI

Do Abnormalities of Extracellular Matrix Elements lead to Autoimmune Disorders?

High Incidence of Rheumatologic Disorders in Persons with Ehlers Danlos Syndrome

Mentor: Nazli McDonnell, M.D., Ph.D.

(12) Jonathan S. Steer (Junior)

Washington University in St. Louis - St. Louis, MO

Assessing Cellular Uptake and Distribution of Superparamagnetic Iron Oxide

Nanoparticles for Cell Tracking by Magnetic Resonance Imaging

Mentors: Richard Spencer, M.D., Ph.D., and Kenneth Fishbein, Ph.D.

Laboratory of Epidemiology, Demography and Biometry

(13) Hannah R. Day (1st Year Graduate)

University of Maryland at Baltimore - Baltimore, MD

Mediators of the Relationship between Depressive Symptomatology and Change in Physical Function over a Three-Year Follow-up

Mentors: Jack Guralnik, M.D., Ph.D., and Kushang Patel, Ph.D.

(14) Sarinnapha (Fah) Vasunilashorn (1st Year Graduate)

University of Southern California - Los Angeles, CA

Short Physical Performance Battery score predicts loss of ability to walk 400m: Analysis from the InCHIANTI Study

Mentors: Jack Guralnik, M.D., Ph.D., and Antonia Coppin, M.D.

Laboratory of Experimental Gerontology

(15) Raluca T. Tavaluc (Sophomore)

Georgetown University, Washington, D.C.

Reduction in the Beneficial Effects of Caloric Restriction on DMBA-Induced Skin Tumors in Nrf2 Knockout Mice

Mentor: Rafael de Cabo, Ph.D.

(16) Jeanne K. Seeberger (2006 Graduate)

Washington College - Chestertown, MD

The Effect of a Nutrient Ratio on Lifespan in *Drosophila Melanogaster*

Mentor: Sige Zou, Ph.D.

(17) Donnetta S. McFadden (Senior)

University of Maryland Baltimore County - Baltimore, MD

Effects of the Phosphodiesterase 5 Inhibitor Vardenafil on Learning and Memory in Rats

Mentors: Paul Pistell, Ph.D., and Donald K. Ingram, Ph.D.

(18) Belinda R. Hauser (2006 Graduate)

University of Maryland Eastern Shore - Princess Anne, MD

Evaluation of the Potential for Resveratrol to Ameliorate Cisplatin Induced Neurotoxicity

Mentors: Paul Pistell, Ph.D., and Donald K. Ingram, Ph.D.

Laboratory of Genetics

(19) Richard C. Liu (Sophomore)

Stanford University - Stanford, CA

Rescue of Mouse Embryonic Stem Cell's Ability to Contribute to Germ Lines in Chimeras

Mentors: Minoru S. H. Ko, M.D., Ph.D., and Lioudmila Sharova, Ph.D.

(20) Lauren E. Wilson (Senior)

Hamilton College - Clinton, NY

Genetic Analysis of a New Component of the FA Core Complex, Hip, in Chicken DT40 Cells

Mentors: Dongyi Xu, Ph.D., and Weidong Wang, Ph.D.

(21) Arpun R. Nagaraja (Freshman)

Massachusetts Institute of Technology - Cambridge, MA

End-User Tools for Image Classification in the Open Microscopy Environment (OME)

Mentors: Ilya Goldberg, Ph.D., and Josiah Johnston, B.S.

(22) Tyesha N. Burks (2006 Graduate)

University of Maryland Eastern Shore - Princess Anne, MD

Recombination Mediated Large Insert DNA Modification to Study Long-Range Transcription Control Elements

Mentor: Ramaiah Nagaraja, Ph.D.

(23) Derek H. Yuan (Sophomore)

Wake Forest University - Winston Salem, NC

Identification of Genes Regulated by Human PBAF Chromatin Remodeling Complex

Mentors: Zhijiang Yan, Ph.D., and Weidong Wang, Ph.D.

Laboratory of Immunology

(24) Elaine L. Pranski (Junior)

Washington College - Chestertown, MD

Effect of PMA on the mTOR Signaling Pathway

Mentors: Paritosh Ghosh, Ph.D., and Rachel Munk, B.S.

(25) Hakeenah F. Brown (2006 Graduate)

University of Maryland Eastern Shore - Princess Anne, MD

Investigation of the Relationship between Wnt5a and Claudin-1

Mentors: Ashani Weeraratna, Ph.D., and Poloko Leotlela, Ph.D.

(26) Chineye D. Emeche (Junior)
University of Maryland Eastern Shore - Princess Anne, MD
The Role of Wnt5a in SDF1-alpha Mediated T cell Migration
Mentor: Manik Ghosh, Ph.D.

(27) Ankita Saxena (Senior)
Centennial High School - Ellicott City, MD
Gene Expression Analysis of Signal Transduction Pathways in Aging Mouse Thymocytes
Mentors: Dennis Taub, Ph.D., and Ana Lustig, M.S.

(28) Yixiao Zou (Freshman)
Georgia Institute of Technology - Atlanta, GA
Telomere Length and Telomerase Activation in Peripheral Blood Lymphocytes of Chronically Stressed Individuals
Mentors: Nan-ping Weng, M.D., Ph.D., and Amanda Damjanovic, Ph.D.

(29) Divya Enika (Freshman)
Parkville High School - Baltimore, MD
Age-related Changes in Gene and Protein Expression in the Murine Spleen
Mentors: Dennis Taub, Ph.D., and Ashani Weeraratna, Ph.D.

Laboratory of Molecular Gerontology

(30) Hanh H. Nguyen (Sophomore)
Stanford University - Stanford, CA
The Role of XRCC1 in Neuronal Cell Survival
Mentor: David M. Wilson, Ph.D.

(31) Patrice N. Cook (2006 Graduate)
University of Maryland Eastern Shore - Princess Anne, MD
The Role of p53 in Human Mitochondrial DNA Repair
Mentors: Nadja Souza-Pinto, Ph.D., and Vilhelm A. Bohr, M.D., Ph.D.

(32) Joshua E. Erlandsen (Senior)
University of Texas at San Antonio - San Antonio, TX
Is Antibody Hypermutation Related to Frequency of RNA Transcription?
Mentor: Patricia Gearhart, Ph.D.

(33) Nina A. Rawtani (Freshman)
University of Maryland - College Park, MD
Characterization of a Novel ATP-dependent Protein Stripping Function of the FANCI Helicase
Mentors: Robert Brosh, Jr., Ph.D., and Rigu Gupta, M.D.

Laboratory of Neurogenetics

(34) Stephen L. Berger (Freshman)
Johns Hopkins University - Baltimore, MD
Studies of APP Gene Dosage in Alzheimer's Disease
Mentor: Parastoo Momeni, Ph.D.

(35) Kendra K. Harris (2006 Graduate)
Princeton University - Princeton, NJ
VAP-B Intracellular Localization in Amyotrophic Lateral Sclerosis
Mentor: Huaibin Cai, Ph.D.

Laboratory of Neurosciences

(36) Shafaq Jameel (Senior)
University of Massachusetts - Boston, MA
Gamma Secretase Inhibits Tissue Repair in Mice
Mentors: Mark P. Mattson, Ph.D., and Srinivasula Chigurupati, Ph.D.

(37) Gabriel E. Merlin (Junior)
Washington University in St. Louis - St. Louis, MO
Effect of Hyaluronic Acid on Glia Progenitor Cells in an Autoimmune
Inflammatory Environment
Mentors: Tim Magnus, M.D., Ph.D., Mark P. Mattson, Ph.D., and Alexis Stranahan,
M.A.

(38) Sean W. Tsao (Junior)
University of California at Los Angeles - Los Angeles, CA
Role for Gamma-Secretase Mediated Notch Signaling in Alzheimer's Disease
Mentors: Thiruma Arumugam, Ph.D., and Mark P. Mattson, Ph.D.

(39) Gunnar F. Kwakye (2006 Graduate)
University of Maryland Eastern Shore - Princess Anne, MD
The Effects of Ketogenic Diet on Gliogenesis Following Neuronal Injury
Mentors: Jessica Carmen, Ph.D., Mark P. Mattson, Ph.D., and Tim Magnus, M.D., Ph.D.

(40) Judit M. Perez (Freshman)
University of Puerto Rico - San Juan, PR
Role for Gamma-Secretase Mediated Notch Signaling in Parkinson's Disease
Mentors: Thiruma Arumugam, Ph.D., Dong-Gyu Jo, Ph.D., and Mark P. Mattson, Ph.D.

(41) Michael Z. Chen (Sophomore)
Duke University - Durham, NC
An RNAi-based Screen for Genes Affecting Tissue Aging in the Nematode, *C. Elegans*
Mentor: Catherine Wolkow, Ph.D.

(42) Davida F. Kamara (2nd Year Graduate)
Virginia Tech - Blacksburg, VA
Impact of Dietary Restriction on Cocaine-Induced Neuroplasticity in Mice
Mentors: Xiangru Xu, Ph.D., and Mark P. Mattson, Ph.D.

(43) Mark C. DeBlois (Senior)
University of Hawaii at Manoa - Honolulu, HI
Effects of SOD1 Mutations in Myocytes
Mentor: Simonetta Camandola, Ph.D., and Mark P. Mattson, Ph.D.

(44) Steven Kebejian (Junior)
Johns Hopkins University - Baltimore, MD
Regulation of Plasma Membrane Calcium ATPase Isoforms in NMDA Preconditioning
Mentors: Marc Gleichmann, Ph.D., and Mark P. Mattson, Ph.D.

Laboratory of Personality & Cognition

(45) Denisha R. Little (Senior)
Winston Salem State University - Winston Salem, NC
The Link between Self Report Health and Demographics in the HANDLS Study
Mentors: Alan B. Zonderman, Ph.D., and Melissa Kitner-Triolo, Ph.D.

(46) Elinor A. Artsy (Senior)
University of San Francisco - San Francisco, CA
Correlates of Cognitive Performance in African Americans and Whites by
Socioeconomic Status
Mentors: Alan B. Zonderman, Ph.D., and Melissa Kitner-Triolo, Ph.D.

Molecular Dynamics Section

(47) Marcus E. Lewis (2006 Graduate)
University of Maryland Eastern Shore - Princess Anne, MD
Isolation and HPLC Separation of Fluorescent Heme Degradation Products from
Hemoglobin reacted with Hydrogen Peroxide
Mentor: Joy Mohanty, Ph.D.

(48) Adrienne K. Jones (2006 Graduate)
University of Maryland Eastern Shore - Princess Anne, MD
Red Cell Oxidative Stress in HANDLS Subjects
Mentor: Joy Mohanty, Ph.D.

National Institute on Drug Abuse

Behavioral Neuroscience Research Branch

(49) Imran S. Sheikh (Junior)

Central High School - Philadelphia, PA

The Selective Dopamine D3 Receptor Antagonist S33138-1 Inhibits Cocaine Triggered Reinstatement of Drug-seeking Behavior in Rats

Mentors: Zheng-Xiong Xi, M.D., Ph.D., and Eliot Gardner, Ph.D.

(50) Sheng P. Xu (Junior)

University of Rochester - Rochester, NY

The Selective Dopamine D3 Receptor Antagonist SB-277011A Inhibits Incubation of Cocaine Craving in Cocaine Withdrawal Rats

Mentor: Xia Li, M.D.

(51) Kamay M. Lafalaise (Senior)

Lake Worth High School - Lake Worth, FL

The Effects Of Orbitofrontal Cortex Lesions on Food Self-Administration in Rats

Mentor: Charles Schindler, Ph.D.

(52) Kristina Wihbey (Senior)

Franklin & Marshall College - Lancaster, PA

Effect of the Gut Peptide PYY (3-36) on Reinstatement of Food and Heroin Seeking in Rats

Mentor: Yavin Shaham, Ph.D.

(53) Jorie L. Jones (Junior)

New Town High School - Owings Mills, MD

Different Times of Exposure to Novel Environment during Cocaine Sensitization Alter the Degree of Sensitized Cocaine- Induced Locomotor Activity in Rats

Mentor: Bruce Hope, Ph.D.

(54) Tiffany C. Lee (Junior)

J.R. Masterman - Philadelphia, PA

Enviromental Modulation of Cocaine-Induced ERK, Ser845-GluR1, and CREB

Phosphorylation in Rat Brain Following Context-Dependent Sensitization to Cocaine

Mentor: Bruce Hope, Ph.D.

Cellular Neurobiology Research Branch

(55) Brittany E. Kelly (Senior)

Western High School - Baltimore, MD

The Effects of DAT and SERT Gene Knockout in Animal Models of Depression

Mentor: George Uhl, M.D., Ph.D.

(56) Yaqian Liu (Sophomore)
University of Maryland - College Park, MD
Morphology of Glutamatergic Neurons in the VTA
Mentor: Marisela Morales, Ph.D.

(57) Valencia J. Davis (Senior)
Orange High School - Pepperpike, OH
Native Human Synapsin Promoter Driven Expression of Humanized Renilla Green
Fluorescent Protein (hrGFP)
Mentors: William Freed, Ph.D., and Marc Coggiano, Ph.D.

Clinical Pharmacology and Therapeutics Research Branch

(58) Elizabeth F. Levine-Brown (2nd Year Graduate)
Washington College - Chestertown, MD
Age of Smoking Initiation and School Performance of Adolescents Enrolled in a Tobacco
Cessation Study
Mentor: Eric Moolchan, M.D.

(59) Keva Garg (Junior)
Walt Whitman High School - Bethesda, MD
Differential Response Rates of Recruitment Modalities in an Adolescent Tobacco
Cessation Study
Mentor: Eric Moolchan, M.D.

(60) Nicole Eid (2nd Year)
University of Maryland School of Medicine - Baltimore, MD
QTc Prolongation in Polydrug Abusing HIV-Positive Patients
Mentors: Kenzie Preston, Ph.D., and John Schmittner, M.D.

(61) Stacy Greaver (Sophomore)
Towson University - Towson, MD
Trends in Database Information Use by NIDA IRP Staff
Mentor: Mary Pfeiffer, M.A.

(62) Kenneth H. Levin (2006 Graduate)
Johns Hopkins University - Baltimore, MD
EEG Changes during Human Cocaine Withdrawal
Mentor: David Gorelick, M.D.

(63) Prachi T. Patel (2nd Year Graduate)
Drexel University - Baltimore, MD
Alcohol Use and Developmental Trajectory of Cigarette Smoking among Adolescents
Enrolled in a Smoking Cessation Study
Mentors: Eric Moolchan, M.D., and Maria Gasior, Ph.D.

Medications Discovery Research Branch

(64) Lyn M. Elias (Senior)

Cleveland State University - Cleveland, OH

Modification of Behavioral Effects of Cocaine by M1 Antagonists in Rats

Mentor: Jonathan Katz, Ph.D.

(65) Amanda J. Graner (Senior)

Allegheny College - Meadville, PA

Effects of JHW-007, A Cocaine Antagonist, in Mice Discriminating Cocaine from Saline Injections

Mentor: Jonathan Katz, Ph.D.

(66) Jennifer P. Miles (Senior)

Grambling State University - Grambling, LA

Interactions of Salvinorin A Analogs with Opioid Receptors

Mentors: Richard Rothman, M.D., Ph.D., and Christina Dersch, M.S.

(67) David B. Snell (Sophomore)

Digipen Institute of Technology - Redmond, WA

Investigation of the Potential Cocaine Antagonist Effects of GA-250 (A Benztropine Analogue)

Mentor: Jonathan Katz, Ph.D.

(68) Michelle E. Lardeo (Senior)

University of Maryland Baltimore County - Baltimore, MD

Transcriptional Responses to Reinforcing Effects of Food in the Hippocampus of Rats

Mentor: Jonathan Katz, Ph.D.

(69) Amanda E. Higley (3rd Year Graduate)

Kansas State University - Manhattan, KS

Investigation of VMAT Substrates

Mentors: Richard Rothman, M.D., Ph.D., and John Partilla, B.S.

(70) Tekara R. Gainey (Senior)

Archbishop Prendergast High School - Drexel Hill, PA

Differential Effects of Opioid MU Agonists on G12 Alpha Protein Expression in CHO Cells Expressing the Cloned Human MU Opioid Receptor

Mentors: Richard Rothman, M.D., Ph.D., and Heng Xu, Ph.D.

Molecular Neurobiology Research Branch

(71) Ta'Tiana J. Blue (Senior)

The Chapin School - New York, NY

Behavioral Effects of Knockout Gene of the Cell Adhesion Molecule CHL1

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

(72) Jennifer L. Green (2006 Graduate)

Pennsylvania State University - State College, PA

Behavioral Effects of Gene Knockout of the Cell Adhesion Molecule NrCAM

Mentor: Scott Hall, Ph.D.

(73) Rachael M. Krieger (Sophomore)

University of Maryland College Park - College Park, MD

Anxiety-Like Behavior in V73 Knockout Mice Submitted to Forced Swim Stress

Mentor: Jana Drgonova, Ph.D.

(74) Oluwatosin O. Fatusin (1st Year)

Johns Hopkins University School of Medicine - Baltimore, MD

Meta-Analysis of Genome Wide Linkage Studies for Nicotine Dependence

Mentor: George Uhl, M.D., Ph.D.

(75) Mu Yang (Junior)

Swarthmore College - Swarthmore, PA

Controls for Whole Genome Association: Clustered Single Nucleotide Polymorphisms that Display Allele Frequency Differences between Baltimore Research Volunteers of Different Self-Reported Ethnicities

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

Molecular Neuropsychiatry Research Branch

(76) Patrice T. Huntley (Junior)

Palm Beach Gardens High School - Palm Beach Gardens, FL

Methamphetamine Toxicity Causes Behavioral Impairments in BALB/c Mice

Mentor: Irina Krasnova, Ph.D.

(77) Catherine E. Norise (Junior)

Whitney M. Young Magnet High School - Chicago, IL

The Effects of in Utero Methamphetamine Exposure on Neurochemistry of Rat Pup

Mentors: Pierre-Antoine Noailles, Ph.D.

(78) Eziaku I. Ogbonna (Junior)

Morgan State University - Baltimore, MD

Methamphetamine Induces Dopamine Depletion and Apoptosis in Olfactory Bulb

Mentor: Irina Krasnova, Ph.D.

(79) Usiwoma Abugo (Sophomore)
University of Notre Dame - Notre Dame, IN
Affect of Serum withdrawal on Rat Mesencephalic Cells
Mentor: Michael McCoy, B.S.

(80) Samantha Luo (Sophomore)
Centennial High School - Ellicott City, MD
Viral-Vector Mediated Expression of Potassium Channels Kv4.2 and Kv1.4 in a Rodent Model of Stroke
Mentor: Brandon Harvey, Ph.D.

(81) Kyle Rothman (Junior)
Glenelg Country Day School - Glenelg, MD
Caspase-8 Up-Regulation Occurs In Methamphetamine-Treated Mouse Brain: Evidence from Immunohistochemical Staining
Mentor: Xiaolin Deng, M.D., Ph.D.

(82) Stephanie Hu (Junior)
Hunter College High School - New York, NY
Worms on Speed: Effects of Methamphetamine on Caenorhabidits Elegans
Mentor: Brandon Harvey, Ph.D.

(83) Jennifer Burroughs (2006 Graduate)
Centennial High School - Ellicott City, MD
Methamphetamine Causes Caspase-8 Activation in Mouse Striatal Microglia
Mentor: Xiaolin Deng, M.D., Ph.D.

(84) Yandi Lu (Senior)
Suncoast Community High School - Riviera Beach, FL
The Effects of High Doses of Methamphetamine on Tyrosine Hydroxylase (TH) Immunoreactivity in BMP Receptor II Dominant Negative Mice
Mentors: Yun Wang, M.D., Ph.D., and Jenny Chou, B.S.

Neuroimaging Research Branch

(85) Steven A. Schech (Senior)
Mount Saint Mary's University - Emmitsburg, MD
Brain Activation during Affective Manipulations
Mentor: Betty Jo Salmeron, M.D.