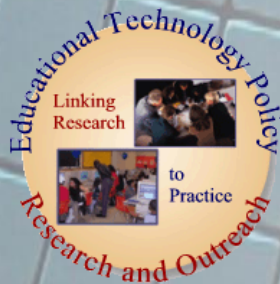# Information Assurance
Cyber Security - Digital Forensics
Career Preparation and Opportunity Workshop
For Guidance Counselors
& STEM Coordinators

Thursday, September 30, 2010
9:00 am – 3:30 pm

JHU Columbia Center- Gateway Park
6740 Alexander Bell Drive   Columbia, Maryland

Organized by: Educational Technology Policy, Research, and Outreach
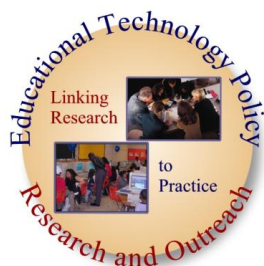www.edtechpolicy.org

The Goals of the School Counselors Workshop are to:

- Increase counselor awareness of the workforce needs of the United States in IS/IA and related fields (digital forensics, homeland security, network security, systems administrator, cybersecurity)
- Inform counselors & STEM coordinators about career pathways including 2 and 4 year degree and/or certification tracks.
- Describe security clearance levels, and the process for obtaining them
- Increase counselor awareness about the CyberWatch Center and its benefits to students and the future technology workforce.
- Share the connection between the CyberWatch program and post-secondary success at partnering colleges and universities.

School counselors are critical in the career choices of students. This 1 day workshop will introduce counselors to IS/IA, Cybersecurity and Digital Forensics career opportunities, and choices within these categories, as well as, the multiple pathways to enter the workforce in these areas. Industry employers will speak to participants about career opportunities, student internships, externships and other related opportunities.

School counselors will learn about current and future career trends in IS/IA, Cybersecurity and Digital Forensics and will receive updates and current promotional materials for distribution to interested students and parents, and discover how to use the CyberWatch Center Web site to find answers to questions from parents, students, and other educators.

Special for All Workshop Attendees
Come to the October 7-8, 2010 C3 Conference FREE
http://www.edtechpolicy.org/C32010/

Dear Participants:

Educational Technology Policy, Research and Outreach (ETPRO) and CyberWatch K12 Division take great pleasure in hosting its annual *Information Assurance/CyberSecurity/Digital Forensics Career Preparation and Opportunity Workshop*. **The core mission of the IA/Cybersecurity/Digital Forensics workshop series is to increase counselor awareness of the workforce needs of the United States in Cybersecurity and related fields (digital forensics, homeland security, network security, systems administrator, cybersecurity), inform counselors about career pathways including 2 and 4 year degree and/or certification tracks and describe security clearance levels, and the process for obtaining them.** This workshop will begin with an opening snapshot of the growing demand of workers in information security, and then move on to situate the growing need within our Maryland community. Panelists will then share insight from the perspectives of large and small agencies and institutions and through the lens of diversity and opportunities for minorities and women. Information will be provided from large and small business entities about current and future job opportunities, and a representative from the SANS Institute will help us decipher the various mazes of certification programs and talk about opportunities for students to engage in the US Cyber Challenge. We will conclude with a presentation about the security clearance process and resources to share with your school staff and students.

This workshop opportunity stems from the need to have educators and career counselors learn more about the growing need for cybersecurity careers particularly in this geographic location. Indeed, the U.S. Bureau of Labor Statistics projects a 48 percent increase in jobs for computer software engineers and a 55 percent growth in jobs for network system and data communications analysts by 2014. Projections for Maryland mimic the same trend. While computer operators and computer programmers are projected to decrease, computer software engineers, network systems and data communications analysts, and network and computer systems administrators are projected to go up between 40 and 50%, and computer and information systems managers are projected to grow by 23%. Much of this is fueled by the growing IT industry, which is in particular demand in MD, DC, and VA, because of the large federal infrastructure including intelligence and Department of Defense government agencies and related contractors, and will be increased by upcoming BRAC movements to Ft. Meade and the Aberdeen Proving Ground.

At the closure of the workshop, we hope that each participant has left with new knowledge and insights into the opportunities for their students and the vast resources that will help students and parents understand these exciting career opportunities. We also hope participants will continue to take part in and share with parents and students other exciting events scheduled throughout the year, including: The Annual C3 (Cyberethics, Cybersafety and Cybersecurity) Conference, the *Cool Careers in Cybersecurity* program targeting Middle School girls, the *Cyberwarrior Summer Program* for high school students, the After-School *Mindtools* and *JR Cyberwarrior Enrichment Programs*, the new *SECURE IT* (Strategies to Encourage Careers in Cybersecurity and Information Technology) Program, and the new *CTE Cybersecurity Track.*

Sincerely,

Davina Pruitt-Mentle, Ph.D.
Director
Educational Technology Policy, Research and Outreach
Outreach - STEM Initiatives Division
CyberWatch K12 Division PI

September 2010

The Information Assurance/Cyber Security/Digital Forensics
Career Preparation and Opportunity Workshop
Agenda

8:45 AM	**Check in**
9:00 – 9:15	**Welcome** CyberWatch, Davina Pruitt-Mentle and MSDE, Richard Scott
9:15 - 10:15	**Cyber Security Need: A National Growth Career:** Marc Noble, CISSP-ISSAP/Director, Government Affairs (ISC)[2] And Tech Council of Maryland (TCM) / CyberMaryland: Liz Wright, Principal Project Engineer (Lockheed Martin)
10:15 -11:00	**Panel Discussion & Open Forum: Cyber Maryland** SAIC (Jennifer Kyle), NSA (Craig Holcomb) , PGCC/Gsecurity, Inc. (Ajay Gupta), Converge!Services (Jim Heimberg), Nteligen (Joseph Karolchik), Boeing (Ketty Gann)
11:00 -11:15	**BREAK**
11:15- NOON	**Panel Discussion & Open Forum** *John Baker (JHU), Ken Crockett (Capitol), Michael Burt (PGCC), Costis Toregas (GW), Brandon Dixon (2+2+2 Pathways model)* • Two Year Pathway/Certificate Programs and Options • Four Year Track Programs
12:00-1:15 PM	**Luncheon Speaker** SANS Institute - Alan Paller
1:15 - 2:45 PM	**Panel Discussion & Open Forum** **Promoting Women in the Field** Bria Dianne McElroy (MAGiC/UMD),Colleen Calimer (Boeing), Shirley Collier (Optemax, LLC,) Angela Jenkins (PGCC/CyberWatch), Jennifer Kyle (SAIC)
2:45- 3:15 PM	**Project SCOPE & Digital Reputation Management** Tim O'Ferrall, Managing Director, Fort Meade Alliance & Davina Pruitt-Mentle
3:15- 3:30 PM	**CyberWatch Center Resources/Closure** **Briefing for Stipend Participants** Davina Pruitt-Mentle, CyberWatch

Educational Technology Policy, Research and Outreach, a research and development organization located in Maryland, connects educational technology policy and research to instructional practice. ETPRO brings more than two decades of experience in the educational community, and more than a decade of experience in evaluating both formal and informal educational programs at the K-16 level, and conducting educational technology policy analysis. ETPRO's expertise is founded on a combination of classroom practice across K-16 tied with a solid research base.

ETPRO originated from the Educational Technology Outreach division of the College of Education, at the University of Maryland, and in 2007 was founded as an entrepreneurial entity committed to quality education for all learners, targeting the effective use of cutting edge technology in formal and informal educational settings to increase interest in Science, Technology, Engineering and Mathematics (STEM) fields. The fundamental gap between technology use and understanding of proper practices, lead ETPRO to the forefront of research, program evaluation and development of Cyberethics, Cybersafety, and Cybersecurity (C3^{TM}) initiatives.
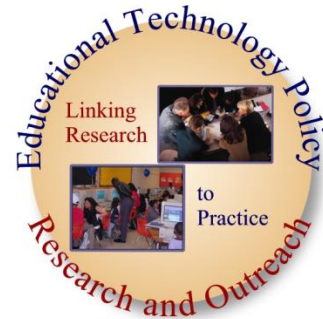
The CyberWatch K12 Division extends the CyberWatch Mission to the K12 Community. Its goal is to improve the quality and quantity of the information assurance workforce. The K-12 Division Goals include increasing:

- the IA workforce pipeline
- community awareness of IA workforce needs
- community awareness of Cyberethics, safety and security, and
- security of K-12 IT systems

CyberWatch (CW) is a National Science Foundation funded Advanced Technology Education Center. The CW goals are focused on IA education at all levels, from elementary through graduate school and include curriculum development, faculty professional development, student development, career pathways, and public awareness. Since its founding as a consortium of 10 institutions in the Washington, DC metropolitan area, CW has grown to over 60 member institutions across 21 states.

BIOGRAPHICAL SKETCHES
In ALPHABETICAL ORDER

Information Assurance/Cyber Security/Digital Forensics
Career Preparation and Opportunity Workshop

September 30, 2010

CyberWatch K12 Division
Educational Technology Policy, Research and Outreach

John Baker, Sr. has spent the first 18 years of his career in the information technology industry, designing and developing information systems, and managing technology operations for a diverse set of organizations. These have included the World Bank, Lockheed Martin, Coopers and Lybrand, and Commercial Credit Corporation. In the last 20 years Mr. Baker has directed both the Graduate and Undergraduate Technology programs, and non-credit training offerings for the **Carey Business School at John Hopkins University**. Currently serving as Director for the program, he is responsible for designing, implementing and managing the School's Undergraduate Business and Technology degree programs. He has 24 years teaching experience at the university level.

The Carey Business School builds on the Johns Hopkins University tradition of excellence in practice and research with MBA programs in the Baltimore-Washington area, as well as master's degree and certificate programs, and undergraduate programs. http://carey.jhu.edu/itsprograms/

- **Organization**: The Carey Business School of Johns Hopkins University is one of nine schools within the Johns Hopkins University.
- **Accreditation**: Johns Hopkins University is fully accredited by the Middle States Association of Colleges and Universities, the accrediting body for all colleges and universities in the mid-Atlantic region.
- **Master's and certificate programs offered**: The Carey Business School offers flexible format MBA programs, as well as master's degrees in finance, real estate, information and telecommunications systems, organization development and human resources, and marketing. Certificates offered include the Leadership Development Program for Minority Managers, Investments, as well as other innovative graduate certificate programs.
- **Joint Programs offered**: The Carey Business School of Johns Hopkins University offers several specialized degree and certificate programs in conjunction with the School of Medicine (the Business of Medicine), the School of Nursing (MBA/Master of Science in Nursing), and the School of Arts and Sciences (MBA/Master of Science in Biotechnology, MBA/Master of Arts in Communication, MBA/Master of Arts in Government).

Michael Burt is a Professor in the Information and Engineering Technology (IET) Department and has been full time at PGCC for the past 15 years teaching a variety of courses in the areas of Information Assurance, Web Development, Programming, Networking, Software Applications, and Systems Analysis. In addition to his teaching assignments, Mr. Burt is the Program Manager on the NSF CyberWatch grant and also supports the PGCC BRAC grant. Mr. Burt earned his MBA in 1984, MS in Information Assurance in 2010, and passed his CISSP certification in 2008. Mr. Burt was a contractor with corporations that supported the Department of Defense at Ft. Meade, MD for over 20 years performing systems analysis, web design and development, and project management. Mr. Burt retired from the Naval Reserves in 2000 with over 28 years of total military service.

The Prince Georges Community College Computer Information Systems Department offers quality instruction through comprehensive degree and certificate options in the areas of programming, computer networking, Web technology, and systems engineering/analysis. It also provides opportunities for all students at the college to gain technology fluency through its general education offering, Computer Literacy. CIS faculty facilitate innovative learning experiences that equip students with the technical and problem-solving competencies required to obtain employment in the computer industry or continue education at a four-year institution . In addition, the faculty work diligently to create partnerships with local technology employers and are active participants in private and government technology initiatives to ensure currency in both instructional methods and curricula. The department also provides student support mechanisms and dynamic programs that foster retention. http://academic.pgcc.edu/cios/mission.htm

Shirley Collier, is C.E.O., of Optemax, LLC, a wireless optical networking company developing emerging technologies for the Department of Defense. She is a nationally known speaker, author and technology entrepreneur. For over 25 years, she has worked in the technology, university, government, and financial services industries in a variety of technical and managerial positions. She was co-founder and CEO for 15 years of Paragon Computer Services, Inc and all of its subsidiaries, a systems integration and telecommunications services group of companies which were acquired in 2004. Shirley has a Bachelor of Science degree in Marketing with a Masters of Science degree in IT Management. She has published over 50 articles and spoken extensively on aligning business and Information Technology, IT security/governance, strategic planning and e-commerce. She is the past Chair of the Board of the Howard County Economic Development Authority, and is a founding member and past President of the International Alliance of Technology Integrators. She formerly served on the Boards of the Howard County Chamber of Commerce (chairing the Education and Nominating Committees), and the Domestic Violence Center of Howard County (and recipient of their Spirit Award). Shirley serves on the Howard County Superintendent's Advisory Council for Educational Partnerships and is a founder of the Center for the Multi-national Development of Women in Technology. She also is Chair of the Board of Trustees of the Horizon Foundation.

Kenneth Crockett serves as Director of **Capitol College**'s Critical Infrastructures and Cyber Protection Center. He is a results-oriented higher education administrator with extensive experience delivering services and providing operational support to students, faculty, and executive leaders. Ken has proven leadership in program development, enrollment management, academic and career advising, marketing and recruiting, and admissions.

He began his career in higher education at the University of Maryland University College (UMUC), where he remained for six years providing exceptional customer service to working professionals seeking advanced degrees and certificates. UMUC provided him with an excellent introduction to continuing education operations through exposure to all aspects of planning, managing, and delivering academic degree and training programs to diverse client groups at multiple locations.

In 1997, Ken was hired by Capitol College to help grow the graduate curricula and transform the student service model to accommodate on-line learning. Ken was directly involved in supporting efforts to develop what was then Capitol's proprietary on-line course delivery software, launched in the summer of 1998. In 2000/2001, Ken played an important support role in helping to develop and launch the nation's first full master's degree program in network security. Since then, he has been responsible for managing unprecedented enrollment growth while providing thorough and responsive services to students and faculty. Between 2007-2009, Ken served in two academic leadership positions (interim), where he managed and mentored faculty, directed degree and course content initiatives, and continued to ensure effective delivery of programs and services – most of which in the department of information assurance.

Capitol College

Capitol College fills a unique niche through a program that integrates scientific theory with hands-on experience. The curriculum is designed so students gain practical knowledge, ensuring they are immediately prepared for their professional careers. All undergraduate programs are enriched by liberal arts courses that provide every student with an enhanced sense of self and society. The college has been designated a National Center of Academic Excellence in Information Assurance Education by the Department of Homeland Security and the National Security Agency and operates the Space Operations Institute as a partnership with NASA.

- Undergraduate students come from 11 states and several foreign countries, ranging in age from 17 to 58. Fifty-eight percent of Capitol undergraduates are ethnic and racial minorities.

- Faculty members are recognized in their fields and are well-connected to the industry. With small classes and a 12:1 student-to-faculty ratio, students can interact closely with instructors. Students get individualized attention early and often.

- Programs of Study - Capitol offers bachelor of science degrees in 12 undergraduate areas of study and six master's degrees. All majors are in the areas of engineering, computer science, information technology and business. All of the master's degrees are available online using software that delivers live, real-time audio lectures.

Capitol College is accredited to confer bachelor of science (BS) degrees in astronautical engineering, business administration, computer engineering, computer science, electrical engineering, information assurance, management of information technology, software engineering and software and Internet applications. The BS programs in business administration and management of information technology are fully accredited by the International Assembly for Collegiate Business Education. The college is also authorized to confer master of science (MS) degrees in computer science, electrical engineering, information assurance, information and telecommunications systems management and Internet engineering and master of business administration (MBA) degree.

Brandon Dixon has over 6 years of experience in the information technology and security industry. He actively participates in security research both on his own and with groups around the world, primarily with the focus of web application and core device vulnerability testing/discovery. Additionally, Brandon has led research into web services security, XML firewall configuration, and access control models in a service oriented architecture. He has discovered numerous unpublished exploits based on vulnerabilities found in commercial products, web applications and messaging technologies.

Ajay Gupta, CISSP serves as the Director for IT Security at Prince George's Community College and is on the Faculty at Prince George's Community College and Golden Gate University. He is an authority on cyber security, IT strategy, and the implications for business risk and competitiveness. He applies keen analytical insight combined with ongoing research and extensive consulting experience to offer uncommon understanding of the strategic issues affecting the vital information organizations rely upon for their sustainability and prosperity. A CISSP-certified Information Security Professional, he has 14 years of experience that includes technology posts at Deloitte & Touche, Ernst & Young, Mitre, and Mitretek (now Noblis) prior to founding his cyber security and green technology firm, Gsecurity, in 2002. Ajay is co-author of two best-selling books written for the university level and published by Addison Wesley: Hack I.T. and Defend I.T. He has held faculty appointments at Golden Gate University, Champlain College, and Prince Georges Community College, and has been an invited lecturer at public and private organizations worldwide. He currently serves as Chair of the Maryland chapter of InfraGuard, a public-private partnership with the FBI's cyber crimes unit and was previously Chair of Maryland Governor Martin O'Malley's Information Security and Data Privacy Transition Team. Ajay holds an M.B.A. from Georgetown University's McDonough School of Business; and both an M.S. and B.S. in Electrical Engineering from the University of Maryland, College Park.

Gsecurity, Inc., designs, deploys, and manages the IT infrastructures and support capabilities that protect and secure vital assets: the information and intellectual property you depend upon for competitive viability and sustainability. They fortify cyber security apparatus to deter hackers, cyber terrorists, and internal threats from believing that they can breach data and get away with it. Gsecurity, Inc.'s robust IT security systems and processes, along with our strategic approach in ERP, eDiscovery and forensics, and green technology solutions serve leading organizations operating in the most demanding and sophisticated mission-critical environments - locally and globally.

Jim Heimberg, ABC (Accredited Business Communicator), Ph.D., ISSO (Information System Security Officer) is the President and Chief Operating Officer of Converge!Services. With a more than 30-year background as a subject matter expert regarding Business Process Management, Information Assurance and Corporate Communications, he also has taught Communications Management at the college level and is a speaker with experience in the integration of information assurance, business process analysis, audience analysis, and knowledge management into corporate communications functions. He wrote Management Communications, a reference guide, published by the International Association of Business Communicators (IABC), and has served on the IABC's Research Foundation Think Tank as well as holding nearly every local chapter office during his more than 30-year membership with five chapters. Jim is currently a member of Maryland InfraGard. Jim holds a Bachelor' Degree in Communications Studies with a dual emphasis in Electronic Journalism and Public Relations, a post-graduate certificate in corporate communications, a Master's Degree in Technology Management, and a Ph.D. in Business Communications. He is a certified Information System Security Officer, Certification Authority, and Registration Authority. As owner of Concept Communications, he served as a security, process, marketing, and/or communications consultant to the Defense Intelligence Agency; the Mine Safety and Health Administration; Northrop Corporation; Hughes Aircraft Company; Teledyne; Litton; Kirk-Mayer, Inc.; Volt Technical Services; Arcata Associates; Mikohn Gaming Corporation; Citibank Information Resources, Software Dynamics Inc.; PriMerit Bank; U.S. News & World Report; Data Systems Analysts, Inc.; and many others.

Craig Holcomb is a Senior Computer Scientist with the National Security Agency. He holds a Bachelor's degree from the University of Tennessee with a double major in Mathematics and Computer Science, a Master's degree in Computer Science from George Washington University, and an Applied Scientist degree also from GW with a major in Computer Science Software and Systems, with minors in Hardware and Artificial Intelligence.

Mr. Holcomb has been with NSA for over 29 years. He began his career as a programmer creating codebooks used by the military. He ran a technology lab introducing new computer technology into NSA. He was the technical director for NSA's Chief Information Officer's office of Policy and Governance. He served as a technical recruiter hiring Computer Scientists and Engineers for NSA's Information Assurance Directorate. From there he moved to be the technical director for the Modeling and Simulation Oversight Division in NSA's Operations Research, Modeling and Simulation office. Currently, he's NSA's Senior

Compliance Officer, ensuring NSA complies with laws such as the Federal Information Security Management Act.

Mr. Holcomb has been a speaker for NSA's Mathematics Speaker's Bureau for over 14 years. He has created or substantially changed 8 talks and presented 14 of the 52 talks in NSA's catalog to a wide variety of audiences including students in Elementary, Middle and High Schools in both public and private schools, county wide meetings of high school Mathematics Department Heads, and the National Council of Teacher's of Mathematics conference in Baltimore. Mr. Holcomb is the Master Instructor for a course called Operations Research in Real Life at NSA's Math And Related Sciences (MARS) summer camp for high school students.

Mr. Holcomb represents the skill field of Computer Science and is the Chair of NSA's Stokes Educational Scholarship Program Mentor Committee.

Angela Jenkins is the CyberWatch Intern/Asst. Security Analyst for Prince George's Community College under the direction of Ajay Gupta – CISSP and Director of Security. She learns first-hand what Security Professionals do. She is pursuing her career in the Computer Information Security field in a learning-oriented environment. Angela received an Associate of Art Degree from Strayer University in 1999 in Networking Administration. She recently completed PGCC's Cybercrimes Investigation Certification program and is currently taking courses in the Information Security/Cyber Security Program at University of MD College Park working towards her BA in Cyber Security with a UMUC Transfer Honors Scholarship. She plans to use her Computer Security/Forensics skills working within the Government or Private Sector as a Digital Computer Forensics Analyst.

Joseph Karolchik has been a software engineer, project manager, and business leader in the intelligence community for more than 23 years. Joe's career has encompassed a variety of development efforts including signal processing software algorithms, computer-based training programs, network security tools, and visualization of high-data rate signals as an employee of Raytheon, Booz-Allen Hamilton, and ITT Corporations as well as his own startup business, Nteligen.

As a business entrepreneur, Joe has led research and development projects in network security and protocol analysis that resulted in the award of multiple US and foreign patents. Joe was one of the inventors of SilentRunner, a network security and visualization tool that was the forerunner of modern anomaly detection systems. Over the past several years, he created a business unit focused on cyber security research and education that offers penetration testing and community education on hacker tools and techniques. Joe was the primary organizer of his business area's summer internship program for college students at ITT Corporation, which received corporate awards and recognition as one of the best technical internship opportunities at ITT. Joe's current business venture, Nteligen, is focused on developing innovative data security tools and techniques.

W-J Ketty Gann, Ph.D. works for The Boeing Company in Intelligence and Security Systems. Dr. Ketty Gann is a recognized expert in human language technology, knowledge management and data modeling/ontology engineering among Department of Defense (DoD) communities. She has been selected as a Boeing Associate Technical Fellow in I&SS (Intelligence and Security System) Division since 2005. Currently, Ketty Gann is the technical lead for several Defense contracts. Her major responsibilities include developing the task requirements, completing the research and contributing to design and developing of the system in human language/cyber analytics aspects. She also serves as a technical advisor in those projects to evaluate the technical progress of various research efforts within government, academia and industry. Before joining The Boeing Company in 2003, she was a Language Technology Manager at Booz| Allen | Hamilton Inc. from 1994-2003, and a computer analyst at PRC Inc. (now part of Northrop Grumman) from 1989-1994. Dr. Gann received her Ph.D. and M.S. in Computational Linguistics from Georgetown University.

Jennifer Kyle, CISSP, C|EH is Asst. Vice President at SAIC and has 23 years with the Intelligence Community in various positions both with the Federal Government and in Defense Community. Ms. Kyle is currently in a business development role, specializing in cyber, that allows me to meet with a wide variety of customers in order to come up with solutions to their challenges. She also supports the Cyber Innovation Center.

Bria McElroy is the Assistant Director for the Women in Engineering (WIE) Program in the A. James Clark School of Engineering at the University of Maryland. She is responsible for outreach and recruitment and develops, directs and implements a comprehensive set of programs designed to interest girls and young women in engineering studies and careers. With a goal of increasing the pool of female engineering applicants for both the Clark School and WIE's summer outreach programs, Ms. McElroy collaborates with K-12 educators and leaders to explore ways of attracting more young women to the field. In addition, she coordinates WIE's communication strategy for both internal and external constituents. Formerly, Ms. McElroy spent six years at the University of Maryland, Baltimore County (UMBC) of which five were with the Center for Women and Information Technology (CWIT) as Assistant Director of both International Relations and University Initiatives. She spent an additional year with the ADVANCE Program, a $3.2 million institutional transformation grant funded by the National Science Foundation (NSF). Ms. McElroy has also consulted on program development for the Multinational Development of Women in Technology (MDWIT).

Ms. McElroy received her Bachelor of Arts in International Studies with a minor in Economics from Towson University in December 2002. She resides in Annapolis, Maryland.

MAGiC: The Mid-Atlantic Girls Collaborative (MAGiC) connects girl serving and supporting organizations across Maryland, Virginia, and Washington, DC that are committed to increasing the number of young women pursuing science,

technology, engineering, and math (STEM) careers. MAGiC is the local collaborative of the National Girls Collaborative, an initiative funded by the National Girls Collaborative.

 Women in Engineering Program: The Women in Engineering Program at the University of Maryland is focused on the recruitment, retention and advancement of women in the field of engineering. Established in 1995 through a grant from the Sloan Foundation, WIE provides outreach to educate k-12 students about engineering and offers a variety of retention programs including mentoring, experiential opportunities, and a living and learning community to retain current engineering students.

Marc H. Noble, CISSP-ISSAP, CISM, NSA-IAM, MBCI

Mr. Noble is currently the Director of Government Affairs for (ISC)², the globally recognized Gold Standard for certifying information security professionals. Prior to his role at (ISC)2, Mr. Noble worked as an Information Assurance Engineer for MITRE Corp., and held the offices of Chief Information Security Officer and Deputy Chief Information Officer at the U.S. Federal Communications Commission. Over the course of a 30-year government career, Marc also served as Senior Information Security Analyst, Administrative Office of the U.S. Courts and as a Management and Systems Analyst at the U.S. General Services Administration.

Mr. Noble currently serves as a member of the (ISC)²'s Government Advisory Board for Cyber Security (GABCS) and U.S. Government Executive Writers Bureau and is Senior Vice President of the Northern Virginia Chapter of the Information Systems Security Association (ISSA-NOVA). He holds received his B.A. History/Political Science from Virginia Commonwealth University and a Master's Certificate in Project Management from George Washington University.

Tim O'Ferrall is the General Manager of the Fort Meade Alliance since July of this year. The Fort Meade Alliance is a 501(c)4 non-profit independent community membership organization created to promote and support Fort George G. Meade, its 80+ government agencies and organizations and surrounding areas as an economic asset, to promote the well being of the region with programs that support FGGM priorities, and serve as a resource to help facilitate connections that make a difference.

The Fort Meade Alliance has developed many initiatives in STEM and Life Skills including Project SCOPE, TechMania, STEM Family Night, as well as the upcoming 4th Annual Education & Workforce Forum this December. Mr. O'Ferrall is also CEO of The O'Ferrall Group, LLC an organization management and public relations firm based in the Fort Meade Region.

Alan Paller is president and research director of SANS and Chairman of the governing board of the SANS Technology Institute. He oversees the Internet Storm Center (an early warning system for the Internet), NewsBites, (the semi-weekly security news summaries that go to 210,000 people), and the identification of the most damaging new attacks being discovered each year. He also leads a global security innovation program that identifies people and practices that have made a measureable difference in cyber risk reduction, and illuminates those innovations so other security practitioners can take full advantage of them to improve security in their enterprises. He has testified before both the US Senate and House of Representatives. In 2000 President Clinton recognized his leadership by naming him as one of the initial members of the President's National Infrastructure Assurance Council. The Office of Management and Budget and the Federal CIO Council named Alan as their 2005 Azimuth Award winner, a singular lifetime achievement award recognizing outstanding service of a non-government person to improving federal information technology. In 2009, Alan launched the U.S Cyber Challenge, a national program, involving the Navy, the NSA, the Air Force, DHS and the FBI, designed to find and nurture the skills of talented young Americans who can become America's cyber guardians. In May of 2010, the Washington Post named seven people as "worth knowing, or knowing about" in cyber security. The list included General Alexander who heads NSA and the US Cyber Command, Howard Schmidt, the White House Cyber Coordinator, other national leaders, and Alan. Earlier in his career Alan helped build a software company, took it public, and merged it into a larger company listed on the New York Stock Exchange. His degrees are from Cornell University and the Massachusetts Institute of Technology.

Davina Pruitt-Mentle a researcher and policy analyst at Educational Technology Policy Research & Outreach, has worked in the field of STEM education & educational research since 1990. She holds a PhD from the University of Maryland in educational technology policy and has spent over 12 years conducting research on K12 cyberethics, safety and security awareness programs, & developing programs to help increase the IS/IA workforce pipeline. Davina's educational experiences include research and program evaluation, project management, presentation delivery, and teacher workshop/college course design and instruction. She has also been instrumental in developing ETPRO's K-12 STEM Outreach model which introduces or re-engages youth to STEM using culturally savvy, community connected activities, in an informal fun fashion while bridging informal activities to classroom content. She serves as K12 PI for the NSF funded CyberWatch Center, PI for the CyberWatch/UMD Digital Forensics Lab, PI of the MD BRAC (Base Realignment and Closure) –EIS-C MD grant & serves on numerous Task Force/Advisory Boards including NCSA, CLICKS, and the MD ED Technology Advisory Board.

Her research and development interests have focused on constructivist learning and teaching via technology, through her Young Scholars Mindtools Program, Cyberwarrior Programs, Digital Fluency curriculum and professional development through gaming theory. The Mindtools and Cyberwarrior Programs provide a means for students to explore technology applications essential to college success while also focusing on career possibilities that connect engineering, science,

math and technology. Critical need areas are emphasized such as IT/IA/IS and digital forensics with a special focus on exposing students to the plethora of career opportunities in cybersecurity. A main research initiative looks at technology as an empowerment vehicle by investigating the meaning of technology in the lives of minority students with specific focus on recent Hispanic immigrants.

She has served as faculty lecturer within the College of Education at UMCP since 2001. She served as Director of Educational Technology Outreach within the College of Education at UMCP from 2001-2007. Before joining the College, she taught Chemistry (general through AP) at Oxon Hill High School in Prince George's County, Wheaton High School in Montgomery County, and Charles County Community College, Montgomery College and Central Virginia Community College. She also worked as a contractor in the Fuels Science Division at the Naval Research Laboratory. She has acted as consultant to a number of technology and education-related organizations, and has authored and presented at numerous national, regional and state conferences. Her PhD dissertation at UMD in Educational Policy: *Community and Educational Opportunity in the U.S.: The Relative Utility of Technology and Digital Literacy in a Transcultural Community.*

Portia Pusey serves as Assistant Director for Educational Technology Policy, Research, and Outreach (ETPRO) and is a doctoral candidate in the Department of Instructional Technology at Towson University where she is currently teaching Advanced Instructional Design. Her pilot study, assessing the ability of preservice teachers to model and teach internet safety and ethics to their students, won the 2009 Judith Ruchkin Award. Her academic and professional experiences have focused on instructional technology in K-12 education, best methods for distance education, professional development of preservice and inservice teachers, wiki learning environments, Concerns Based Adoption Model, and the status and impact of internet security and ethics in P-12 education.

Richard D. Scott is a School Counseling Specialist for the Maryland State Department of Education. He has thirty two years of experience teaching and leading school counselors, including directors of student services, to implement a comprehensive, developmental school counseling program and an effective student services program mandated by the Code of Maryland Regulations. He has trained, supervised, and facilitated all levels of student services professionals, and has been instrumental in developing and implementing career development and youth suicide prevention programs. Mr. Scott is responsible for effective management of home schooling programs and implementation of peer programs.

Costis Toregas teaches courses in Public Private Partnerships and IT as Empowerment for Public Administrators. His research interests include Computer Security and Information Assurance (which he pursues as the Lead Research Scientist at George Washington University's Department of Computer Sciences), the intersect of policy and technology in the public sector and aspects of Social Equity in public administration. He has led the non-profit Public Technology Inc. organization

for more than 35 years, advocating the creation and deployment of new innovative technologies for local governments in partnership with the private sector, and has lectured extensively in 6 continents about the impact of the digital age on government.

Professor Toregas also serves as the IT Adviser to the County Council of Montgomery County, MD, overseeing the investment of $230m annually in Information Technology goods and services. He is a fellow of the National Academy of Public Administration, and the immediate past chair of its standing panel on Social Equity in Governance.

Elizabeth (Liz) Wright is Principal Project Engineer for the Center for Cyber Security Innovation (CCSI) at Lockheed Martin. Liz joined Lockheed Martin Information Systems & Global Services (IS&GS) in May 2006 having previously been a sub-contractor to Lockheed Martin for six years. She is currently the Principal Project Engineer for Practice Management within the Center for Cyber Security Innovation. Her Practice Management responsibilities encompass both Talent Management for Cyber Security as well as Process Management for CCSI. The Practice Management team consists of both Leadership Development Participants and summer interns.

Liz began her adventures in Information Security by joining the United States Navy as a Cryptologic Technician Maintenance (CTM) for twelve years. While in the Navy, Liz served in both the Pacific theater as well as the Atlantic theater before finishing her final duty assignment at Fort Meade, Maryland as part of Desert Storm. While on active duty, she spent much time on temporary assigned duty (TAD) traveling as a field support engineering technician. Liz was awarded the Joint Services Commendation Medal, Joint Services Achievement Medal, National Defense Medal, Good Conduct Medal, Overseas Ribbon.

NOTES

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