Undergraduate Research Day
April 23, 2008, McKeldin Library

Oral Presentations
1:45-2:45 pm

Room 1
The Role of Humanitarian Intervention during Ethnic Conflict in Rwanda and Burundi and the Impact on Durable Peace
Nidhi Bouri
Government and Politics
Senior Summer Scholar/Departmental Honors

Activism and Archaeology in the Parole Community of Annapolis, Maryland
Erin Milloy McCord
Anthropology
Senior Summer Scholar

Room 2
It Looks Like We Traded the Store: Log Cabin Republicans and Their Activist Efforts in the 104th Congress
Andrew Mark Bowen
History
Senior Summer Scholar

Presidential Strategy behind Supreme Court Nominations
Cyrus Aghamolla
Government and Politics
Senior Summer Scholar

Testing Geometric Brownian Motion: An analytical look at the Black Scholes Option Pricing Model (PP)
Julian Lamy
Mathematics
Departmental Honors

Room 3
Tert-butylperoxyl Radicals and Electron-Transfer Agents in the Oxidation of Tertiary Amines to Iminium Ions with Dirhodium(II) Caprolactamate
Caitlyn L. Edgley
Chemistry and Biochemistry
Howard Hughes Medical Institute/Departmental Honors

Hydroxyapatite Hydrogels
John Lin
Bioengineering
ASPIRE
Modeling and Simulation of Pursuit Control Laws in Bat Prey Capture
Ermin Wei
Electrical and Computer Engineering
Senior Summer Scholar

Poster Presentations
Independent Projects
Section A
Listed by College

Agriculture and Natural Resources

Monitoring Body Temperature of Post Partum Dairy Cows Using an Intra-vaginal Device
Lisa Bornt
Animal Science

Searching for Archaea in the Phyllosphere of Apple Trees
Robin Choudhury
Plant Science and Landscape Architecture

Does Nutritional Supplementation Affect Zebrafish Gamete Production and Survival through Metamorphosis?
Curtis Crouse
Animal and Avian Sciences

Lorikeet Nutrient Digestibility
Max Gordon and Cindie Hengen
Animal and Avian Science

Antioxidants in Milling Fractions of Wheat
Stephanie Schreiber
Nutrition and Food Science

Architecture

Excavations in the Vesuvian Region & Roman Garden Documentation
Anita Hsieh
Architecture

Arts and Humanities
Multimodal Compositions in the Writing Center
Sarah Goldberg
English

Female property laws 17th&18th centuries
Peg Maguire
History

Arts and Humanities continued

How Media Coverage Effects Teens Engaged in Violent Crimes
Tahera Sparks
English

Behavioral and Social Sciences

Children's Word Learning: Differentiating Between Nouns and Verbs
Shannon Elizabeth Auxier
Hearing and Speech Sciences

Special Kids, Special Teachers, Special Education: The Value of Labels in a Special School for "Special" Youth
Danielle Mauk
Sociology
Departmental Honors

Billy the Ballerina
Brooke Pfeffer
Anthropology

Chemical and Life Sciences

Labeling, Isolation, and Microarray Analysis of Nascent RNA via BrU and BrUTP in vitro and in vivo
Michael Brodeur
Cell Biology and Molecular Genetics

Allylic Oxidation of Terpenes Using Dirhodium Caprolactamate
Grace Chiou
Chemistry
Beckman Scholar

Role of Ca2+ permeable AMPA receptors in Visual Cortex Synaptic Plasticity Following Brief Visual Deprivation
Kevin McGehrin
Biology
Selection For FIV Resistance To An Inhibitor of HIV-1 Budding
Prashant Panchal
Cell Biology and Molecular Genetics

Education

Education in Ethiopia
Girume Ashenafi

Realizing the Economic Prowess of Individuals with Learning Disabilities: the Teacher, the Employer and the Student
David Burstein
Special Education

Engineering

Smart Containers
Natalija Djolevic
Chemical Engineering

Impact of Integrated Superlattice μTEC Structures on Hot Spot Remediation
Viatcheslav Litvinovitch
Mechanical Engineering

Real-time Road Traffic Simulation
David Alan McLaren
Aerospace Engineering

The Regional Integrated Transportation Information System Mapping Application
Julian Moyse and Jeffrey Steyer
Civil Engineering

VDOT Incident Management System
Dave Rabrun
Civil and Environmental Engineering

Tapping the Tidewater: A Political Account of Western Maryland's Bid for the Mid-Atlantic
Dylan Rebois
Mechanical Engineering

Characterization of Magnetic Thin Films towards the Direct Measurement of Magnetic Phase Contrast
Public Health and Human Performance

Step it UP: Increasing Stair Usage in a College Population
Erin Kaye Howie
Kinesiology
Departmental Honors

Parenting of Black/White Biracial Children
Dawnyea Dominique Jackson
Family Science
McNair Scholar

Practice and Transfer Effects on Grip Force Control in Children with DCD
Davi Augusto Garcia Mazala
Kinesiology

Eating Behaviors, Food Consumption, and Hunger of Low-Income, Urban Students
Zainab Okolo
Family Science

How Has the Civil War in Sierra Leone Manifested The Use of Prosthetic Devices?
Omolola Olakanye
Kinesiology

Contraction-induced Phosphorylation of the Mitogen Activated Protein Kinase (MAPK) Pathway in Skeletal Muscle of Female Mice
Sean M. Sweeney
Kinesiology

Individual Studies

The Future of Work: Understanding the Attitude towards Technological Changes in the Workplace among Undergraduate Students at UMD
Adanze Okoroha
Construction Management
Discovery Projects

Discovery Projects are designed to empower college students to conduct primary research. In a Discovery Project, students seek a scholarly answer to a research question of significant personal interest. The research process they follow and their reflection on it lead to greater understanding of the process by which society creates knowledge.

Community Based Research Discovery Projects

Art Education at Joe’s Movement Emporium
Michelle Clementi and Jennifer Routh

A Tipping Point: Use of Shelters by Homeless Women in Montgomery County
Marianne Clinton, Caitlin Reichbach, and Monica Stern-Morales

Traditional Discovery Projects

Educating Autistic Children
Amanda Ruderman

Foreign Language Acquisition and Elementary School Requirements
Christina “Maria” Jaunakais

College Major Selections
Taya Aillery

Is the Electoral College Necessary for the 2008 Election?
Maeve Atkins

Prescription Drug Abuse
Brian Custer

Voter Turnout Among 18-24 Year Olds
Neil Deshmukh

Religion in Schools
Jeremy Dillon
New Technology and Its Impact on Popular Culture: Focusing on Celebrity Blogs
Rachel Faust

Drugs/Brain/Adolescents
Remy Feldman

Election 2008: Healthcare and the Youth Voter Block
Connor Glennon

International Students on Campus
Casey Gold

Adderall: The Perfect Way to Get an A for Whom?
Samantha Hanagan

How Social and Economic Inequalities Lead to the Large Crime Rates of the Brazilian Favelas
Kate Hogan

The Economic Impact of Illegal Immigration
Salvatore Miragliotta

Infant Mortality in Brazil: A Look at Government’s Role
Adrienne Beaudoin

Aspects of Terrorism
Michael Billinger

Protein Digestibility in Lorikeets
Cindie Hengen

Evolutionary Basis for Female Mate Selection in Humans
Casey Miller

The Correlation Between Defense Mechanism Usage and Gender
Sharon Na

How Does the UMCP Campus Handle Reports of Rape and How Can the System Be Improved?
Casey Gold
Vanessa Nagengast
Medical Malpractice Restrictions
Jurgen Rivero

Changes in Medical Insurance Due to Medical Outsourcing
Robyn Selsor

Internet and the Trucking Industry
Jacob Silvermets

Spectacular Growth in Bangalore
Aravind Sreenath

Are There Peer Pressure Differences Between Social Science Majors and Natural Science Majors?
Ariel Ursitti

Children’s Health Care
Elliot Wertheim

Social Networking in America
Andrew Wilkins

Gemstone Junior Teams
Section C

The Gemstone Program at the University of Maryland is a unique multidisciplinary four-year research program for selected undergraduate honors students of all majors. Under the guidance of faculty mentors and Gemstone staff, teams of students design, direct and conduct significant research exploring the interdependence of science and technology with society. Gemstone students are members of a living-learning community comprised of fellow students, faculty and staff who work together to enrich the undergraduate experience. This community challenges and supports the students in the development of their research, teamwork, communication and leadership skills. In the fourth year each team of students presents its project in the form of a thesis to leaders in the field, and the students complete the program with a citation and a tangible sense of accomplishment.

The Effects of Physical Activity on Cognition in Young Adults Age 18-25
Dina Carlin, Shaina Castle, Maia Chisholm, Jon Facemire, Allison Fleming, Molly Goldman, Briana Lee, Jenna Schulz, and Margaret Wells

Wind Energy Options for the University of Maryland, College Park
Phil Hannam, Rachelle Bye, Alex Meiseles, Sumegha Singhania, Erin Conroy, Amy Zhang, Matt Kosmer, David Green, and Emma Roach
Effectiveness of an Electric Fence in Reducing Mammalian Predation on Diamondback Terrapin Nests
Gail Baltazar, Curtis Bennett, Sona Chaudhry, Marjorie Clemens, Lacy Gilmer, Sam Lee, Tom Parker, Emily Peterson, Jessica Rajkowski, Karen Shih, Sasika Subramaniam, Rachel Wells, and Jessica White

Students Helping Implement Natural Energy
Mark Lomaskin, Rebecca Mahony, Lindsay Mooney, Joseph O'Brien, Ryan Robinson, Charlotte Sanford-Crane, and Adam Teitelbaum

Campus Navigation for the Blind
Steve Caperna, Andrew Sun, James Yeh, Avishek Luthra, Chris Cheng, Jansen Sheng, Paul Wong, Lee Stearns, Brendan O’Leary, Victoria Fan, Junghhee Cho, and Roni Tessler

VOTE-CP, Voice of the Electorate Collegiate Participation
Sarah Choi, Alka Jhaveri, Kristen Keefe, and Supraja Murali

ANSWER Poverty
Jason George, Maryann Girgis, Maira Fonseca, Miriam Langer, Alex Mont, Shaun Robinson and Matt Sriram

Crossing the Cultural Divide: Assessing the Needs of the Local Immigrant Community
Victoria Chisholm, Nancy Chow, Stephani Fei, Jenny Finder, Sarah Gan, Nicole Hosseinipour, Priya Kumar and Allison Wilson

FASTR: Finding Alternative Specialized Travel Routes
Jake Cigna, James Czisny, Pratik Davé, Caitlin Hickey, Jessie Holzberger, Jeff James, Megan Kuhn, Siwei Kowk, Bryan O’Haver, Emily Ryan, and Laura Slivinski

Gemstone: Team HEAT
Adam Blechman, George Braker, Kara Chaprnka, Brad Chodnicki, Esther DuBow, Brandon Hall, Edward Kao, Kelly Pernia, Timothy Sy, Matt Thompson, and Jordan Tucker

Engineering Aerotolerance in Electricity Producing Bacteria
Jenny Axe, Blake Billmyre, Christina Donnelly, Kevin Duty, Gregory Hitz, Kevin Lin, Mike Mergler, Zach Neuman, Lauren Trager, and Allison Weatherford

Glutamine Supplementation at the University of Maryland
Daniel Ahmad, Megha Bansal, Liz Dillon, Shauna Dorsey, Aysha Jawed, Perry Katz, Andy Newton, Ashley Palaigos, Anita Sahu, Curtis Sharkey, Devang Sharma, and Sarah Tostanoski
Risky Business
Mark Limsam and Sarah Semmel

No More Needles
David Baumgarten, Nicole Chait, David Chen, Linh Do, Jimmy Johnston, Keran Lu, Kevin Quinn, Ben Tylka, Vanessa Vichayakul, and Coral Zhou

Gemstone 104: Topics in Science, Technology and Society
Section D

The Oily Mess: The Rise and Fall of Pithole
Camila Alvarado, Haena Cho, Kathy Jee, and Tina Liu

The History of Ethanol Fuel: Advocacy and Abandonment
Rima Bakhru, Becky Brinsko, and Laura Hereford

Baltimore Gas and Electric: Growing Pains
Rebecca Certner, Stephen Gan, Stevephen Hung, Vadim Kashtelyan, and Rita Wu

Policy Changes to Ethanol Production: WWI - WWII
Grace Chang, Alisa Chen, Avery Hackett, Greg Iannuzzi, Mary Jung

The Effect of Popular Culture on the Media's Portrayal of the 1902 Anthracite Coal Strike
Elizabeth Ahn, Christopher DeCaro, Christine He, and Cory Mekelburg

The Rise and Fell of Ethanol in the Early 20th Century
Andrew Chang, Sydney Chavis, Sarah Dobson, and Mark Elliot

Petroleum Ownership Laws and the Extraction of Petroleum from Cherokee Lands
Laura Freyman, Valentina Lopez, Estefi Medina, and Adin Shuchatowitz

Tracing the Power Alcohol Movement of the 1920s and 1930s
Hannah Jardine, Kelsey Nadig, Hannah Swirnow, and Sarah Watt

Maryland's Charcoal Iron Industry
Elyse Geibel, Kalman Knizhnik, James McCarthy, Natasha Savranskaya, and Sharad Thaper
Self Service vs. Full Service
Patricia Keane, Brian Kwong, Jessica Lieberman, and Mary Tellers

Controversy over Surface Mine Legislation in the Appalachian Region
Karen Jo, Hailey Lin, and Louis Wu

The Sociology of Coal Extraction: Tragedy to Change
Katherine Mann, Stephanie von Numers, and Johnny Wu

Team Fuels: Ethanol and Oil at the Turn of the Twentieth Century
Kevin Matuszak, Zach Rodgers, and Sowmya Swamy

Popular Response to Petroleum Conservation Efforts and Propaganda during World War II
Akhila Iruku, Kevin McGehee, Vin Paruchuri, and Dmitriy Portnyagin

Economic Implications of the Clean Air Act
Patrick Feng, Kelly Grob, Jeffrey Lue, Sara Moghaddam-Taaheri, Vidya Sathyamoorthy

Remediation of the Baltimore Oil Terminal
Michael Andrews, Lauren Ficco, Adam Pampori, MengMeng Xu and Edward Toumayan

Changing Societal Attitudes toward Biofuel Research and Consumption
Sasha Derkacheva, William Guarino, Christine Lim, Neha Pancholi

Trends in Ethanol Consumption from 1973-1984
Jarren Ginsburg, Christina Hitz, Henry Jin, and Michelle Parks

Resurrecting Abandoned Oil Wells
Vivey Chen, Max Koehler, Stephanie Porter

The Consolidation Coal Company, Success Through The Ages
Christine Kim, Michael Price, Tatsuya Saito and Jessie Tsai

The Norfolk & Western Railway - Effects of Expansion on the Labor Force
Jacob Buchanan, Maria Chang, Ethan Schaler, Nick Van Aartsen, and Pragun Vohra

The Effects of the Oil Crisis of 1973 on the Economy of Maryland
Mark Conley, Jade Lee, Taylor Schulz, and Kenny Voshell

Societal and Industrial Effects of the Transition from Wood to Coal in the 19th Century
Monica Shim, Andrew Skoda, Jeffrey Tseng, and Matt Wooten

And the Oscar Goes to ... Coal?!
Eran Barnoy, Hannah Miller, Christine Tobin, Elizabeth Weiner, and Christian Weber
POLITICS - Preservation of Lands Involving the Invaluable Coal Seams
Esther Blinkoff, Rick Urbanski, Justin Wong, and Melanie Wong

Failure of the Energy Security Trust Fund
Charles Chiang, Edna Ezzell, Christine Perry, Eshani Tarpara, and Mary Yanik

Political Debates Surrounding the Chalk Point Generating Station
Jennifer Au, Samantha Zenlea, and Patrick Zhou

Blue Crab: Population in a Pinch
Anne Axenfeld, Zao Chen, Bing Geng, and Junjie Hao

Offshore Oil Drilling and the Submerged Lands Act of 1953
Lena Binzer, Liz Chen, Syyu Chen, and Luciana Debenedetti

Coal Extraction Economics in Allegany County Between WWI and WWII
Anthony Bonomo, Ben Li, Ann Sun, and Diana Zhong

The Development of Coal Slurry Technology
Timothy Briner, Neelam Parikh, Jane Schulte, and Andy Tomaschko

19th Century Fuel Cycle and its Modern Relevance
Cal Burton, Jessica Cha, Yonaton Gefen, Sarah Green, and Jasjeet Khural

Politics of Petroleum in Maryland During and After the 1973 Oil Crisis
Nicholas Deckard, Laura Li, Jessica Cutler, Sean Henely, and Robert Rush

Environmental Impacts of Extracting Wood for Fuel
Angela Lee Max, Kathy Tang, and Levon Mkrtchyan Wolf

Tapping the Tidewater: A Political Account of the Western Maryland’s Bid for the Mid-Atlantic
Jana Lovell, George Moomau, Max Nehl, and Dylan Rebois

HOW: History of Wagner’s Point
Colin Kennedy, Susan Kim, Tana Luo, Emmaline Mlawer, and Vladimir Zhodzishsky
A Scholars Program for Industry-Oriented Research in Engineering (ASPIRE)

Section E

ASPIRE seeks to broaden the educational experience of undergraduate engineering students through direct involvement in real-world engineering projects. ASPIRE offers students a unique opportunity to venture beyond the classroom through collaboration with engineering faculty and staff on mutually interesting projects with industry relevance.

The Effects of Charged Monomers on the Binding Capabilities of Molecularly Imprinted Hydrogels
Omar Ayyub
Bioengineering

Polymer Coatings to Enhance the Biocompatibility of Artificial Lungs
Adam Behrens
Chemical Engineering

Peo Based Block Copolymers as All-Solid State Battery Electrolyte
Kathleen Farhang
Bioengineering

Creation and Analysis of PEGDA and EHD Multilayer Scaffold for Orbital Bone Application
William James Richbourg
Bioengineering

Howard Hughes Medical Institute (HHMI)

Section E

HHMI funds innovative proposals to improve undergraduate education in the biological sciences at selected American colleges and universities.

Identifying Critical Positions in CheA That Mediate Its Binding to CheY in the Chemotaxis Signaling Pathway of E. Coli
Sarah Posner
Cell Biology and Molecular Genetics
Departmental Honors
Evaluation of Two Commercial ELISA Test Kits for Detection of Soy Protein
Nishant Kumar
Biology

An Analysis of the Conformational Change of Poly(Ethylene Glycol) using Dynamic Light Scattering
Adedayo Adeniran
Chemical Engineering

Calculating Viscosity of Fluids through Observation of Brownian Motion
Suehyun Cho
Physics

Communication among Signal Oscillators
Bianca Downs
Computer Science

Study of Concrete Bridge Substructures and Corrosion Damage
Jazalyn Dukes
Civil Engineering

Ternary Functional Graphs and the Discrete Logarithm Problem
Christina Frederick
Mathematics

Swirl Effect on Shock-Induced Mixing in Supersonic Flows
Adam Kareem
Mechanical Engineering

Investigating Syntactic Structures in Sentiment Analysis
Ederlyn Lacson
Computer Science

An Object-Oriented Stated Preference (SP) Mode Choice Web Survey
Michael Maness
Civil Engineering
Louis Stokes Alliance (LSAMP) continued

MusicPADD (Paper Augmented Digital Document)
Robert Owolabi
Computer Science

Electromagnetic Wave Propagation in Corrugated Slow Wave Plasma Structure
Dr. Milchberg, Institute for Physical Science and Technology
Darryl Waddy
Physics

Effects of Telecommuting on Emission in Maryland
Lissan Yared
Chemical Engineering

Senior Summer Scholars
Section G

The Senior Summer Scholars Program is a competitive grant sponsored by the Office of Undergraduate Studies. It provides an exciting opportunity for undergraduate students to enhance their academic experience by spending the summer working closely with faculty mentors on scholarly research or artistic projects.

The Schwinger Mechanism and Graphene
Danielle Allor
Physics

Relative Impact of Affect on Performance in Sequential Risk Tasks
Justin Bonny
Psychology
Departmental Honors

The Relationship between Borderline Personality Disorder and Treatment Dropout among African American Drug Users Currently Receiving Residential Substance Abuse Treatment: The Role of Childhood Emotional Abuse
Stephanie M. Gorka
Psychology

Soil Redox Properties as a Function of Soil Carbon Content and Temperature under Saturated Conditions
Vera B. Jaffe
Environmental Science and Policy
Senior Summer Scholars continued

Early Childhood Behavioral Inhibition and the Development of Ineffective Social Skills and Social Anxiety in Adolescence
Katherine Korelitz
Psychology

Assessing Approach/Withdrawal Motivation in Middle Childhood: Associations between Brain Activity and the Children's BIS/BAS Questionnaire
Eva Lynn Kwong
Psychology

Development of Synthetic Anion Transport Molecules
April Lemanski
Chemistry

Infants’ Use of Emotional Information to Guide Their Own Behavior and to Understand the Behavior of Others
Jacqueline Leventon
Psychology
Departmental Honors

Regulatory Roles of WASP and N-WASP in B-Cell Receptor Internalization and Trafficking
Vicky Lo
Cell Biology and Molecular Genetics

The Schwinger Mechanism and Graphene
David A. McGady
Physics

Identifying genes in Pseudomonas Aeruginosa Involved in the Cyclic-di-GMP Regulation Pathway of Flagella-mediated Motility
Sao-Mai Nguyen-Mau
Cell Biology and Molecular Genetics

Fitness, Aging, and Cognitive Decline – A Preliminary Investigation
Janet Savin-Murphy
Kinesiology

Examining Parental and Adolescent Risk-Taking Propensities
Frances Wang
Psychology
Departmental Honors