

Atlanta Chapter

Program

Welcome

Teed M. Poe, President, ARCS Atlanta Chapter Guest Recognition ARCS Mission and History

Presentation of

2005 ARGS Atlanta Scholars

Lunch

Introduction of Keynote Speaker Kay Weiss, 2005 ARCS Light

Dr. David Satcher Interim President, Morehouse School of Medicine 16th Surgeon General of the United States

Moderator Bill Liss, Business, Financial & Consumer Editor, WXIA-TV

> Closing Remarks Teed M. Poe

www.arcsfoundation.org/Atlanta

Presenting Sponsor



Raymond R. Christman President and Chief Executive Officer

From the President

It is with great excitement that we welcome you to the 14th Annual ARCS Scholarship Luncheon. Honoring these outstanding scholars who are doing important work in science, engineering and medicine at Emory University, the Georgia Institute of Technology, Morehouse College, and the University of Georgia continues to be an event we cherish. As the National Academies of science, engineering and medicine have recently reported, the science and technology building blocks of our economic leadership are eroding while those of other nations are growing. The need to fund our students in the sciences to become the best they can be is imperative.

We wish, also, to thank our donors who make this possible. All of these scholars have their own stories to tell, and each is so appreciative of the funding we are able to give them to pursue their studies. I hope everyone will have a chance to speak to one or more of our scholars and learn what a difference their sponsorship makes. Hear their individual stories and be encouraged about our collective future.

This year ARCS will have awarded a cumulative total of \$53,032,109 supporting 10,475 scholars in the years 1958-2005. The Atlanta Chapter has come a long way since 1992 when we awarded our first three scholarships totaling \$15,000. Today, we will award \$236,500 to 46 scholars. Each of them has been nominated by their departments to be honored because they meet the high standards required by the ARCS Foundation.

Our thanks, also, go to our ARCS members who through their dues and contributions will provide \$150,572 of the scholarships awarded today. We have been blessed to have corporations, foundations and families join us in this effort. We hope our scholars, their work, and the support that they need to be at the forefront of their fields, will inspire others in our audience to come along with us on this journey. Our national scientific community needs us and we all profit from what these young people are doing. Do note, **one hundred percent of every dollar donated goes directly to scholarships**.

Finally, I wish to recognize our Presenting Sponsor, Federal Home Loan Bank of Atlanta and our entire Luncheon Committee, chaired by Elizabeth Martin and Kay Weiss, for their yearlong efforts to bring us to this wonderful celebration.

Jeer m. Poe

Teed McConnell Poe

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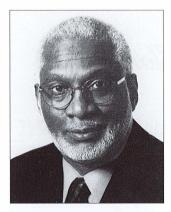
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We are proud to recognize the following donors who have contributed to the Atlanta Chapter of Achievement Rewards for College Scientists throughout our brief history. Each donor has given a cumulative gift of \$25,000 or more.

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Dr. David Satcher

Interim President, Morehouse School of Medicine

16th Surgeon General Of the United States

Dr. David Satcher completed his four-year term as the 16th Surgeon General of the United States in February 2002. He also served as Assistant Secretary for Health from February 1998 to January 2001. In December 2004, he was appointed as the Interim President of the Morehouse School of Medicine.

As Surgeon General and Assistant Secretary for Health, Dr. Satcher spearheaded the development of Healthy People 2010 which included the elimination of racial and ethnic disparities in health as one of its two goals. He also released 14 Surgeon Generalis reports on topics that included tobacco and health, mental health, suicide prevention, oral health, sexual health, youth violence prevention, and overweight and obesity.

Dr. Satcher graduated from Morehouse College in 1963 and received his M.D. and Ph.D. from Case Western Reserve University in 1970. He served on the faculties of King-Drew Medical Center, the University of California at Los Angeles School of Medicine and Public Health and the Morehouse School of Medicine before becoming President of Meharry Medical College in Nashville from 1982 to 1993.

He is the recipient of over 40 honorary degrees and numerous distinguished honors. In 2004, he received the Aetna Voice of Conscience Award for his work toward eliminating health disparities. In 2002, Dr. Satcher received the Rhoda and Bernard Sarnat International Award in Mental Health and the City of Medicine Award from Duke and the Raleigh-Durham Medical Community.

Dr. Satcher would most like to be known as the Surgeon General who listened to the American people and responded with effective programs. His mission continues to be to make medicine and public health work for all groups in this nation. We are honored to have him with us today.

ARCS At A Glance

Chapters

Atlanta, Georgia Chicago, Illinois Denver, Colorado Honolulu, Hawaii Los Angeles, California Lubbock, Texas Metro Washington, D.C. Northern California Orange County, California Phoenix, Arizona Pittsburgh, Pennsylvania Portland, Oregon San Diego, California Seattle, Washington

Mission

The ARCS Foundation provides scholarships to academically outstanding United States citizens studying to complete their degrees in science, medicine and engineering thereby contributing to the worldwide advancement of science and technology.

Achievements

For the 2004-2005 academic year, ARCS chapters have awarded \$3,826,523 to 484 scholars at 46 schools. During the 47-year history of ARCS, over \$53,000,000 has been awarded to financially assist students of high achievement.

Scholarship Donors and Fundraising

The more than 1,400 members of ARCS are women volunteers who willingly and enthusiastically donate their time, efforts and financial support. Because all scholarship fund solicitation and administration expenses are underwritten or donated by ARCS members, **100%** of all contributions go directly to scholarships.

ARCS Foundation, Inc. provides a way for corporations, civic organizations and individuals in the community to combine resources and efforts to support American scholars, helping to ensure a better future for all. ARCS awards for basic scientific education are the largest of any private membership organization in the United States.

Web Site: ARCSFOUNDATION.ORG

Emory University

T. Christopher Bond

First Year ARCS Scholar Ph.D. Candidate, Epidemiology Zeist Foundation, Inc. ARCS Fellowship



Chris earned his B.A. in Biology at LaSalle University in 1991 and Ph.D. in English from the University of Notre Dame in 1998. His doctoral dissertation focused on rhetoric in scientific writing – particularly the scientific article and the peer-review process. He maintains an ongoing interest in processes and methodologies for scientific communication within the medical/research community, as well as issues involved in communicating research findings to the public (such as statistical miscommunication and misunderstanding). Chris' early career was spent teaching writing as an assistant

professor at Rowan University; since then, he has worked as a science and medical writer for educational institutions and within the pharmaceutical industry. Having recently written about rheumatoid arthritis, hepatitis and gout, one of Chris' current interests is inflammatory diseases with chronic characteristics. Chris is married and has a 6-year old daughter.

Anthony M. Byers



Third Year ARCS Scholar Ph.D. Candidate, Immunology Mellon Private Wealth Management ARCS Fellowship

Tony received his B.S. degree in Biochemistry from Duke University in 1999. After studying the accumulation of toxic metabolites in immunodeficient humans as an undergraduate and then at Duke Department of Medicine for a post-graduate year, he came to Emory University to pursue a Ph.D. degree in Immunology. Tony is currently a sixth year student in the Immunology program and conducts his thesis

research in the laboratory of Dr. Aron Lukacher. His research focuses on the memory phase of the immune response to persistent viral infections. Tony has presented his research at three immunology conferences and has published a first-author research article in the *Journal of Immunology*. Outside of science, Tony enjoys playing soccer and softball.

Emory University

Mary E. Chlebowski

Second Year ARCS Scholar Ph.D. Candidate, Chemistry ARCS Fellowship (Anonymous Donor)



Mary came to Emory in 2001 from Niagara University. Her research at Emory focuses on the preparation and investigation of novel materials (surfactants) which have potential in a range of fields from medicine and cosmetics to oil and plastics. During the summer of 2004, Mary worked with researchers in Avignon, France, on a project designed to create bio-specific surfactants. Last fall, Mary was named a Howard Hughes

Teacher/Scholar and co-taught two freshman seminars that focused on scientific discoveries made at Emory, including her own. In March 2005, she presented her findings at an American Chemical Society meeting in San Diego. After graduation, Mary will begin a post-doctoral research position at Carnegie Mellon. Outside the lab, Mary enjoys traveling and music.

Siobhan M. Craige

First Year ARCS Scholar

Ph.D. Candidate, Nutrition & Health Science Frances and Parks Hicks and Dr. William Torres ARCS Fellowship



Siobhan's interest in science was developed early on due to her interest in nature, especially in bugs and spiders. While pursuing a degree in Biology at Emory University, she participated in ESEP (Elementary Science Education Partners), where she taught handson science to underprivileged children in the Atlanta Public Schools. Siobhan spent a semester abroad in Brazil working with a researcher at the Instituto Nacional

de Pesquisas da Amazonia studying medicinal plants, in particular, *Croton Cajucara Benth.* She worked as a technician for Dean Jones in the department of Biochemistry at Emory focusing on nutritional studies involving glutathione, cysteine and age-related macular degeneration (ARMD). Her graduate research concerns nutrition, aging and age-related illness.

Emory University

Kimberly J. Dougherty

herty Third Year ARCS Scholar Ph.D. Candidate, Neuroscience James R. Kuse Foundation ARCS Fellowship



Kim graduated from Boston College in 2000 with a B.S. in Biochemistry and Psychology. She was introduced to research as an undergraduate in a lab studying the structure of dopamine receptors. After graduation, she began graduate studies in the Neuroscience program at Emory University. Kim's current research is focused on spinal inhibitory neurons involved in pain circuitry and how the physiological properties of these neurons are altered by neurochemicals and injury. At Emory, she

co-started an undergraduate-graduate mentoring program and has received a National Research Service Award from the National Institutes of Health. In addition, she is the Young Alumni Coordinator for the Atlanta chapter of the Boston College Alumni Club. Kim plans to pursue a position in academia upon completion of her doctoral degree.

Jennifer C. Felger

First Year ARCS Scholar Ph.D. Candidate, Neuroscience Mr. and Mrs. Charles B. Rice ARCS Fellowship



Jennifer received her B.S. in Psychology from the University of Florida in 2001. At Emory she is a student in both the Graduate Program in Neuroscience and the Center for Behavioral Neuroscience (CBN). Her current research focuses on the contribution of cytokines and inflammation to the development of neuropsychiatric disorders in the medically ill. She is developing an animal model of cytokine-induced behavioral, neurobiological and endocrine changes using interferon alpha. This model will then be used to

test pharmacological agents to reverse these alterations. Jennifer has received support from the CBN scholars program and a National Research Service Award from the National Institute of Mental Health. Outside of lab, she enjoys running, kickboxing, and participating in various community service activities.

Emory University

Monica L. Gerth

First Year ARCS Scholar Ph.D. Candidate, Chemistry The Teem Family ARCS Fellowship



After growing up on Army bases around the country and around the world, Monica eventually found herself graduating with a B.S. in Chemistry from The Evergreen State College in 2002. Curiosity brought her to the South and to Emory, where her Ph.D. research involves engineering deoxynucleoside kinases to improve the activation of nucleoside analog pro-drugs such as AZT. She was awarded a GAANN fellowship for 2002-03 and the Chemistry Department's Osborne R. Quayle Fellowship for 2004-05. Outside the lab, the highlights of

Monica's weeks are swimming, reading and volunteering with GMAAC, a charitable organization that assists refugee families with language instruction and adjusting to life in America.

Allison Lange

First Year ARCS Scholar

Ph.D. Candidate, Biochemistry, Cell & Developmental Biology ARCS Century Fellowship



Allison received her B.A. degree in Genetics, Cell, and Developmental Biology from Dartmouth. As an undergraduate, she worked in a lab at Washington University focusing on the regulation of ion channel activity. She also worked in the product safety division at Monsanto studying mechanisms of drug toxicity. At Emory, she has won numerous awards, including Best Poster Presentation at the Emory Graduate Student Research Symposium and Outstanding Graduate Presentation at the Southeastern Regional Yeast Meeting. Her current research combines biochemical.

genetic and physical techniques to investigate the mechanisms of nucleocytoplasmic transport in *Saccharomyces cerevisiae*.

Emory University

Beven P. Livingston



Fifth Year ARCS Scholar Ph.D. Candidate, Neuroscience Faryl S. Moss and Ann D. Salo ARCS Fellowship

Beven earned a B.A. degree in Biology from Transylvania University, a B.H.S. degree in Physical Therapy and an M.S. in Kinesiology from the University of Kentucky. Her interest is in the field of rehabilitation. She spent twelve years working as a physical therapist and athletic trainer before beginning her graduate work in Neuroscience. Her focus as a researcher and

teaching professional is to help students understand the importance of basic science and how to integrate this information into a successful clinical treatment plan for rehabilitation. Beven enjoys tennis, watching her husband compete in triathlons and playing with her 2 ½ year old son, Aiden.

Melinda M. Maris



s Third Year ARCS Scholar Ph.D. Candidate, Genetics & Molecular Biology Marcia and John Donnell ARCS Fellowship

A 2000 graduate of the College of William and Mary, Mindy's research focuses on the development of the vertebrate inner ear. Upon graduation, Mindy will begin a post-doctoral fellowship in the Department of Surgery at Johns Hopkins University. Her work there will focus on the diagnosis and treatment of pancreatic cancer, which currently has the lowest 5-year survival rate of all cancers. When she is not in the lab, Mindy enjoys spending time with her dog, MACS, her cat, Zane, and

her husband, Charles, who is also a scientist. She is also an active alumna member of her sorority, Phi Mu.

Emory University

Erin L. Murray

Third Year ARCS Scholar Ph.D. Candidate, Epidemiology Georgia Gulf Corporation ARCS Fellowship



Erin graduated magna cum laude in 1999 with a B.S. degree and College Honors in Mathematics from Westminster College. In 2001, she graduated with an M.S.P.H. dearee in Epidemiology from Emory University's Rollins School of Public Health. Erin's current research interests are influenza and other respiratory infections. particularly in developing countries. Her dissertation will examine the effects of environmental risk factors on acute lower respiratory

infections in Bangladeshi children less than five years of age. Following up on her original work, she has recently returned from a second trip to Bangladesh. In her free time, Erin enjoys competing in triathlons and volunteering as a cycling coach for Special Olympics.

Leah H. Schlientz

Second Year ARCS Scholar Ph.D. Candidate, Chemistry Madeline and Howell Adams, Jr. Charitable Trust ARCS Fellowship



Leah graduated from Hendrix College with distinction in Chemistry in 2000. As a graduate student at Emory University in the laboratory of Dr. Karl Hagen, she has performed research in inorganic chemistry. Her current research project is focused on a new method for the preparation of magnetic metal oxide nanoparticles, such as magnetite. These types of materials show potential for development in applications such as MRI contrast

agents or site-specific drug delivery. While at Emory, she received the GAANN Fellowship in 2000 and an NSF PRISM Fellowship in 2003, which involved the development and implementation of an innovative science curriculum for high school students. Upon completion of her degree, Leah is interested in pursuing a career in either academia or in an industrial setting, as she has interests in both teaching and research. In her spare time, she enjoys playing volleyball and running.

Emory University

Janette M. Villalobus

First Year ARCS Scholar Ph.D. Candidate, Chemistry Greene-Sawtell Foundation/SunTrust Directed Funds ARCS Fellowship



Janette is a native of Miami, Florida. Following two years at Miami-Dade College, she received her B.S. degree in Chemistry from the University of Florida where she conducted her senior research thesis in the area of fluorine chemistry with Drs. William Dolbier and Merle Battiste. In 2001, she began her graduate work at Emory University under the guidance and support of Dr. Lanny S Liebeskind. Her current research involves synthetic methods development with emphasis on biomimetic cross-coupling reactions of thio-organic

compounds. Janette plans to pursue a career in the pharmaceutical industry after completion of post-doctoral studies. While at Emory, she received the GAAN fellowship in 2002. When not in the lab, Janette enjoys spending time with Reese, her family and her Jack Russell Terrier, Spanky.

Georgia Institute of Technology

James D. Delaney

First Year ARCS Scholar Ph.D. Candidate, Statistics Imlay Foundation, Inc. ARCS Fellowship



James earned a B.A. degree in Statistics from Northwestern University. Before entering graduate school, he was engaged in a career in financial derivatives market-making. James earned an M.S. in Operations Research from Georgia Tech in 2001 and a M.S. in Statistics in 2004. He was awarded Shell Fellowships for Ph.D. Study for the past two academic years. His current research interests include Bayesian Design and Analysis of Experiments and Computer

Experiments. Upon completion of his Ph.D. thesis, James plans to pursue a career in teaching and research.

Brian A. English

Second Year ARCS Scholar Ph.D. Candidate, Mechanical Engineering ARCS Century Fellowship



Brian received the B.M.E. and M.M.E. degrees for Mechanical Engineering from Georgia Tech in 1997 and 1999, respectively. He was an undergraduate Woodruff Teaching Intern from 1996-1997 and worked with the Savannah Sugar Refinery through the co-op plan. He is currently a Ph.D. candidate, and his research is focused on integrating lamination and electronic packaging technology with micromachining processing to develop fluidic actuators for aerodynamic flow control

applications. As a graduate student, Brian was again a Woodruff Teaching Intern and worked at JWI as a design engineer through the graduate co-op plan. He is an active member of AIAA, ASME and IEEE. Away from work, Brian enjoys playing tournament bridge with his wife.

Georgia Institute of Technology

Andrea F. Forte

Third Year ARCS Scholar Ph.D. Candidate, College of Computing Cooley Family Foundation ARCS Fellowship

Andrea received a B.A. degree in Foreign Languages and Literature from Western Michigan University in 1996. She earned multiple merit-based awards, including a scholarship to attend the University of Passau in Germany. After earning a Master's degree in Library and Information Science from the University of Texas, an interest in human-computer interaction led her to a professional position as an interface designer. In 2002, Andrea returned to school to explore the design

of effective computer-based environments for human learning and communication. She is working with Mark Guzdial to investigate media manipulation and creation as a context for engaging students of the humanities and other disciplines in computer science. Andrea is also working with Amy Bruckman to explore the design of online environments and digital libraries to support communities of history learners.

Brian H. Fralix

ix Second Year ARCS Scholar Ph.D. Candidate, Industrial & Systems Engineering AT&T ARCS Fellowship



Brian earned a B.S. in Mathematical Sciences from Clemson University in 2002. In the fall of the same year, he arrived at Georgia Tech to pursue a Ph.D. specializing in stochastic systems. His current research falls under two areas: (1) inventing efficient methods that help researchers understand when spatial queuing systems are stable, and (2) Palm probabilities, (particularly within the context of non-stationary point processes): both their theoretical properties and how

they can be applied towards problems in queuing theory. Past projects include using these probabilities to compute inter-departure time distributions for certain types of base-stock inventory systems. After graduation, Brian plans to pursue a career in academia.

Georgia Institute of Technology

Charlotte Walker Kotas



DtasThird Year ARCS ScholarPh.D. Candidate, Mechanical Engineering
Kay Weiss ARCS Light Fellowship

Charlotte earned her undergraduate degree in Mechanical Engineering from the University of Tennessee where she was active in the University Honors Program, Cooperative Education Program and Tau Beta Pi, an engineering honor society. After receiving a NSF Graduate Fellowship, she came to the George W. Woodruff School of Mechanical Engineering at Georgia Tech where she received a Master's degree in the fall of 2003. Charlotte is currently working on her

doctoral research in fluid dynamics and acoustics. She is combining the two areas to explore the role of fluid flows in fish hearing. Charlotte plans to finish her Ph.D. at Tech and continue to work in an academic environment.

Anne-Marie Albanese Lerner Third Year ARCS Scholar Ph.D. Candidate, Mechanical Engineering Siemens Energy & Automation, Inc. ARCS Fellowship



Anne-Marie received her B.S. in Mechanical Engineering from Washington University. She began her graduate work at Georgia Tech in 2000 in the acoustics and dynamics group. Her research interests include vibration control, semi-active control algorithms, noise control and smart materials; future research interests include examining better ways to recruit, retain and

educate engineering students. Her current project, entitled "A stability and controllability analysis of magnetorheological elastomers in state-switched absorbers," involves using smart materials to semi-actively control vibration in host devices. This project could be potentially useful in controlling vibration of everyday tools such as airplane wings, car seats and washing machines. In her spare time, Anne-Marie enjoys spending time with her husband and their two dogs, cheering on the Yellow Jacket football team, playing rec-league softball and playing the cello.

Georgia Institute of Technology

James R. Luedtke Fourth Year ARCS Scholar Ph.D. Candidate, Industrial & Systems Engineering Betsy & Harald Hansen ARCS Fellowship



Jim has a B.S. in Industrial Engineering from the University of Wisconsin-Madison and an M.S. in Operations Research from Georgia Tech. Jim's research lies in the field of optimization with emphasis in the areas of non-convex and stochastic optimization. Currently he is working on a project investigating solution methods for problems in which some of the constraints are random. Jim has gained industry experience with internships at W.L. Gore, Agilent

Technologies and ExxonMobil. When not optimizing, Jim enjoys mountain sports and spending time with his wife, Leigh.

Steven M. Morris First Year ARCS Scholar Ph.D. Candidate, Industrial & Systems Engineering Patsy and Jere Drummond ARCS Fellowship



Steven earned his B.S. in Mathematics from Vanderbilt University in 1983 and an M.S. in Industrial Engineering from Rensselaer Polytechnic Institute in 1991. He served twenty years as a submarine officer in the U.S. Navy including a three-year assignment as an Instructor and Assistant Professor at the U.S. Military Academy at West Point in the Department of Systems Engineering. His current research involves improving the security and resiliency of our nation's food supply chain. After completing his Ph.D., Steven

plans to pursue a career in academia.

Georgia Institute of Technology

Jeffrey D. Rambo

First Year ARCS Scholar Ph.D. Candidate, Mechanical Engineering Graves Foundation ARCS Fellowship



Jeffrey received his B.S. degree in Mechanical Engineering from Bucknell University where he was a member of the Tau Beta Pi engineering honor society and the Sigma Pi Sigma national physics honor society. He began his doctoral studies at Georgia Tech in 2001 in the area of analytical and numerical fluid dynamics and heat transfer. Jeffrey's research focuses on the reduced order modeling of multi-scale turbulent convection for efficient characterization and

design of computing infrastructure facilities. Upon graduation, he plans to continue this research in academia and looks forward to mentoring students. Jeffrey enjoys spending time with his wife Allison and the two enjoy pursuing outdoor activities.

Joshua E. Reed Third Year ARCS Scholar Ph.D. Candidate, Industrial & Systems Engineering Goldman Sachs & Co. ARCS Fellowship



Josh holds a B.S. degree in Industrial Engineering from the University of Illinois, Urbana-Champaign. He is currently a Ph.D. candidate in the School of Industrial and Systems Engineering at Georgia Tech. Josh's interests lie in the design and management of large scale service systems, particularly telephone call centers. In the past, his work has dealt with the development of queueing models to predict the effects of customer abandonment on quality of service. As an undergraduate, Josh has had the opportunity to intern at several large U.S. companies,

including Intel and Caterpillar.

Georgia Institute of Technology

James E. Shepherd First Year ARCS Scholar Ph.D. Candidate, Mechanical Engineering Harriet and Sandy Miller ARCS Fellowship



After fifteen years as a mechanical engineer and consultant, James has returned to Georgia Tech where he had previously earned a BS degree in Mechanical Engineering. James is currently conducting research in the development of advanced constitutive and atomistic models for polymer systems. Additionally, he is responsible for coordination of software interfaces between various multi-scale models used in the design of multi-functional energetic materials. As a graduate student, James has been awarded the GAAN Polymer

Science and NaST fellowships. Outside of his academic interests, James enjoys running, coaching youth soccer and spending time with his family.

Andrew K. Smith First Year ARCS Scholar Ph.D. Candidate, Industrial & Systems Engineering C. Tycho and Marie Howle Foundation ARCS Fellowship



Andrew earned a B.S. degree and Mathematics with a second major in Linguistics from the University of North Carolina where he was inducted into Phi Beta Kappa. His Ph.D. studies are in the Applied Statistics group, where his research focuses on nonlinear dimension reduction, a new area of study with numerous applications, including image processing and voice recognition. Currently, he is working on the development of a unified theoretical framework for methods in this area. He also recently co-authored a

book chapter giving a survey of the techniques of dimension reduction. Outside of school, Andrew's hobbies include badminton and playing the piano.

Georgia Institute of Technology

Eric J. Vanderploeg

First Year ARCS Scholar Ph.D. Candidate, Mechanical Engineering Robbins/Mauldin ARCS Fellowship



Eric came to Georgia Tech after receiving his B.S. degree in Mechanical Engineering from Calvin College in 1999. His doctoral research with Dr. Marc Levenston focuses on cartilage tissue engineering; specifically, how cells from articular and meniscal cartilage respond to mechanical forces. The ultimate goal of this research is to produce functional tissue replacements for patients with damaged or diseased cartilage as an alternative to total joint replacement. Eric has also been involved in K-12 education and outreach with the GTEC (Georgia Tech/Emory Center

for the Engineering of Living Tissues) student leadership council. Following his graduate work, he plans to pursue an academic career as a professor.

Annica M. Wayman

First Year ARCS Scholar

Ph.D. Candidate, Mechanical Engineering Betsy & Harald Hansen ARCS Fellowship



Annica graduated magna cum laude from the University of Maryland in 1999 with a B.S. in Mechanical Engineering. She also received an M.S. in Mechanical Engineering from Georgia Tech in 2003. For her doctoral work, Annica studies the cellular adhesion process involved in inflammation and thrombosis. Specifically, her thesis focuses on understanding selectin molecule binding, which mediates rolling adhesion of leukocytes to vascular surfaces. She is a National Science Foundation

Graduate Research Fellow and a GEM fellow. When not in the lab, Annica enjoys spending time with her husband, Brian, and her son, Donovan.

Georgia Institute of Technology

Patrick W. Yaner

Third Year ARCS Scholar Ph.D. Candidate, College of Computing Scientific-Atlanta Foundation ARCS Fellowship



Patrick graduated from North Carolina State University cum laude with B.S. degrees in both Applied Mathematics and Computer Science. He is currently studying artificial intelligence and cognitive science in his pursuit of his Ph.D. Patrick has worked at the Naval Surface Warfare Center in Dahlgren, Virginia, as a student trainee in mathematics. Recently he has studied techniques for content-based image retrieval in

the context of medical imagery at the National Library of Medicine in the Lister Hill National Center for Biomedical Communications. Patrick's research at Tech has focused on visual reasoning and specifically associative visual retrieval. He is also interested in visual analogical problem solving, multi-modal analogy and addressing the issues of retrieval and mapping as they relate to the problem solving task with respect to analogy and visual analogy, in particular.

Morchouse College

Ruben G. Alexander First Year ARCS Scholar Junior, Biology Major Georgia Pacific Foundation ARCS Scholarship



Ruben is from Decatur, Georgia. He is on the Dean's list and has served as a member of the Health Careers Society as well as co-founded the innovative public awareness organization EduHealth. health Additionally, he serves as the director of educational activities for the Alpha Rho chapter of Alpha Phi Alpha Fraternity. Ruben's most notable research experiences thus far have been at Northwestern University and the University of Pennsylvania. As a MARC/U*STAR scholar. Ruben plans to continue his

research endeavors and pursue his goal of an M.D./Ph.D. degree.

Jamaal L. Benjamin

First Year ARCS Scholar Senior, Biology Major ARCS Member Scholarship



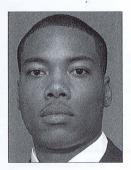
Jamaal was born in Trinidad and Tobago and grew up in Tallahassee. He is a member of the Dean's List and Honor Roll, Golden Key, Beta Kappa Chi Scientific Honor Society and Alpha Epsilon Delta. As a member of the MARC/U*STAR program, he conducts research on the use of Neuregulin-1 as a therapeutic for stroke at the Neuroscience Institute of Morehouse School of Medicine. During recent summers, he has done research at the iCapture Centre of the University of

British Columbia and at the University of Washington. At Morehouse, Jamaal serves as the Vice President for the Circle K Kiwanis Club and as a student mentor at Ralph Bunche Middle School. He plans to pursue a career in academic medicine. In his free time, Jamaal enjoys soccer, swimming and table tennis.

Morehouse College

Jason W. Gilleylen

First Year ARCS Scholar Senior, Biology Major ARCS Member Scholarship



Jason is from Laurel, Mississippi. He is an active member of the Health Careers Society, serving as this year's Vice-President. He is also a MARC/U*STAR scholar for the 2005-06 year. For the past two summers, he researched techniques for expression, purification and co-crystallization of the p38 MAPK-MKP-1 complex. His postgraduate plans include pursuing an M.D./Ph.D. in the field of biochemistry or physiology.

Dennis Jones

ones First Year ARCS Scholar Senior, Biology Major Sue and John Wieland & ARCS Century Scholarship



Dennis is from Collins, Mississippi. This past summer, he conducted biomedical research at Yale University School of Medicine where his project focused on streptozotocin-induced tertiary lymphoid organs in type 1 diabetes. During the summer of 2004, his research project focused on toxin and pathogen detection with antimicrobial peptides at the U.S. Naval Research Lab. During the school year, Dennis conducts public health research in the Social Epidemiology Research Center at Morehouse School of Medicine. From this research, he

has a publication: *Rural Racial Regional/Racial Prevalence of Metabolic Syndrome: The MSM Regional Assessment Health Surveillance Study, 2003-2004.* A member of Phi Beta Sigma Fraternity, he enjoys participating in community service and social events. Jason plans to pursue a Ph.D. in the biomedical sciences.

Morehouse College

Brandon M. Knockum

Second Year ARCS Scholar Senior, Biology Major Synovus ARCS Scholarship

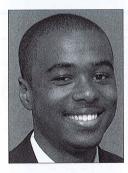


Brandon is from New Orleans, Louisiana. During his tenure at Morehouse College, he has been on the Dean's List as well as serving as an active member of the National Society of Collegiate Scholars, the Health Career Society and the Bonner Scholars. Brandon has also participated in summer research under the MBRS-Rise program at Morehouse School of Medicine. He is now continuing his research under the MARC/U*STAR

program at Emory University Cell Biology Department/Morehouse College Biology Department. Brandon's current research project focuses on transferring chlamydomonas with RNAi to knockdown IC138 expression. He also participates in other activities which include volunteering at an after school program.

Ross H. McMillan

An First Year ARCS Scholar Junior, Biology Major NOVA Information Systems ARCS Scholarship



Ross is from Tallahassee, Florida. He is on the Dean's List and the Honor Roll. He is a member of the MARC/U*STAR research program and a PSTP summer research scholar, participating in research on Fabry disease in the laboratory of Dr. Jeffrey Medin at the University of Toronto. In his spare time, Ross is a track and field All-American and the recording secretary for the Alpha Rho chapter of Alpha Phi Alpha Fraternity.

Morehouse Gollege

Nicholas A. Payne



ne Second Year ARCS Scholar Senior, Chemistry & Chemical Engineering Hach Scientific Foundation ARCS Scholarship in partnership with Denver Chapter of ARCS

Nicholas is a native of Memphis, Tennessee, with a dual degree major in Chemistry and Chemical Engineering. As a fifth year student, he has been recognized with several honors including induction into the Beta Kappa Chi Scientific Honor Society, Pi Mu Epsilon Mathematical Honor Society, and Golden Key Honor Society. He has served in a leadership capacity as Vice

President of the Morehouse College Mathematical Society. Nicholas' most notable research experiences thus far have been at NASA's Marshall Space Flight Center and Langley Research Center. Nicholas supports his scholastic endeavors as an administrative assistant for a local Atlanta restaurant.

Courtney Pollard III

First Year ARCS Scholar Senior, Biology Major ARCS Member Scholarship



Courtney is a resident of Lithia Springs. He has been a part of many organizations including the National Dean's List, Beta Kappa Chi, Alpha Epsilon Delta, National Society of Collegiate Scholars and the Golden Key Honors Society. Courtney serves as President of the Morehouse College Kiwanis Club. In addition, he is a NASA scholar and has conducted research at Marshall Space and Flight Center and Goddard Space and Flight Center. As a member of the MARC/U*STAR program, Courtney conducts research

concerning the interactions of glucokinase and its regulatory protein in rats and humans. Courtney's most recent research experience was at the University of Pennsylvania where he investigated the possibility of Mouse Mammary Tumor Virus being responsible for the onset of breast carcinomas in women. Courtney plans to enter a career in academic medicine with a focus in oncology.

Morehouse College

James D. Whitfield



eld Second Year ARCS Scholar Senior, Mathematics & Chemistry Major Hach Scientific Foundation ARCS Scholarship in partnership with Denver Chapter of ARCS

James is from Laurel, Maryland. This past summer, he worked with the prominent physical chemist, Dr. William Lester, at the University of California at Berkeley. There he applied Quantum Monte Carlo methods to find molecular energy. The previous summer he conducted mathematical research in the area of game theory at the University of Maryland. James is also a Ronald McNair Scholar and a member of the National Society of

Collegiate Scholars. In his free time, James is an enthusiastic chess player.

The University of Georgia

Christopher D. Black

First Year ARCS Scholar Ph.D. Candidate, Exercise Physiology John F. Hallman III ARCS Fellowship



Christopher graduated magna cum laude with a B.A. in Biology from Hendrix College. Completing a research project studying the effects of exercise on individuals with chronic fatigue syndrome, he earned an M.S. in Exercise Science at UGA. Christopher is currently pursuing a Ph.D. under the guidance of Dr. Gary Dudley. His primary research lies in the area of skeletal muscle physiology and skeletal muscle injury. In collaboration with the Shepherd Center in Atlanta, he and Dr. Dudley are examining the use of exercise to

improve the health of individuals with spinal cord injury. Christopher hopes to pursue a career in academia.

Matthew H. Bonds

Second Year ARCS Scholar Ph.D. Candidate, Ecology Sartain Lanier Family Foundation, Inc. ARCS Fellowship



Matt began research in environmental economics as an undergraduate at Francis Marion University where he graduated magna cum laude with a B.A. in Economics. His primary interest has since been the relationship between individual behavior and its cumulative, and sometimes complex, consequences for society; i.e., self vs. group interest. Matt received a Ph.D. in Economics

from the University of Georgia in 2003, where he is now an Odum Fellow and Ph.D. candidate at the Institute of Ecology. Under the guidance of Dr. Pejman Rohani, he uses game theory to model the role of host behavior on the evolution of infectious diseases. Matt has published articles in a variety of economics and ecology journals.

The University of Georgia

Pamela J. Bonner

Fourth Year ARCS Scholar Ph.D. Candidate, Microbiology ARCS Century Fellowship



Pam, a native of Portsmouth, Rhode Island, received her B.S. degree in Molecular and Cell Biology from the University of Connecticut in 2000. As a University Scholar she completed prestigious the most undergraduate program at the University. Pam was awarded a Presidential Fellowship to pursue a doctorate in Microbiology at UGA. Under the direction of Dr. Lawrence Shimkets, she is using Myxococcus xanthus understand model system to how as а zinc-

metalloproteases modulate the extracellular matrix which surrounds the cells. In mammals, unchecked degradation of the extracellular matrix by similar proteases has been linked to arthritis and cancer. Pam's career goal is to be a professor at a research university. In her free time, she enjoys reading, watching sports and spending time with friends.

Sarah Whitehead Finch

Third Year ARCS Scholar Ph.D. Candidate, Genetics ARCS Century Fellowship



Sarah graduated from Miami University of Ohio with a major in Microbiology and a minor in Medical Sociology. Her dissertation research at the University of Georgia focuses on the investigation of the involvement of the SMN, survival of motor neurons, protein, in small nucleolar ribonucleoprotein (snoRNP) complex assembly. The deletion or mutation of the SMN1 gene causes

spinal muscular atrophy, which is the leading cause of genetic death in children. Sarah is the recipient of the Miami University Undergraduate Research Award, NIH Genetics Training Grant and the UGA Graduate School Dissertation Completion Award. She plans to begin her career in biotechnology or pharmaceutical research and development. In her free time, Sarah enjoys reading and traveling and spending time with her husband, David.

The University of Georgia

Alex K. Harris



Second Year ARCS Scholar Ph.D. Candidate, Clinical Pharmacy Joseph G. and Inez Crawford Burtchaell Foundation ARCS Fellowship

Alex received a B.A. degree in Biochemistry from LaGrange College. He is currently in the Clinical and Experimental Therapeutics Program at the University of Georgia College of Pharmacy in the laboratory of Dr. Adviye Ergul. Alex is a member of the American Heart Association and the North American Vascular Biology Organization. He was awarded an American Heart Pre-

doctoral Fellowship to pursue his Ph.D. Currently, his research focuses on the role of endothelin-1 and matrix metalloproteinases in cerebral microvascular remodeling. After graduation, Alex plans to attend Physician's Assistant School at the Medical College of Georgia, then do clinical research involving diabetes and cardiovascular complications. In his spare time, Alex enjoys fishing, carpentry and spending time with his wife and son.

Edward T. Mahoney



<u>Ney</u> Second Year ARCS Scholar Ph.D. Candidate, Exercise Science Teed Poe & Mary O'Connor ARCS Fellowship

Edward, a native of North Tonawanda, New York, earned his B.S. in Chemistry at Ithaca College in 1995. He continued his education at UGA in the field of Exercise Science and completed his Masters degree in 1998. He then worked for three years at the Miami Project to Cure Paralysis under the guidance of Dr. Patrick Jacobs, whose research focused on the effects of physical activity in individuals with spinal cord injury, (SCI). Edward is currently studying under Dr. Gary A.

Dudley, and they are collaborating with Shepherd Center in Atlanta to ultimately improve the health of those aging with SCI. Edward's dissertation research will involve contraction-induced muscle injury in SCI patients, specifically focusing on whether repeated bouts of electrically-stimulated exercise can protect the muscle from subsequent injury.

The University of Georgia

Karen L. Stirrett

First Year ARCS Scholar Ph.D. Candidate, Genetics Harry and Caroline Gilham Foundation and Nita Stokes ARCS Fellowship



Karen received a B.S. in Biology with a minor in Chemistry from Wake Forest University. She is pursuing a Ph.D. under the direction of Dr. Janet Westpheling. Her dissertation research involves two projects. The first focuses on the need for new antibiotics with novel activities and has resulted in approaches to engineering these new compounds. The branched chain amino acids have been implicated

in the generation of precursors for a number of polyketide antibiotics in *Streptomyces* species. The second project focuses on identifying and characterizing integrase genes from *Streptomyces* bacteriophage that have the potential for use in building cloning vectors to engineer both pharmaceutically important *Streptomyces* strains and mammalian cells. Karen was awarded training grants from the NIH and Pfizer Pharmaceuticals. She plans to pursue a career in pharmaceutical research. In her free time Karen is a fanatical sports fan and enjoys watching as well as playing.

Richard L. Suplita

First Year ARCS Scholar



Ph.D. Candidate, Psychology Stites & Harbin, PLLC and T. Neal Jernigan ARCS Fellowship

Richard is a native of Fairmont, West Virginia. Following employment as an electrician and service in the U.S. Marine Corps Reserves, he completed his B.S. in Psychology at West Virginia University and his M.S. in Psychology at UGA. Richard has apprenticed in the neuroscience laboratory of Dr. Andrea Hohmann. His research has explored the central nervous system sites of action of endogenous

cannabinoids subserving stress-induced analgesia. Richard enjoys mountain biking, sports cars, travel and running road races. He and his wife, Dr. Carla Price, have two daughters, Annabel and Lydia.

The University of Georgia

Rebecca L. Tomlinson

Second Year ARCS Scholar Ph.D. Candidate, Genetics Kay and Buddy Weiss ARCS Fellowship



Rebecca graduated from Louisiana State University in 2001 with B.S. degrees in Biochemistry and Psychology and minors in Chemistry and Zoology. At UGA, she is pursuing a Ph.D. in Genetics under the direction of Michael and Rebecca Terns. Her work is focused on understanding the assembly and trafficking of the enzyme, telomerase. This enzyme is active in over 90% of human cancers but is inactive in the majority of adult human somatic tissues, making it a promising anti-

cancer target. Rebecca is the recipient of the NIH training grant in Genetics. Upon graduation, she hopes to pursue a career in the pharmaceutical industry. Eventually, Rebecca would like to teach undergraduates in a small university setting.

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