Black Women In Computing

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Coalition to Diversify Computing
A Celebration of Achievement

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My work consists mainly of classroom teaching and conducting research. I enjoy my job because of the opportunity to interact with students at all levels. My goal as an educator is to help students feel confident in asking their own questions. Ultimately, it is the questions we ask of ourselves that unleash our creativity and independence.

Tiffani L. Williams
PhD in Computer Science
Associate Professor
Texas A&M University

TIPS: The best advice I can give for navigating graduate school (especially as a PhD student) is to find a supportive advisor. Essentially, your relationship with your advisor is like a marriage. A happy marriage means you will make great progress toward your degree whereas an unhappy marriage will probably result in little or no progress. Finally, there is more to life than work/school, so make sure to take the time to enjoy those things as well.

“I just remember that the race is not given to the swift, nor the battle to the strong, but to those that endure to the end.”
- Dr. Raquel L. Hill

I teach undergraduate and graduate computer science courses, including data structures, mobile application development, network modeling and analysis, and modeling and simulation. In addition, I conduct research in the area of wireless and optical networks. In each of these courses, I try to infuse real-world application to the theoretical concepts students are learning. In addition, I incorporate both undergraduate and graduate students into research opportunities. This is critical as they prepare to enter the workforce, as it ensures they understand how to use critical thinking to solve real interdisciplinary problems both in and outside of the classroom.

Alicia Nicki Washington
PhD in Computer Science
Assistant Professor
Systems and Computer Science Department
Howard University

TIPS: It is important to understand that being successful as a student includes more than a high GPA. Employers want to ensure they have a competitive employee who is capable of exceeding their expectations. The only way to accomplish this is to expose yourself, push yourself, and most importantly, learn to view all criticism as feedback for improvement.
I conduct research focusing on brain-computer interface systems which allow for non-muscularly controlled assistive technologies and reflect varying human mental states. As director of the KSU BrainLab, I am working to discover impactful solutions for brain-computer interfaces by uncovering the underlying characteristics that affect users’ control. These interfaces allow people suffering from locked-in syndrome to communicate and control their environment.

**TIPS:** The “buddy system” is key in Grad school. Your buddy should be someone you feel comfortable complaining to and sharing your personal victories with without fear of those moments being used against you. This person may be another student in your cohort or may often be someone at another institution, but it is important that he or she is on a similar journey so he or she can relate in real-time to the ups and downs that you will most certainly face. Almost everyone has doubted their worthiness for being in a Grad program at some time, but it is important to have someone around who will tell you that quitting is not an option because it is not always just about you.

**Shaundra Bryant Daily**  
**PhD in Media Arts and Sciences**  
**Assistant Professor, Clemson University**  
**Co-founder & Principal of g8four**

I am a professor and own a research-based learning and technology firm. We invent products and programs to support non-traditional teaching and learning of science, technology, engineering, and mathematics.

**TIPS:** Choose, as much as possible, to do what you love. When the going gets tough, that choice will mean more than any hardships. And if you’re going to try to do it all, don’t think that you have to do it all at the same time. Having a long life, means having a lot of time to enjoy lots of different things.

**Adriane B. Randolph**  
**PhD in Business Administration in Computer Information Systems**  
**Assistant Professor**  
**Director of the Kennesaw State University BrainLab**

My area of research is centered around the concept of humanized intelligence, the process of embedding human cognitive capability into the control path of autonomous systems. In my research efforts, I draw on the disciplines of robotics, cognitive sensing, machine learning, computational intelligence, and human-robot interaction. This work, which addresses issues of autonomous control as well as aspects of interaction with humans and the surrounding environment, has resulted in over 100 peer-reviewed publications in a number of projects ranging from deploying robotics to operate in glacier environments to designing assistive robots for the home. One recent project focuses on developing reconfigurable robotic sensor networks, and robotic vehicles, for use in the scientific exploration of remote sites on Earth, such as Antarctica. Another project focuses on building a robot playmate that enables interactive play through observation and learning of acceptable play behaviors. The goal is to provide a mechanism to augment therapeutic play scenarios for children.

**Ayanna M. Howard**  
**PhD Electrical Engineering**  
**Associate Professor**  
**School of Electrical and Computer Engineering, College of Engineering**  
**Adjunct Associate Professor**  
**School of Interactive Computing, College of Computing**  
**Chair, Robotics PhD Program**  
**Georgia Institute of Technology**

**TIPS:** When things seem tough, stay focused on the goal, and not necessarily on the path required to get there. Find colleagues and mentors, at different stages of their own careers that you feel comfortable talking with (and not necessarily in your own field). And remember, you may need to approach barriers that arise in your career creatively – sometimes the best approach is not the most obvious one.

“**At the same time, take the time to establish balance between the demands of graduate school and having a personal life. Remember this is your journey, so enjoy it.”**  
**Dr. Yolanda A. Rankin**

**Jamika D. Burge**  
**PhD in Computer Science and Applications, with a focus on HCI**  
**Human-Computer Interaction / Computer-mediated Communication**  
**Sr. Behavioral Computer Scientist**  
**Information Systems Worldwide**  
**Arlington, VA**

I am a Technical SME (Subject Matter Expert) supporting R&D programs for the Defense Advanced Research Projects Agency (DARPA) in the Information Innovation Office (I2O). In general, I enjoy helping people use computing technologies in ways they haven’t used them before. I do this, in part, by studying their current work-flows, which includes exploring their attitudes about technology use. As computer scientists, we should do more than build new systems – we should design with a variety of users – and backgrounds – in mind.

**TIPS:** Tenacity is key. It’s also important to have a network of individuals who (1) encourage you when times get tough, and (2) inspire you to keep going through the tough times. Work your network!
Cheryl D. Seals  
PhD in Computer Science & Applications  
Associate Professor  
Auburn University

I work in the area of Human Computer Interaction with an emphasis in usability, visual, and game programming. Our aim is to create applications that improve education in the areas of STEM education. I also work with many programs research and outreach based on increasing the computing pipeline by getting students interested in STEM disciplines and future technology careers. These initiatives are important is that the youth of today are the computing stars of tomorrow.

TIPS: 1) Plan. Choose carefully and have a plan. You should make sure to visit the graduate school that you plan to attend to see whether you feel like that will be a place that you will want to spend the next 2-5 years of your life. 2) Identify Mentors. What is your goal and how will graduate school help your career? If you don’t know the answers to these questions, you will need to identify and utilize mentors either faculty or peer mentors (i.e. other graduate students). 3) Advance quickly toward the finish line. Complete your degree in a timely manner. The longer that you remain in a program the less likely it is that you will finish (i.e. most just run out of steam).

Deidra Morrison Wells  
PhD in Computer Science  
CIFellow at Clemson University

I conduct research on how technology is used to maintain personal relationships. I am looking for the ways in which computer-mediated-communication has changed our expectations for relationship interactions, and what kinds of environments can help or hurt the health of our relationships. Because of how technology is becoming a regular part of life around the globe it is important to understand the potential shifts in behavior and psychology that can happen as a result.

TIPS: The most important part of navigating grad school is a plan, a network, and a purpose. It’s important to understand what you intend to get out of the many years you will be giving away of your life to dedicate to the Ph.D. Being able to look toward this purpose as you progress helps to keep you motivated and productive. Your professional network should be attended to while you are in graduate school, because these relationships will be invaluable to you as you pursue research agendas after school, job hunting, or just trying to get through classes and departmental drama.

These people do not need to be directly related to your field of study, nor do they have to be only senior professors or professionals in the field. Other graduate students within STEM fields other than computing were valuable to me as I progressed through school and even now as I am conducting interdisciplinary research. The most important part of the trip is the plan. Sticking to the plan isn’t always going to happen, but having one makes it easier to get back on the bike and keep riding if you fall off.

Felicia Doswell  
PhD in Computer Science  
Assistant Professor, Computer Science  
Norfolk State University

My current technical research interests are in the areas of information assurance, networking and human computer interaction. I am investigating security in cloud computing environments and usable security solutions to enhance human interaction in various settings while maintaining privacy of information for users of computing technology.

I am also actively involved in graduate and undergraduate curriculum development and research initiatives to ensure that students have a comprehensive education. I advise graduate students in research projects, conduct workshops to educate users on secure computing, and engage undergraduate students in research to encourage pursuit of graduate education and to increase the number of underrepresented participants in computing. I am also involved with NSF BPC Alliance for the Advancement of African Americans in Computing (AAAC), support of the National Center for Women in Technology (NCWIT) initiatives, and recruitment and retention efforts on my campus, demonstrating that computing education is accessible to all.

TIPS: Graduate school is an important step toward navigating a career in academia and industry. Prior to attending graduate school, students should evaluate the educational institutions they contemplate attending based on research interests, opportunities for educational growth and the support system available. Upon entrance into graduate school, students must clearly understand what steps are required for them to satisfy the graduation requirements, frequently assess whether the objectives are being met and make adjustments, if necessary. Throughout the academic process, it is important to attend conferences and workshops to present research work and to extend the support system to beyond the student’s home institution. These opportunities are also beneficial toward obtaining employment in the chosen field after graduation.

Guidance

Nannette Patterson Napier  
PhD in Business Administration / Computer Information Systems  
Assistant Professor, Information Technology  
Georgia Gwinnett College

My research involves understanding and solving problems that lead to failed software development projects. I am active in Technology Pipeline initiatives at GGC focused on recruiting and retaining students in IT-related careers.

TIPS: Write down your vision of "life after graduate school": image where you’ll be, what your life will be like, and what impact you’ll make. As you go through the process, keep these ultimate goals in mind. Persisting in graduate school is as much about determination and stubbornness as it is about intellectual ability and curiosity.
I am currently the Director of User Experience and Process Interaction in the Tax Business Process Management Group within PricewaterhouseCoopers (PwC). In this role, I lead a team of usability professionals involved in designing how users interact with various redesigned processes within our Tax line of service. This involves:

- Directly observing and researching firm practitioners to gain an understanding of current compliance processes and how users currently get work done
- Gathering and analyzing user requirements from this research
- Creating design standards, frameworks and repeatable methodologies to improve process frameworks and repeatable requirements from this research
- Coordinating with user stakeholders and technical/operational teams to effectively implement new designs

I conduct investigations into the use of mobile devices to support learning. Results from recent studies have revealed that African Americans are the most active users of the mobile internet. This new platform for accessing the Internet has removed previous barriers associated with the cost of desktop or laptop computer ownership. My research is important because I view mobile devices as powerful tools that can be leveraged to narrow the Achievement Gap in K-12

TIPS: There are four essential things you will need to navigate grad school and your career: focus, a solid network, time management and a voice recording device. Once your coursework is over and you have to self-motivate to finish your dissertation, it’s your focus that will see you through. It will also serve you once you begin your professional career. When nothing separates you from other candidates in an academic or experience sense, it’s your network that gets you in the door first and gives you the best opportunities to illustrate your professional worth. Poor time management may not keep you from completing your work, but it will help you from being an absolute mismatch in the process. And finally, keep a voice recording device at hand at all times to record ideas and solutions that you are unable to write quickly enough before they slip out of your mind. When I was writing my proposal and dissertation, I kept one at my bedside.

When nothing separates you from the competition, nor the battle to the strong, but to those who endure to the end. Just remember that the race is not given to the swift, nor the battle to the strong, but to those who endure to the end. I completed Grad school while balancing life as a wife and mother of two. I was important for me to dedicate time focused to all of the things that were important to me without feeling guilty. I allowed myself to be a graduate student while I was on campus and a wife and mother when my family was around. Staying organized and prioritizing my activities was essential. I also had to remember to make time to care for myself.

My research investigates the development of virtual humans that can represent specific cultural groups and the utilization of these virtual humans in education, health and customer services. With the changing diversity of the U.S., it is imperative that the customer service workforce be equipped to provide not only competent service but excellent service to their customers.

TIPS: Navigating Grad school without a strong support system is a perilous journey. This support system should include: colleagues (going through the same experience), mentors (who have successfully navigated through the experience and can empathize) and advisors (who have also successfully navigated through the experience and can provide relevant advice).
I teach computing courses and run the department of computer science at a small liberal arts college. I teach introductory through senior level computer science courses. I enjoy teaching the whole spectrum as it allows me to engage new students and challenge others in areas of computing. The administrative side allows me to design curricula that will challenge my students and faculty. Computing is always changing, and as such, it is important to create an environment that is challenging and exciting. I help students understand the fundamentals for the field while showing them how it fits in the larger context of living.

**TIPS:**
- Get a good mentor – preferably a faculty member in your area of interest. Find a good support group and make what you do a priority. Be careful not to spread yourself too thin. It’s about finishing the race.

I believe a significant benefit of being an educator is enabling others to grow and develop skills, understanding, and mindset. In particular, as an alumna of NSU, I take great pride in having an opportunity to empower the next generation of faculty members so they can picture themselves achieving higher levels in their own careers.

**TIPS:**
- Before starting graduate school, get a firm grasp on why getting a graduate degree is important for you. In addition, identify a mentor as quickly as possible. Knowing why you’re going through the process and having someone else to encourage you when the going gets tough is essential to successfully completing your degree!

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**Idongesit Mkpong-Ruffin**  
PhD Computer Science/Software Engineering  
Chair/Associate Professor Computer Science Department  
Norfolk State University

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**Sandra K. Johnson**  
PhD in Electrical Engineering  
Senior Technical Staff Member  
IBM Corporation

I work to advance the technical direction and strategy of the specific area of technical focus. I lead innovative technical projects with the expectation for market success. I am also responsible for mentoring technical employees and for working as part of the broader IBM technical leadership team to set the company’s technical strategy.

**TIPS:**
- It is very important to choose the right advisor and keep the communication regular and open. Ensure you understand what is expected of you for graduation at the advisor, department and university levels. Surround yourself with a strong, positive support group and stay focused.

Find a good mentor who has successfully traveled the road before you and is in a position of power and influence. Enjoy conducting your research and approach it with a passion. Make your mark in your chosen area! Leverage the deep technical skills you will learn throughout your career and life.

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**Vetria L. Byrd**  
PhD in Computer Science  
Research Associate/Visualization Scientist  
Clemson University

I report directly to the Executive Director for Cyberinfrastructure Technology Integration and work closely with the Division of Visual Computing in Clemson’s School of Computing, the Texas Advanced Computer Center (TACC) Visualization group, and research groups in biological sciences, mechanical engineering, and social sciences/humanities. My work involves assisting research faculty and students with their visualization needs. I also provide outreach to academic institutions in surrounding communities. I work with faculty at partner institutions in South Carolina to expand the scientific visualization community.

**TIPS:**
- Successfully navigating Grad school is an exercise in perseverance that includes: (1) good organizational skills, (2) good time management skills, (3) being extremely tenacious and focus on your goal – graduation, and (4) learning how to be responsive to change.

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**Cyntrica Eaton**  
PhD in Computer Science  
Assistant Professor  
Norfolk State University

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**April H. Reed**  
PhD in Computer Science  
Assistant Professor  
Management Information Systems  
College of Business, East Carolina University

I am a professor in the College of Business and I teach Introductory classes in MIS as well as Software Design using Visual Basic. I conduct research on Project risk in virtual projects. I enjoy mentoring students and helping them to get internships. I think it’s important for students to learn from a diverse selection of faculty members so they can picture themselves achieving higher levels in their own careers.

**TIPS:**
- Perseverance, dedication and a support system. You must know why you want it and have friends and family who can repeat that to you when you want to give up. With grad school in particular it is sometimes as much about surviving the process as learning new things. It is sometimes difficult but well worth it. The best thing is to find a mentor to help you get through it, i.e. someone who has already completed their degree.

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"Leverage the deep technical skills you will learn throughout your career and life." - Dr. Sandra K. Johnson
TIPS: 1) Ask questions. Remember your research advisor and professors have been down this road before. 2) Find mentors, at least 2 who are not your research advisor. The difficulty as a graduate student is in gaining a perspective beyond your current understanding and knowledge. Thus, mentors who are not directly connected to your research are invaluable. 3) Stay healthy. Your intellectual growth increases when you are at your best. Drink more water than caffeinated beverages. Go to the gym more than going to the movies. Get 6-8 hours of sleep instead of pulling all-nighters.

Valerie Taylor  
PhD in EECS  
Royce E. Wisenbaker Professor  
Department of Computer Science and Engineering  
Texas A&M University  
Executive Director  
Center for Minorities and People with Disabilities in IT (CMD-IT)

As the Executive Director of CMD-IT, which is focused on fostering innovation through inclusion, I oversee the operations of center activities. Currently, there are many activities, projects, organizations, and alliances focused on a single ethnicity or people with disabilities. CMD-IT is complimentary in that the focus is on all of the under-represented groups to build synergies that result in linkages for national-scale efforts, national agenda for transformative changes, organized leadership initiatives, and an archive of information and statistics related to minorities and people with disabilities in IT.

TIPS: Two important factors that influence the successful navigation through graduate school are getting a good advisor that is a match to your work habits and having a project that truly excites you. With respect to a career, it is important to find an environment that again complements your work habits and work activities that excite you and for which you can contribute to the mission of the company or institution. In addition, for both grad school and a career, support groups and mentors are critical to success.

Fay Cobb Payton  
PhD in Information and Decision Systems  
Associate Professor  
North Carolina State University

My research involves healthcare and digital equity in in the context of information and communication technologies (ICT). I was co-editor for the Journal of the Association of Information Systems (JAIS) – Special Issue of Health Care Information Systems: People, Processes and Patients. I am also editor of Health Systems, an interdisciplinary journal founded by the Operational Research Society. My research includes the discourse of inclusion and exclusion in ICT domains. I was named an American Council on Education (ACE) Fellow for 2009-2010, during which I worked with the NCSU Institute of Emerging Issues, a think-and-do tank.

TIPS: Do not be an island. Find a support network for both professional and personal outlets. This may mean looking outside of your academic home and, even, your institution.

Sherri S. Frizell  
PhD in Computer Science  
Associate Professor  
Computer Science Department  
Prairie View A&M University

I teach undergraduate and graduate courses in computer science. I also conduct research in the areas of computer science education, engineering education, women in engineering, and human-centered computing.

TIPS: Building a support network is invaluable in successfully navigating Graduate School and building a successful career.

Yolanda A. Rankin  
PhD in Computer Science  
Research Staff Member  
IBM Research – Almaden

Today, people rely on technology such as social networks, digital media, and cell phones to bridge the distance to maintain the quality of existing relationships, forge new relationships with people they have yet to meet face to face, and to share information crucial to productive working relationships. My research examines the basis of social interactions in multiple contexts for the purpose of developing technology that increases the quality of human-human interactions, including: 1. leveraging social interactions in digital media to promote collaboration and learning; 2. managing social interactions within organizations to increase

TIPS: Don't just think about getting through the graduate program and getting your PhD. Think about life beyond graduate school and make decisions accordingly. At the same time, take the time to establish balance between the demands of graduate school and having a personal life. Remember this is your journey, so enjoy it.