Albert N. Thompson, Jr.

Albert N. Thompson, Jr. is Chair of The Natural Sciences and Mathematics Division and Professor in the Department of Chemistry at Spelman College. He has been a faculty member at Spelman College since 1981. He earned the B.S. and M.S. degrees in chemistry from Texas Southern University, and a Ph.D. in inorganic chemistry from Howard University. He previously held faculty positions at Texas Southern University, Houston Community College, Fisk University and Fayetteville State University. He has done post-doctoral research at USAF School of Aerospace Medicine in San Antonio, Texas, and was a Visiting Professor at the University of Wisconsin-Madison in 1990.

Albert Thompson's current research interests are directed toward the synthesis and characterization of tetraphenylporphyrins and he has conducted funded research in the field of acid rain. He has received funding and co-funding for several research and educational grants from NIH, NSF, the Air Force, the Pittsburgh Conference, NASA, DOE, and the U.S. Army. He has published, and has given numerous talks and presentations in his current research area. He has served on national grant proposal review panels for NIH, NSF, NASA, EPA, and has served as a research and program consultant for QEM, Project Kaleidoscope, and liberal arts colleges. He is a former member of University of Chicago James Franck Institute NSF Materials Research Center Visiting Advisory Committee, the American Chemical Society's 2001 and 2003 General Chemistry Examination Committees, and the Chemistry Praxis I & II and Graduate Record Examination (GRE) Committees. He also serves on the Georgia Assessment for Certification of Educators (GACE) Content Advisory Committee for Chemistry.

Albert Thompson is frequent speaker on the preparation and training minority students in science and the contributions of African Americans in the sciences. He served as the P.I. of the NSF sponsored and NASA funded Model Institutions for Excellence Program at Spelman College. He has hosted high school students in an American Chemical Society (ACS) Project SEED summer research program, and served for ten years on the ACS National Project SEED Committee and currently is a member of the ACS Committee on Minority Affairs.

Jessica Mislevy

Senior Researcher, Center for Technology in Learning
SRI Education, a Division of SRI International

Jessica Mislevy, Ph.D., is a senior researcher with SRI Education's Center for Technology in Learning, where she studies highly innovative teaching and learning approaches that use advanced technology in STEM.

Over the last three years, Mislevy has co-led a project funded by the National Science Foundation to facilitate the further study and adoption of enhanced educational quality indicators in K-12 STEM education at the national, state, and local levels. She also served as Project Director on a U.S. Department of Education initiative to build capacity in the STEM teacher leadership community by spurring research action around common challenges and promising practices for programs designed to develop and support teacher leaders. Previously, she was Co-PI on a Bill & Melinda Gates Foundation-

funded project aimed to identify generalizable design and implementation features associated with at-risk student success in online Algebra I courses.

Currently, she serves as Co-PI on an evaluation of Achieving the Dream's Open Educational Resources (OER) Degree Initiative, a multi-funder effort seeking to boost college access and completion, particularly for underserved students, through the redesign of degree programs with OER in place of proprietary textbooks across 38 community colleges. She also provides technical assistance to grantees developing a new generation of personalized digital courseware for high-enrollment undergraduate courses as a part of SRI's evaluation work for the Bill & Melinda Gates Foundation's Next Generation Courseware Challenge, as well as school districts, state departments of education, and others related to college and career readiness and postsecondary transition for the U.S. Department of Education's Regional Educational Laboratory (REL) Appalachia.

Mislevy earned her Ph.D. in measurement, statistics, and evaluation from the University of Maryland. Prior to joining SRI, Mislevy conducted higher education research in institutional research, planning, and assessment at the University.

Debra Panizzon, PhD

Just commencing a new position as Associate Professor STEM Education in the School of Education at the University of South Australia where she leads the STEM research agenda and collaborations with key stakeholders. She is also the Research Analyst for the Teachers Registration Board of South Australia having completed a major research project exploring the professional learning undertaken by teachers and commencing the next project in the area of quality induction and mentoring. In her immediate past position as Associate Professor Biology Education at Monash University she taught preservice high school teachers and directed a number of major science education research projects.

Interest in STEM policy arose from her role as Deputy Director for the Flinders Centre for Science Education in the 21st Century, located at Flinders University in South Australia. It is here that much of her work involved collaborating with key stakeholders and school communities to explore emerging STEM-related issues. The work built upon earlier experiences as the founding Deputy Director for the National Centre of Science, Information and Communication Technology, and Mathematics Education for Rural and Regional Australia located at the University of New England, Armidale, New South Wales. As a result of all these experiences, Debra is a keen advocate for students and teachers in rural and regional schools along with those from low socioeconomic school backgrounds with a view to enhancing achievement and opportunities in STEM education.

Debra has written books, book chapters and research articles in the areas of assessment, conceptual understanding and student learning, curriculum, and pedagogical reasoning in science and mathematics education. She has participated at many international and national conferences and is currently on the editorial board for two international science journals.

Evelynn M. Hammonds, Ph.D.

Barbara Gutmann Rosenkrantz Professor of the History of Science
Professor of African and African American Studies
Director of the Project on Race&Gender in Science&Medicine at the Hutchins Center for African And African American Research
Harvard University

Professor Hammonds is a member of the Faculty of Arts and Sciences at Harvard University. She is currently director of the Project on Race & Gender in Science & Medicine at the Hutchins Center for African and African American Research at Harvard.
Prof. Hammonds was the first Senior Vice Provost for Faculty Development and Diversity at Harvard University (2005-2008). From 2008-2103 she served as Dean of Harvard College. She holds honorary degrees from Spelman College and Bates College. Professor Hammonds' areas of research include the histories of science, medicine and public health in the United States; race and gender in science studies; feminist theory and African American history. Her most recent book with Rebecca Herzig is, *The Nature of Difference: Sciences of Race in the United States from Jefferson to Genomics* (2008.) Professor Hammonds' current work focuses on the intersection of scientific, medical and socio-political concepts of race in the United States. She is a Fellow of the Association of Women in Science (AWIS). Professor Hammonds earned a Ph.D. in the history of science from Harvard University, an S.M. in physics from the Massachusetts Institute of Technology (MIT), a B.E.E. in electrical engineering from the Georgia Institute of Technology, and a B.S. in physics from Spelman College. She served on President Barack Obama's Board of Advisors on Historically Black Colleges and Universities from 2010-2017 and on the President's Commission on Excellence in Higher Education for African Americans from 2010-2017. She was a member of Committee on Equal Opportunity in Science and Engineering (CEOSE), the congressionally mandated oversight committee of the National Science Foundation (2009-2014).

SHARI WATKINS

Shari Watkins holds a Bachelors of Science (BS) in Chemistry, a Masters of Science (MS) in Chemistry (Clark Atlanta University) and a Masters of Business Administration (MBA) (University of Detroit Mercy). She completed her PhD (December 2016) in science education from the College of Education and Human Development at the University of Delaware. Her research interests include: Critical Race Theory, social justice, science teacher education, and science career attainment and aspirations. As a social justice researcher, Shari has employed various qualitative methods across several research projects to best understand persistence among African Americans in science contexts. Her dissertation is titled *African American male PhD scientists and engineers: Perceptions of factors that impact their persistence in STEM through a lens of critical race theory.* An active member of her science education professional community, she serves as a steering committee member of the Continental and Diasporic African Science Education (CADASE) association, a Research Interest Group (RIG) within the National Association of Research in Science Teaching (NARST) and has been recognized as a Basu Ethics and Equity Scholar

Cheryl B. Leggon, Ph.D.

Cheryl B. Leggon is an Associate Professor in the School of Public Policy at the Georgia Institute of Technology. Dr. Leggon's research underscores the criticality of disaggregating data by race/ethnicity and gender to develop policy, programs and practices that enhance the quality of the United States' science and engineering work forces. She was elected a Fellow of the American Association for the Advancement of Science (AAAS), and of Sigma Xi. She is editor (with Michael Gaines) of STEM and Social Justice: Teaching and Learning in Diverse Settings, Springer, **in press**.
Before coming to Georgia Tech in 2002, she was Director of Women's Studies and Associate Professor of Sociology at Wake Forest University, and prior to that a Staff Officer in the Office of Scientific and Engineering Personnel, National Research Council, National Academies. Leggon earned the PhD in Sociology from the University of Chicago, and the BA in Sociology from Barnard College, Columbia University.

Gilda A. Barabino, Ph.D.

Gilda A. Barabino is Berg Professor and Dean of The Grove School of Engineering at The City College of New York (CCNY). She holds appointments the in the Departments of Biomedical Engineering and Chemical Engineering and the CUNY School of Medicine. Prior to joining CCNY, she served as Associate Chair for Graduate Studies and Professor in the Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory. At Georgia Tech she also served as the inaugural Vice Provost for Academic Diversity. Prior to her appointments at Georgia Tech and Emory, she rose to the rank of Full Professor of Chemical Engineering and served as Vice Provost for Undergraduate Education at Northeastern University. She is a noted investigator in the areas of sickle cell disease, cellular and tissue engineering, and race/ethnicity and gender in science and engineering. Dr. Barabino received her B.S. degree in Chemistry from Xavier University of Louisiana and her Ph.D. in Chemical Engineering from Rice University. She is a Fellow of the American Association for the Advancement of Science, the American Institute of Chemical Engineers, the American Institute for Medical and Biological Engineering (AIMBE) and the Biomedical Engineering Society (BMES). She was awarded an honorary doctorate by Xavier University of Louisiana in 2016. She is the President of AIMBE and a Past-President of BMES. Dr. Barabino is a member of the National Science Foundation's (NSF) Advisory Committee for Engineering and has served on the National Institutes of Health's (NIH) National Advisory Dental and Craniofacial Research Council. Dr. Barabino consults nationally and internationally on STEM education and research, diversity in higher education, public policy policy, workforce development and faculty development. She directs the NSF Minority Faculty Development Workshop and is the founder and Executive Director of the National Institute for Faculty Equity.

Robert Meller

Associate Professor (Full time)

Professional Preparation

University of Bristol, Bristol, UK BSc (Hons) 1991-94 Pharmacology
University of Oxford, Oxford, UK D.Phil 1994-98 Neuropharmacology
University of Oxford, Oxford, UK Postdoc 1998-99 Molecular biology
DeMontfort University, Leicester, UK Postdoc 1999-2000 Neuropharmacology
Legacy Research, Portland, OR, USA Postdoc 2000-02 Neuroscience

Professional Appointments

2010 (July) Associate Professor, Dept. of Neurobiology, Morehouse School of Medicine, Atlanta, GA
2010 (July) Associate Professor, Dept. of Pharmacology and Toxicology, Morehouse School of Medicine, Atlanta, GA (Secondary position)
2008-2010 Associate Scientist, Cancer Research Labs, Legacy Research, Portland, OR.
2006-2010 Associate Scientist, Dow Neurobiology Labs, Legacy Research, Portland, OR.
2004-2006 Assistant Scientist, Dow Neurobiology Labs, Legacy Research, Portland, OR.
2002-2004 Senior Research Associate, RS Dow Neurobiology Labs, Portland, OR.
1993 Summer Researcher, Migraine Department, Pfizer, Sandwich, U.K.

Products. (out of 50 published or in press articles, three book chapters, two provisional and one full patent application)

1. Thompson S, Pearson AN, Ashley MD, Jessick V, Murphy BM, Gafken P, Henshall DC, Morris KT, Simon RP, Meller R. Identification of a novel Bcl-2-interacting mediator of cell death (Bim) E3 ligase, tripartite motif-containing protein 2 (TRIM2), and its role in rapid ischemic tolerance-induced neuroprotection. J Biol Chem. 2011 Jun 3;286(22):19331-9 PMCID: PMC3103311.
2. Meller R, Cameron JA, Torrey DJ, Clayton CE, Ordonez AN, Henshall DC, Minami M, Schindler CK, Saugstad JA, Simon RP. Rapid degradation of bim by the ubiquitin-proteasome pathway mediates short-term ischemic tolerance in cultures neurons. J Biol Chem, 2006 281: 7429-36. PMCID: PMC1400596
3. Meller R, Thompson SJ, Lusardi TA, Ordonez AN, Ashley MD, Jessick V, Wang W, Torrey DJ, Henshall DC, Gafken PR, Saugstad JA, Xiong ZG, Simon RP. Ubiquitin proteasome-mediated synaptic reorganization: a novel mechanism underlying rapid ischemic tolerance. J Neurosci. 2008 Jan 2;28(1):50-9. NIHMS 124499 PMCID in process
4. U.S. Patent Application Serial No. 12/178,491 of Robert Meller for “INTERACTION OF BIM WITH TRIM2, AN E3 UBIQUITIN LIGASE”. Filed July 23 2008. CIP filed 1-29-2010
5. Stenzel-Poore MP, Stevens SL, Xiong Z, Lessov NS, Harrington CA, Mori M, Meller R, Rosenzweig HL, Tobar E, Shaw TE, Chu X, Simon RP. Effect of ischaemic preconditioning on genomic response to cerebral ischaemia: similarity to neuroprotective strategies in hibernation and hypoxia-tolerant states. Lancet 2005 362:1028-1037

1. Meller, R. and R. Simon, Tolerance to Ischemia—an Increasingly Complex Biology. Translational Stroke Research, 2013. 4(1): p. 40-50.
2. Murphy BM, Engel T, Paucard A, Hatazaki S, Mouri G, Tanaka K, Tuffy LP, Jimenez-Mateos EM, Woods I, Dunleavy M, Bonner HP, Meller R, Simon RP, Strasser A, Prehn JH, Henshall DC. Contrasting patterns of Bim induction and neuroprotection in Bim-deficient mice between hippocampus and neocortex after status epilepticus. Cell Death Differ. Cell Death Differ. 2010

Mar;17(3):459-68 PMCID: PMC2950266.
3. Loftus LT, Gala R, Yang T, Jessick VJ, Ashley MD, Ordonez A, Thompson SJ, Simon RP, Meller R. Sumo-2/3-ylation following in vitro modeled ischemia is reduced in delayed ischemic tolerance. Brain Res. 2009 Mar 27. PMCID: PMC2774733
4. Meller R, Minami M, Cameron JA, Impey S, Chen D, Lan JQ, Henshall DC, Simon RP. CREBmediated Bcl-2 protein expression after ischemic preconditioning. J Cereb Blood Flow Metab 2005 25:234-246
5. Shinoda S, Schindler CK, Meller R, So NK, Araki T, Yamamoto A, Lan JQ, Taki W, Simon RP, Henshall DC. Bim regulation may determine hippocampal vulnerability after injurious seizures and in temporal lobe epilepsy. J Clin Invest. 2004 Apr;113(7):1059-68.

Synergistic Activities

-Dr. Meller participated in the Saturday Academy Program organized in Oregon by the Oregon Graduate Institute of Science Technology.
-Assisting with the foundation of a tumor bank in Oregon, assisting with fund raising and public speaking to raise awareness of the project.
-In his short time at Morehouse School of Medicine he has helped develop three graduate courses, a new genetics/ NGS workshop which is now mandatory for all graduate PhD students, established a next generation sequencing facility for staff and students, and is the assistant director of the specialized neuroscience course that will form the basis of a Neuroscience PhD course.
-He established a professional development course for staff, faculty, residents and students at Morehouse School of medicine.
-He has initiated a science outreach program focused on enhancing STEM education at middle School level (7th Grade) for a rural community (Newton County, GA). He also worked with the Georgia Bioed Trust to develop a bioinformatics for Educators workshop (2015).

Triscia W. Hendrickson, Ph.D.

Triscia Hendrickson is an Associate Professor in the Biology Department at Morehouse College. In addition to her formal teaching duties, she trains several undergraduates in her research lab where she studies the mechanisms that regulate ciliary motility and the role of cilia in diabetes and obesity. Dr. Hendrickson received her Ph.D. from Emory University, followed by post-doctoral training, also at Emory University School of Medicine where she was a FIRST fellow in an IRACDA program. She is a member of the American Society for Cell Biology where she currently serves on the Women in Cell Biology Committee. As a member of ASCB, Triscia Hendrickson has participated in workshops aimed at teaching Cell Biology in Tanzania and Ghana. In her capacity as the Director for the Morehouse College MARC U*STAR Program and the co-Director of the Morehouse College Robert Noyce STEM Teacher Training Program, Dr. Hendrickson continues to pursue excellence in undergraduate STEM teaching and research training.

Karl W. Reid, Ed.D.
Executive Director, National Society of Black Engineers
Alexandria, VA kreid@nsbe.org

Professional Preparation

Harvard Graduate School of Education, Administration, Planning and Social Policy, Ed.D., 2007
Massachusetts Institute of Technology, Materials Science and Engineering, M.S., 1985
Massachusetts Institute of Technology, Materials Science and Engineering, B.S., 1984

Appointments

2014-Current	Executive Director, National Society of Black Engineers, Alexandria, VA
2013-2014	Senior Vice President, Research, Innovation and Member Engagement, United Negro College Fund, Washington, DC
2008-2013	Senior Vice President, Academic Programs and Strategic Initiatives, United Negro College Fund, Washington, DC
2005-2008	Assistant to the Chancellor, Associate Dean of Undergraduate Education, Director of Office of Minority Education, Massachusetts Institute of Technology, Cambridge, MA
1998-2005	Executive Director, Engineering Outreach Programs, Massachusetts Institute of Technology, Cambridge, MA

Biography

Karl Reid was named executive director of the National Society of Black Engineers (NSBE) on June 2, 2014. For the past 19 years, he has been a leading advocate for increasing college access and opportunity for low-income and minority youth.

Dr. Reid came to NSBE from the United Negro College Fund (UNCF), where he oversaw new program development, research and capacity building for the organization's 37 historically black colleges and universities and held the title of senior vice president for research, innovation and member college engagement. Before his service at UNCF, he worked in positions of increasing responsibility to increase diversity at his alma mater, the Massachusetts Institute of Technology (MIT), which he left as associate dean of undergraduate education and director of the Office of Minority Education. While working at MIT, Dr. Reid earned his Doctor of Education degree at Harvard University. His thesis explored the interrelationship of race, identity and academic achievement.

Dr. Reid is now supporting NSBE's National Executive Board and the Society's 16,000 members in reaching the main goal of NSBE's 10-year Strategic Plan: to move black students and professionals from underrepresentation to overrepresentation in engineering in the U.S., by producing 10,000 Black Engineers annually in the country, by 2025. He is also leading the NSF-funded 50K Coalition to increase the number of engineering graduates from underrepresented groups to 50,000 by 2025.

Dr. Reid is the author of Working Smarter, Not Just Harder: Three Sensible Strategies for Succeeding in College…and Life. He is a member of the DC STEM Network Advisory Council and the American Society of Civil Engineers' "Dream Big" IMAX Movie Technical Advisory Council, and was recently named one of the "Top 100 Executives in America" by Uptown Professional magazine.

Wright, Cynthia F.

eRA COMMONS USER NAME (credential, e.g., agency login): WRIGHTCF

POSITION TITLE: Professor, Associate Dean for Admissions and Career Development

EDUCATION/TRAINING *(Begin with baccalaureate, include postdoctoral training and residency training if applicable.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
University of Florida, Gainesville, FL	BS	03/1979	Microbiology
SUNY-Albany, Albany, NY	PhD	12/1984	Molecular Biology
NIH, NCI, Bethesda, MD	Postdoc	09/1986	Yeast Transcription
NIH, NIAID, Bethesda, MD	Postdoc	01/1989	Virology, Transcription

A. Personal Statement

I ran an independent research laboratory for more than 15 years and was funded by numerous funding sources including NIH R01 grants. My work focused on the regulation of gene expression in poxviruses and in dysregulation of genes in a cancer model. I served on numerous study sections related to this work and as a reviewer for numerous scientific journals. I have mentored 27 trainees including high school students, undergraduates, graduate students and postdoctoral fellows.

I have been working in the area of increasing diversity in the biomedical workforce for more than 10 years. I am the PI or co-PI on three current training grants that support: (1) underrepresented undergraduate students to work for 10 weeks in a summer research experience; (2) underrepresented PhD students during their first and second years of graduate school (the IMSD, which is the subject of this proposal); and (3) underrepresented post-baccalaureate students to have a one-year training experience to prepare them to enter PhD programs (PREP program). I am also the Diversity Officer for the College of Graduate Studies and the director of the PhD admissions committee. In these roles I have the ability to interact with trainees at many educational levels to be able to encourage their career development. I have also served on the PhD Outreach Committee of the AAMC for the past several years. In this role I work with national groups (NIH, NRMN) to develop materials that are shared on websites to inform students how to apply to graduate programs.

I have served as PI and Program Director for the IMSD program since 2006. In my tenure, success rates for underrepresented PhD students at MUSC have jumped dramatically and we are making gains in recruitment of UR students as well. I look forward to continuing to develop and strengthen the IMSD program in the future.

Research products related to biomedical workforce training include:

1. Wessinger WD, Wright CF, Schwartz N, Barbieri JT, Van Wart A, Street NE, Black SJ, Bennett J, Freedman VH. The PhD Outreach Committee: Informing and Inspiring a New Generation of Scientists in the Biomedical Sciences. poster, GREAT Group Meeting, Baltimore, MD, September 10-12, 2015
2. Video: What Admissions Directors Think About Getting into Graduate School. On NIH Office of Intramural Training website. https://www.training.nih.gov/oite-yt
3. Video: Get Ready for Your PhD: Application Process. On National Research Mentoring Network website. https://www.youtube.com/watch?list=PLI82H-i0B2FczR_bXwqwIsuEGgnrM0OEr&v=SoeYDr3t81U

B. Positions and Honors

Positions and Employment

1979-1980 Lab Technician, University of Florida, Gainesville, FL
1985-1986 Staff Fellow/Guest Researcher, Laboratory of Biochemistry, National Cancer Institute, NIH, Bethesda, MD
1986-1989 Guest Researcher/Senior Staff Fellow, NIAID, NIH, Bethesda, MD
1989-1995 Research Biologist, Armed Forces Institute of Pathology, Washington, DC
1995-2007 Associate Professor of Pathology & Laboratory Medicine, MUSC
2007-2016 Associate Professor of Microbiology and Immunology, MUSC, Charleston, SC
2006-2009 Assistant Dean for Admissions, College of Graduate Studies, MUSC, Charleston, SC
2010-Present Associate Dean for Admissions and Career Development, College of Graduate Studies, MUSC
2017-Present Professor of Microbiology and Immunology, MUSC, Charleston, SC

Honors and Professional Activities

1979 Graduated with High Honors, University of Florida
1980 National Science Foundation pre-doctoral fellowship
1985 National Institutes of Health postdoctoral fellowship award
1992 John Hill Brinton Award of the Armed Forces Institute of Pathology for excellence in research
2008 MUSC Trustees Leadership Academy Nazarro Fellow
2010-2011 Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) Fellow
2013 Martin Luther King Jr Award, Black History Intercollegiate Consortium
2014-present Elected to AAMC Group on Graduate, Research, Education, and Training (GREAT) Steering Committee
2014-present Member, AAMC GREAT Group PhD Outreach Committee
2015 Earl B. Higgins Achievement in Diversity Award
2015-present Board of Directors, Lowcountry STEM Collaborative

NIH Study Sections (Ad Hoc Reviewer):

Virology Study Section 6/92
Experimental Virology Study Section 2/94
Special Emphasis Panel Study Section 7/9/99
Smallpox: Anti-Orthopoxvirus Drug Design and Discovery Study Section 5/5/2000
Special Bioterrorism Study Section 6/02
Experimental Virology Study Section 10/02
BSL3 facility special study section 5/03
Microbiology and Infectious Disease Study Section 2/05
CAMP study section 6/05, 2/06
NHLBI R25 Education Projects Study Section 11/06
NIAID Science Education Special Emphasis Panel 7/12
NIAID Science Education Special Emphasis Panel 7/13
NIGMS IPERT study section 7/15

C. Contributions to Science

1. Yeast Gene Regulation

As a graduate student and postdoctoral fellow, I studied gene regulation in yeast in two systems: regulation of the iso-2-cytochrome c gene and regulation of the copper metallothionein gene. At the

time there was great interest in identifying the promoter elements of eukaryotic genes using mutagenesis approaches. I identified the regulatory regions of the yeast iso-2 cytochrome c gene and was one of the first investigators to modify gene regulation in a eukaryotic system with point mutations (as opposed to larger deletion or insertions). In the metallothionein system I mutagenized the yeast copper metallothionein gene and showed that autoregulation of the gene depended on the ability of the gene product to bind to metals. In the process I helped to develop a novel mutagenesis system.

a. **Wright CF,** Zitomer RS. A positive regulatory site and a negative regulatory site control the expression of the Saccharomyces cerevisiae CYC7 gene. *Mol Cell Biol.* 1984; 4: 2023-2030.
b. **Wright CF,** Zitomer RS. Point mutations implicate repeated sequences as essential elements of the CYC7 negative upstream site in Saccharomyces cerevisiae. *Mol Cell Biol.* 1985; 5: 2951-2958.
c. **Wright CF**, Hamer DH, McKenney K. Chromogenic identification of oligonucleotide-directed mutants. *Nucl Acids Res.* 1986;14: 8489-8499.
d. **Wright CF**, Hamer DH, McKenney K. Autoregulation of the yeast copper metallothionein gene depends on metal binding. *J Biol Chem.* 1988; 263: 1570-1574.

2. Regulation of Gene Expression in Vaccinia Virus

In my second postdoc and continuing through my first appointments as an independent investigator, I switched fields and began studying the genes that control late transcription in vaccinia virus. Vaccinia has been a useful vector system for production of recombinant proteins and vaccines and understanding its gene regulation has been important in maximizing its utility. It is also a tractable model system with which to understand the biology of its close relative, smallpox. I helped in the initial identification of the viral genes that regulate late expression and then spent many years doing biochemical analysis of the proteins to understand their function and relationship to each other. I developed an *in vitro* system to study gene transcription that was used by many people in the field to study all phases of gene expression. Finally, I also identified a cellular gene that was essential to regulate the late genes – one of the first examples of host genes shown to aid in poxvirus replication.

a. **Wright CF,** Moss B. In vitro synthesis of vaccinia virus late mRNA containing a 5' poly(A) leader sequence. *Proc. Natl. Acad. Sci. USA* 1987; 84: 8883-8887.
b. **Wright CF,** Moss B. Identification of factors specific for transcription of the late class of vaccinia virus genes. *J. Virol.* 1989; 63:4224-4233.
c. **Wright CF**, Oswald BW, Dellis S. Vaccinia virus late transcription is activated *in vitro* by cellular heterogeneous nuclear ribonucleoproteins. *J. Biol. Chem.* 2001; 276:40680-40686.
d. Dellis S, Strickland KC, McCrary WJ, Patel A, Stocum E, **Wright CF**. Protein interactions among the vaccinia virus late transcription factors. *Virology,* 2004; 329:328-336.

3. Role of Chromatin Remodeling Complexes in Cancer

As I progressed through my career I began to switch fields altogether and to begin studying dysregulation of gene expression in cancer. The cancer I focused on is called malignant rhabdoid tumor and it is a very aggressive cancer of childhood. We did studies on cell lines that we had developed from cancer samples on their sensitivity to standard chemotherapeutic drugs. Results from this study were used clinically and cited on the web site for patients with this disease. Soon after I began in the field a tumor suppressor gene was identified that was inactivated in most examples of this cancer. The gene product, called INI1 or SMARCB1, is part of a chromatin remodeling complex called SWI/SNF. We immediately began to do biochemical studies on the INI1 protein and found that re-expression of the protein in cancer cell lines could induce cell cycle arrest and a phenotype of senescence. Furthermore, we were the first group to identify that components of this complex were substrates for the kinase Akt.

a. Rosson GB, Vincent TS, Oswald BW, **Wright CF**. Drug resistance in malignant rhabdoid tumor cell lines. *Cancer Chemother Pharmacol* 2002; 49:142-148.
b. Reincke BS, Rosson GB, Oswald BW, **Wright CF**. INI1 expression induces cell cycle arrest and markers of senescence in malignant rhabdoid tumor cells. *J. Cell. Physiol.* 2003; 194:303-313.
c. Foster KSJ, McCrary WJ, Ross JS, **Wright CF.** Members of the hSWI/SNF Chromatin Remodeling Complex Associate with and are Phosphorylated by Protein Kinase B/Akt, *Oncogene.* 2006; 25:4605-4612.
d. Foster KSJ, Wang Y, Zhou D, **Wright CF**. Dependence on PI3K/Akt signaling for malignant rhabdoid tumor cell survival. *Cancer Chemother Pharmacol,* 2009; 63:783-791. PMCID: PMC2692242.

D. Research Support

Ongoing

R25 GM113278 Kasman and Wright (MPI) 02/01/15-01/31/20

NIH/NIGMS
MUSC Post-Baccalaureate Research Education Program
This grant provides funding for minority student stipends and for programs that help to prepare them to apply to PhD programs.
Role on Project: MPI

R25 HL092611 Wright (PI) 05/10/08–04/30/18
NIH/NHLBI
MUSC Short-Term Research Education Program to Increase Diversity
The primary objective of this program is to provide short-term (10 weeks) training experience for sixteen talented students in the area of cardiovascular function and disease.
Role on Project: Principal Investigator

R25 GM072643 Wright (PI) 03/01/05–05/31/18

NIH/NIGMS
Medical University of South Carolina IMSD Program
The goals are to: 1) increase the number of underrepresented minority (URM) students choosing a research career in the biomedical sciences, 2) enhance the quantity and quality of URM students enrolled in the doctoral program in the College of Graduate Studies, 3) prepare them for a successful career in biomedical sciences, 4) provide structured activities that enhance the interaction of minority and majority students.
Role on Project: Principal Investigator

Wright and Traktman (co-PI) 08/01/16-07/31/18

Burroughs Wellcome
Offering an Entrepreneurship Course to Trainees in the Biomedical Sciences
This grant provides funding to develop an online course in entrepreneurship to be offered to trainees in the biomedical sciences
Role on Project: co-Principal Investigator

Betsy DiSalvo

Assistant Professor
School of Interactive Computing
Georgia Institute of Technology

Dr. Betsy DiSalvo is an Assistant Professor in the School of Interactive Computing at Georgia Institute of Technology. At Georgia Tech she leads the Culture and Technology (CAT) Lab, which focuses on research studying cultural values and how they impact technology use, learning, and production. Currently, the CAT Lab is exploring parents' use of technology for informal learning. In its first stages, this research is developing an understanding of how and why parents use or don't choose to use computers, mobile devices, and other technology for learning. DiSalvo is also the PI for an NSF funded project exploring how maker oriented learning approaches may increase transfer and reflection in undergraduate computer science courses and a exploring related projects that tie art and technology to increase learning across disciplines. DiSalvo's work has included the development of the Glitch Game Tester Program a computer science education program that encouraged high school age African American males to pursue computing careers. She has also worked on informal learning projects with the Carnegie Science Museum, the Children's Museum of Atlanta, the Children's Museum of Pittsburgh, Eyedrum Art Center and the Walker Art Center. DiSalvo received a Ph.D. in Human Centered Computing from Georgia Tech in 2012. Previous to coming to Georgia Tech she was a research scientist at the University of Pittsburgh Learning Research and Development Center.

Samuel Houston

Samuel H. Houston, Jr., Ed.D., is President and Chief Executive Officer of the North Carolina Science, Mathematics, and Technology Education Center. The Center is dedicated to the advancement of science, mathematics, and technology in the schools of North Carolina and around the nation. The NC STEM Learning Network operates out of the SMT Center. Prior to this appointment Dr. Houston served as Vice President for Program and Policy of EdGate, Inc. and was the first executive director of the University of North Carolina Center for School Leadership Development. A former public school teacher and veteran educational administrator, Dr. Houston also previously served as executive director of the North Carolina Education Standards and Accountability Commission at the invitation of Governor James B. Hunt Jr. The commission was charged with defining the skills that North Carolina's students must master to compete successfully in the information economy. In 2007, Dr. Houston chaired the North Carolina State Board of Education's Blue Ribbon Commission on Testing and Accountability.

Dr. Houston holds undergraduate and Master's degrees from Appalachian State University, an Educational Specialist Degree for East Carolina University, and his Doctorate in Education from the University of North Carolina at Greensboro. After four years as an elementary school teacher, he began a career in administration, serving as an assistant principal and principal at the junior high and high school levels. In 1983, he was named superintendent of the Mooresville City Schools a post he held for a decade. Dr. Houston also has held adjunct professorships at ASU and UNC-Chapel Hill.

Dr. Houston has written and lectured widely on such topics as strategic planning, student performance and accountability, meeting the needs of the 21st century work force, skills for the 21st STEM world, social promotion and building educational partnerships. Houston earned the RJR-Nabisco Foundation's China Breaker Award for implementing educational change and was named North Carolina's Outstanding Community Educator. Dr. Houston served on the National Science Resources Center

Advisory Board, the Microsoft School of the Future World Summit Advisory Board and Microsoft World Wide Innovative Schools Working Group. Dr. Houston serves on the James B. Hunt, Jr. Institute for Educational Leadership and Policy Board of Directors and recently was presented a Distinguished Career Award from the University of North Carolina – Greensboro School of Education. Dr. Houston served as advisor to the JOBS Commission (Joining Our Businesses and Schools) chaired by Lt. Governor Walter Dalton. Dr. Houston was awarded the Jay Robinson Leadership Award as an Exemplary Educator for his outstanding contributions to statewide public K-12 education. Dr. Houston was inducted into the Appalachian State University Reich College of Education's Rhododendron Society in June 2012. Established in 1999, it is the highest honor given by the Reich College of Education. In October 2015, Dr. Houston was inducted into East Carolina University's Educators Hall of Fame.

Sooa Lee
School of History and Sociology
Georgia Institute of Technology

Sooa Lee is a doctoral student in the School of History and Sociology at the Georgia Institute of Technology. She earned her BA in the School of International Liberal Studies at Waseda University, Japan and first MS in Modern Japanese Studies at Oxford University, UK. After completing her first MS degree, she has worked at one of national R&D labs in Korea and come to understand that science and technology should also be understood in the social context. She has recently submitted her master's thesis on "A Multi-dimensional Approach to (South) Korean International Research Collaboration." Using ethno-sociological approach, her current research interest focuses on invididual- and institutional-level assymetric international research collaborations among developed and developing countries.

Deena Khalil, Ph.D.

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Professional Preparation

Rutgers, The State University of New Jersey
Bachelor of Arts in Mathematics *2002*

Rutgers University- Newark, New Jersey Institute of Technology,
and The University of Medicine and Dentistry of New Jersey
Joint Ph.D. in Urban Systems with a concentration In Math Education and Policy 2012

Professional Appointments

2013-Present	Assistant Professor of Mathematics Education, Howard University
2011 -2013	Math Education Research Associate, Leslie University & University of Maryland
2006-2011	Doctoral Research Fellow for MetroMath Center, Rutgers University
2004-2006	Middle School Mathematics Teacher, Janis Dismus Middle School, NJ

2002-2004 High School Mathematics Teacher, Bloomfield High School, NJ

Publications

(i) FIVE MOST RECENT PUBLICATIONS

Khalil, D., Lee, J., Dixon, D., & Boykin, W. (2018). Proposing a model of Engagement in STEM for Black Students at HBCUs. In Arroyo, A., Maramba, D. C., Allen-Ozuna, T., Khalil, D., & Palmer, R. T., . (Eds.) Issues in Minority Serving Institutions: Implications for policy and practice. *New Directions for Student Services.* San Francisco: Jossey-Bass.

***Khalil, D.,** *Jones, D & Dixon, D. (2017). Teacher Advocates Respond to ESSA: "Support the Good Parts – Resist the Bad Parts." Will appear in *The Peabody Journal of Education 92* (5)

Khalifa, M.**, Khalil, D**., Marsh, T., & Halloran, C. (2016). Decolonizing School Leadership: A Literature Review of Indigenous Culturally Responsive Leadership. Paper presented at the annual meeting of the American Educational Research Association, Washington, D.C.

Khalil, D. & Brown. E. (2015). Toward a Social Justice Leadership Framework for Urban Teacher Quality. *Journal of Urban Learning, Teaching, and Research,* Vol. 11, No. *9*, 77-90.

Khalil, D., & Hughes, G., (2016). In their Own Voices: National Factors that Affect the Mathematics Learning of African American Undergraduate Students. In Csikos, C., Rausch, A., & Szitanyi, J. (Eds). *Proceedings of the 40th Conference of the International Group for the Psychology of Mathematics Education*. Vol. 3, pp. 91-98. Szged, Hungary: PME

(ii) FIVE SIGNIFICANT PRODUCTS

***Khalil, D.** & *Kier, M. (2017). Critical Race Design: Designing a community of practice for urban middle school students through a critical race perspective. In E. Mendoza, B. Kirshner, and K. Gutiérrez (Eds.) *Designing for Equity: Bridging Learning and Critical Theories in Learning Ecologies for Youth*. Charlotte, NC: Information Age Press.

Khalil, D., Hughes, G., Gosselin, C., & Edwards, L. (2016). TeachLive™ Rehearsals: One HBCU's study on Prospective Teachers' Reformed Instructional Practices and their Mathematical Affect. In Wood, M., Turner, E., and Civil, M. (Eds.). (2016). *Proceedings of the 38th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Tucson, AZ: University of Arizona.

Khalil, D., & Johnson, A. (2016). A Novice Teacher's Powerful Mathematical Affect: A Case Study of Mykia's TeachLivE™ Rehearsals. *Proceedings of the 13th International Congress on Mathematics Education*, Hamburg, Germany

Dixon, D. & **Khalil, D**. (2016). An Examination of Racial Composition in Culturally Relevant Math Study Groups on Math Learning Outcomes. In Wood, M., Turner, E., and Civil, M. (Eds.). (2016). Paper to be presented at *Proceedings of the 38th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Tucson, AZ: University of Arizona

Khalil, D., & Griffen, M. (2012). An Investigation of Factors Influencing Pre-service Mathematics Teachers' Preference Teach in Urban Settings. In Van Zoest, L. R., Lo, J.-J., & Kratky, J. L. (Eds.). (2012). *Proceedings of the 34th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Kalamazoo, MI: Western Michigan University.

Synergistic Activities

2016- National Science Foundation I-Corp L project

	Principal Investigator of STEM-EA
2015 -	National Science Foundation ITEST project
	Principal Investigator of E-Communities
2015 -	National Science Foundation HBCU-UP project
	Co-Principal Investigator of Building Connections
2015 -	American Education Research Association (AERA)
	Co-Chair, Special Interest Group on Teachers' Work/Teachers Unions
2015	National Center for Educational Statistics (NCES)
	Panelist, Aligning National Assessment of Educational Progress (NAEP) items with Common Core State Standards (CCSSM)
2015	University of Michigan: MKT and Equity Workshop *Panelist,* Using and Knowing Mathematics for Creating and Promoting Equitable Instructional Practice
2014	New Jersey Department of Education, Trenton, NJ
	Office of Career and Technical Education
	Panelist, "How to Teach via Career Ready Practices"
	Reviewer, Career Ready Practices Handbook
2012-	Carnegie Institution for Science - Math *For* America
	*Mentor***,** support new mathematics teachers

Professional Membership and Activities

AERA	American Educational Research Association
AMTE	Association of Mathematics Teacher Educators
ICME	International Congress on Mathematics Education
NAME	National Association for Multicultural Education
NCTM	National Council of Teachers of Mathematics
PME/NA	International Group for the Psychology of Mathematics Education
UCEA	University Council for Educational Administration

Collaborators and Advisors

Wade Boykin, Howard University
Meredith Kier, William and Mary
Muhammad Khalifa, University of Minnesota
Deborah Ball, University of Michigan

Tinus Van Rooy

Tinus van Rooy is a retired professor from the Department of Curriculum Development and Instructional Science in the College of Education at the University of South Africa, where he has been a faculty member since 1987.

In the College he was Chair of the Centre for Continuous Teacher Education and Development since 1994, where he was involved in a number of projects on in-service teacher education.

He earned the MSc degree in Mathematics at the University of Pretoria and the D Ed degree in Curriculum Development from the University of South Africa.

He previously held faculty positions in teaching Mathematics at the University of Fort Hare and teaching Engineering Mathematics at the Tshwane University of Technology.

His post-doctoral research focused on the teaching of Numeracy at primary schools and in the teaching of Mathematics and Physical Science in secondary schools, dealing with aspects such as mathematics anxiety and teaching and learning approaches in mathematics.

Professor van Rooy acted as moderator for a number of years for Grade 12 Mathematics examinations, nationally and in the Mpumalanga Province. He also acted as provincial and national judge for the annual Science Expo's for high school learners.

Over the last ten years he served as Project Director of projects funded by the Royal Netherlands and the Zenex Foundation, as well as projects funded by the Education, Training and Development Sectorial Authority in South Africa. These projects dealt with challenges, practices and capacity building in identified underperforming schools, and focused on underperforming learners as well as underperforming teachers in Science and Mathematics.

His latest interest and research activities was on the constructive alignment between assessment, teaching and learning, particularly with respect to peer and innovative assessment.

Dr. Elva Johnson Jones

Elva J. Jones is Professor and Chair of the Department of Computer Science at Winston-Salem State University. Dr. Jones earned the BS from Winston-Salem State University; the MS from the University of North Carolina at Greensboro, the MS and PhD in Engineering and Computer Studies from North Carolina State University. Her research interests are computing education, robotics, visualization, and software engineering. Dr. Jones serves on the NC Space Grant Consortium Executive Board, Association for Departments of Computer Science and Engineering at Minority Institutions (ADMI) Executive Board, Technical Council Executive Committee and the STEM Education of the Winston-Salem Chamber of Commerce, and the Delta Arts Center Board of Directors. She is a Co-PI on the NSF iAAMCS (Institute for African American Mentoring in Computing Sciences) grant and PI on several other grants. The Elva J. Jones Computer Science Building was named in her honor in 2005. She twice received the NASA JOVE Research Award; was named Outstanding Woman Leader by the City of Winston-Salem in 2006; received the Information Technology Senior Management Forum "Ivory" Outstanding Educator Award in 2009; named to the 50 Most Important African Americans in Technology in 2010, and in 2015 she received the Winston-Salem Chronicle Lifetime Achievement Award.