

Summary Report from the

Girls Workshop

Cool Careers for Girls in Cybersecurity

April 21<sup>st</sup>, 2006

University of Maryland, College Park, MD

## University of Maryland CyberWATCH Subcontract Deliverables by Year Update

### YEAR 1

#### Cool Careers for Girls in Cybersecurity Workshop Event Summary

University of Maryland hosted the first in a series of *Cool Careers in Cybersecurity Workshops* which provided information and skills necessary to navigate the professional pipeline in the vast fields of Cybersecurity and Information Assurance as well as other science, technology, engineering, and mathematics (STEM) fields. The first workshop was held Friday April 21, 2006 focusing on *Cool Careers in Cybersecurity for Girls*. The workshop provided participants with a full day of speakers, hands-on activities and campus site visits. 30 middle school girls had the opportunity to learn from women from companies and agencies throughout the state about what it takes to be a true success in the field. Attention was given to issues for women from underrepresented groups.

*Cool Careers in Cybersecurity Workshops* sponsored by Educational Technology Outreach within the College of Education draws on research that indicates recruiting and retaining girls to the science and technology fields should include targeted programs to educate women and minorities about STEM career choices. Many women and minorities have had limited exposure to computing in grade school and high school, especially if they come from lower-income households and communities. A new National Research Council report indicates that general Information and Technology Fluency skills and concepts will also be needed by all citizens if they are to be competitive in the modern world. Curricula should provide early exposure to real-world examples of the content of interest connected to careers. Enrichment programs should emphasize team projects and diverse real-world examples of technology applied in content areas. Curricular material that addresses major societal and/or environmental problems has been shown to attract women to the discipline. Mentoring and role models in the career choices has also shown success in recruitment and retention.

The opening speaker for the *Cool Careers in Cybersecurity for Girls* Workshop was [Vonda Williams](#), CISM, CABM, Director, Information Assurance, [Solvern Innovations](#), who applies cutting edge technology solutions and simulations providing objective solutions to critical problems of importance to national security. Her presentations were *Cool Careers! Information Assurance* [[PPT](#) ... [PDF](#)] and *All Aboard the Cool Security Express* [[PPT](#) ... [PDF](#)]. [Joan Upole](#), Executive Officer for a subcommittee of the SIGINT Committee at [NSA](#), then discussed [Ethics and Computing](#) [[PPT](#) ... [PDF](#)] which showed a variety of both legal and ethical issues one must consider when participating online. Ms. Upole then discussed these issues in the context of what participants want to do, what they think they should do, and what they can be prosecuted for doing. She also discussed some of the ways a person's persona is identified online and how that information can be exploited. After lunch students visited [Trufina](#), a small start up company located in the [Technology Advancement Incubator](#) Program on campus that provides a web based application to assure a safer, secure and trustworthy way to identify yourself to others and for others to truthfully identify themselves to you. The girls then toured the GIS lab in the [Department of Geography](#) to visit a number of researchers and current research projects.

Girls were recruited through the campus [Talent Search Program](#). Funded by the U.S. Department of Education, [Talent Search](#) is designed to provide students with early college awareness and post secondary opportunities. The program targets youth in families in which neither parent graduated from college. Female middle school members of the Educational Talent Search who participated in the Cool Careers for Girls in Cybersecurity Workshop were individuals who have maintained a 3.3 or above, have held a consistent "B" average in math and science, and have good citizenship as described by their teachers and counselors. Students stay with their middle school "UMCP counselor" for 2 years and then move to a "UMCP high school counselor" for their high school career—many of these students will have the opportunity to participate in additional workshops over the next four years. Rising juniors and seniors may also participate in the Young Scholars Program - [Students, Learning, and Technology](#).

**Specific 2006 CyberWATCH initiatives included:**

**Workshop**

- Recruiting 30 middle school girls from Prince George’s County school system
- As a result of University of Maryland campus PR (press release and FYI listserve) an additional 8 middle school girls and 2 university students (one undergraduate and 1 graduate student) contacted the PI for approval to attend the workshop.

**Detailed Agenda**

<b>9:00 AM</b>	COE Computer Lab Benjamin Bldg	Welcome and Logistics Pre-Profile
<b>9:30-10:30 AM</b>	COE Computer Lab Benjamin Bldg	Opening Speaker <a href="#">Vonda Williams</a> , CISM, CABM Director, Information Assurance <a href="#">Solvern Innovations</a>
<b>10:30- Noon</b>	COE Computer Lab Benjamin Bldg	<a href="#">Joan Upole</a> SIGCOM <a href="#">National Security Agency</a> <b>Ethics and Computing</b> There are a variety of both legal and ethical issues one must consider when participating online. Ms. Upole will discuss these issues in the context of what you want to do, what you think you should do, and what you can be prosecuted for doing. She will also discuss some of the ways your <i>persona</i> is identified online and how that information can be exploited.
<b>Noon - 12:45 PM</b>	Stamp Union Food Court	Lunch

1:00 - 1:45 PM	<a href="#">Trufina</a> in the on campus <a href="#">TAP</a> Technology Advancement program <a href="#">Directions</a>	TAP is leading incubator and accelerator which assists early-stage technology companies in achieving their goals. We all know the web is a great place to meet people, job hunt and do business. The only thing we never really know is who's on the other end ... until now. <a href="#">Trufina</a> provides a safer, secure and trustworthy way to identify yourself to others and for others to truthfully identify themselves to you.
2:00 – 3:00PM	<a href="#">GEOG and GIS programs</a> Directions to <a href="#">LeFrak Hall</a>	<a href="#">GEOG and GIS programs</a>
3:00 PM	Closure—Bus Back Home	

## Speaker Biographical Sketches

**Vonda Williams Bartee**  
**Director, Information Assurance**  
**Solvern Innovations**

Mrs. Williams Bartee is the Director of Information Assurance Solvern Innovations. Solvern Innovations is a corporate entity that provides high-end solutions in the areas of Enterprise Management, Software and Systems Engineering, and Information Assurance services for customers in the Intelligence Community. Additionally, Solvern Innovations have provided unique research sponsored product innovation. Solvern Innovations has signed agreements with University of Maryland College Park, Human Computer Interaction Lab to provide software development and commercial practices to data visualization and executive dashboard technologies. Solvern Innovations now has top researchers Dr. Ben Schneiderman and Dr. Catherine Plaisant serving on it technology board of advisors. Mrs. Williams Bartee leads the company's focus on system wide vulnerability analysis of client's information infrastructures and implementation of sound technical and operational information assurance solutions. Solvern Innovations offer a world-class capability for the delivery and management of client information, providing for data integrity, identification and authentication, non-repudiation, confidentiality, and data availability.

Mrs. Williams Bartee was first appointed Director of Information Assurance for Scientific and Engineering Solutions, Inc. (SES) in January 2004. She is currently serving as the Director of Information Assurance at Solvern Innovations where she has been working with Prince George's Community College (Center of Excellence for Cyber Security) CyberWatch Virtual Center. Mrs. Williams Bartee is working close with Dr. Vera Zdravkovich, Director to support Technical Forum along with participating with PGCC and other universities & colleges in the program to help with IA initiatives. Additionally, Mrs. Williams Bartee is providing security guidance and recommendation to industry leaders in support of DHS IA initiatives.

Prior to her association with Solvern Innovations, Mrs. Williams Bartee worked with the Chief Information Assurance Information Officer (CIAO) at the Defense Intelligence Agency (DIA) assigned as the Program Manager responsible for two contracts worth \$1.6M and a \$2.4M Certification and Accreditation Modernization contract. She provided overall management oversight of those contracts while managing a staff of over 15 Information Assurance Engineers, Software Developers, Systems Engineers, and Technical Writers along with managing over 3 different DoD subcontracts. Additionally, she proposed an awareness training approach which includes, Information System Security Mangers (ISSM)/ Information System Security Officers (ISSO), System Administrators (SAs) levels I-III, General Users Awareness Training, and IA Professionalized Training (CISSP, GIAC certifications).

Prior to service support with the Defense Intelligence Agency, Mrs. Williams Bartee successfully stood up an Information Assurance Operations for the Naval Security Group (NSG) central command at Ft Meade. She collaborates with the Navy field sites on problem solving and consulting in all facets of Information Assurance to include: encryption, intrusion detection, firewalls, detection measures and countermeasures, Network Security Tools, Information Assurance policies, programs, and processes, and Computer Network Vulnerability Assessments. She has been involved in various conferences and training such as Information Assurance Technical Framework Forum (IATFF), Continuity of Operations (COOP) Conference, Mission Assurance Working Group (NSA), Information Assurance Focus Group (NSA).

Prior to supporting the Naval Security Group Information Assurance Directorate, Mrs. Williams Bartee worked as an Assistant Project Manager for the Naval Security Group (NSG) central command Y2K Project Management Office. Her technical IV&V test background assists in the evaluation and certification of all software systems for the Y2K compliance certification process. She also coordinates IV&V and End-to-End Thread testing of all NSG operational systems along with other dependent systems at its corresponding agencies. Mrs. Williams Bartee has generated Test Plans and Procedures used to certify software systems within NSG and its supporting host commands. Additionally, she has provided Y2K assessment reports, Y2K reviews at various levels, and attended several high level meetings at various locations providing expert support and guidance in Y2K activities for NSG.

Mrs. Williams Bartee was awarded several letters of Appreciation for her in-depth knowledge of IA tools and DoD policies which quickly established herself as a Subject Matter Expert (SME) and her demonstrated ability to work in a demanding environment while maintaining overall focus of the IA mission of the nation.

A graduate of George Mason University with a B.A. in Mathematics, Mrs. Williams Bartee also attended George Washington University where she received a Masters Certification in Information Technology Project Management. Mrs. Williams Bartee is newly married to Gary B. Bartee and has two beautiful children, Lauren and Guy, Jr. Williams.

**Joan Upole**  
**Executive Officer**  
**Subcommittee of the SIGCOM**  
**National Security Agency**

Ms. Upole began her career with National Security Agency in 1983. She received a BS in Information Systems Management from the University of Maryland University College in 1994. She completed NSA's Information Security Intern Development Program in 1998. She has spent 13 years of her career outside of the United States, having field tours in: England, Germany, and Australia.

She is married to Paul Wimberly, also an Agency employee, and has two sons Austin 15 and Parker 14.

**Chris Madsen,**  
**Trufina**  
**Chief-ExecutiveOfficer(co-founder)**

Previously, Chris co-founded Brightmail, where he led product management and business development; Chris previously held management and sales positions with Trusted Information Systems, IDS (VRML company), Thinking Machines, and Symbolics.

[Trufina](#) provides a safer, secure and trustworthy way to identify yourself to others and for others to truthfully identify themselves to you

## **Geography/GIS Lab**

**Tatiana Loboda**  
**PhD Student**  
**Faculty Research Assistant**  
**Department of Geography**

Ms. Loboda shared her research related to collecting, analyzing and connecting the impacts of climate change on demographics. Specifically her work on the *Impacts of Climate and Land Use Change on the Frequency of Catastrophic Fires* and *Estimating Potential Fire Danger in the Siberian Tiger Habitat from Satellite Observations*—part of the NASA's *Land Cover Land Use Change Program* were shared with the participants.

**Dr. Chaoqing Yu**  
**Postdoctoral Research Associate**  
**UM Department of Geography**  
*Representing Human Elements in GIS*

The current geographic information systems (GIS) are data-centered, and are good at representing “what” and “where” information, but have limited capabilities in dealing with non-observational human knowledge and social elements. This presentation introduced a knowledge-oriented approach to capture and represent diverse kinds of geographic knowledge and integrate that knowledge with spatial database for representing the dynamic human-environment interactions case studies.

**Dr. Martha Geores**  
**Professor**  
**Department of Geography**

Dr. Geores shared insight of the importance of having more women in the field and the pathways to get there. Dr. Geores then shared her research interests which center on the definition and use of natural resources, focusing on the interaction between human and physical systems as they are played out on the landscape. In that line, the outcomes of systems of ownership and management of resources along the continuum from public to private were also shared. A final subject area -- landscape meaning which focuses on the cultural meaning attributed to natural phenomena and landscapes was also covered briefly.

**Ron Luna**  
**Research Assistant**  
**Ph D Student**

Mr. Luna shared the importance of a geographic perspective in understanding the human condition. Major topics associated with the subfields in geography were introduced while exploring the impacts of the environment, culture, and location on human affairs. Ron then shared his own research which focuses on "Creating Espacios Culturales: How the Salvadoran Transmigrants Are Establishing Evangelical Protestant Churches in the Washington, D.C., Metropolitan Area." How data was collected (via GIS and Census data) to make these observations and inferences was shared.

### ***Lessons Learned:***

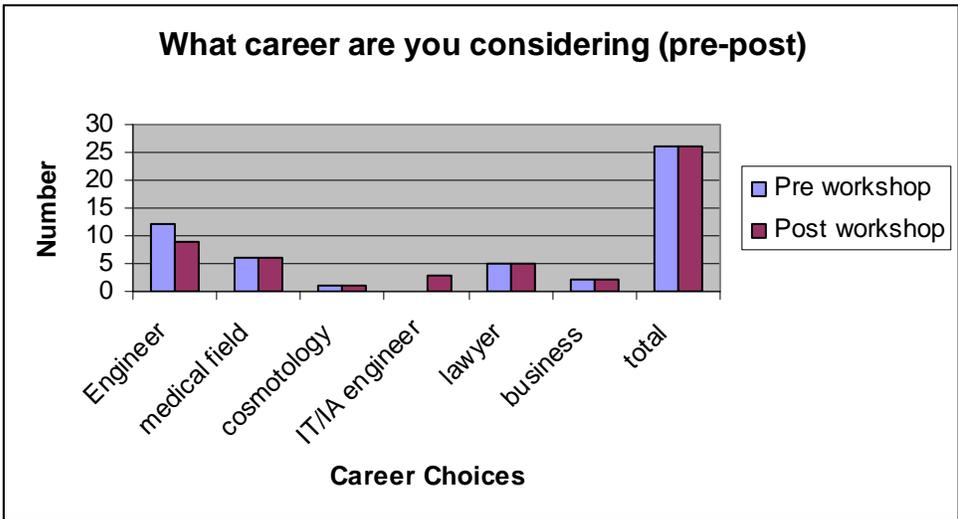
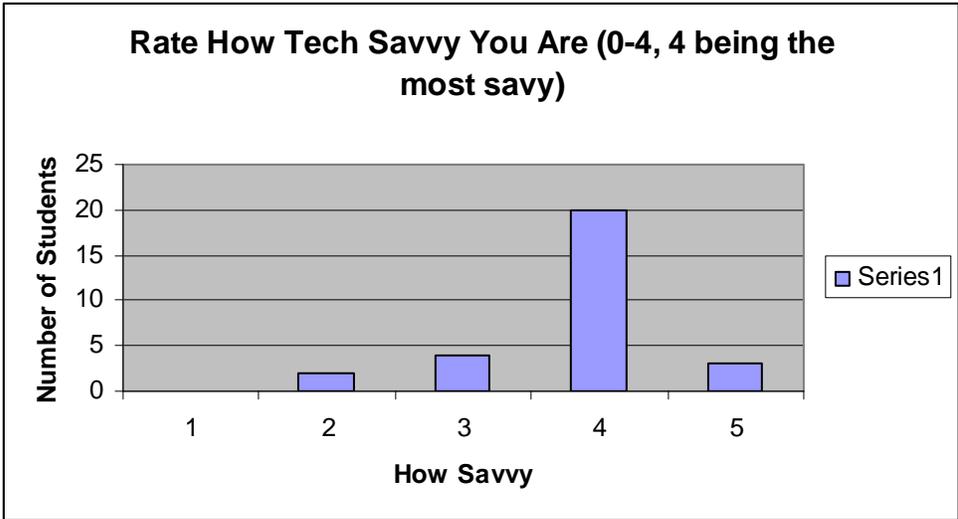
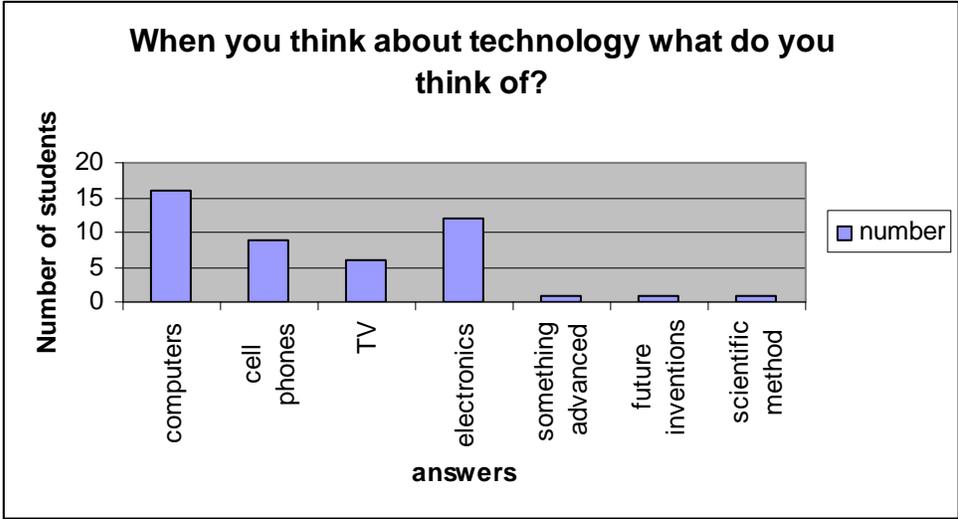
Recruitment through partnership with Project Talent Search was excellent. It allows us to have participants take a pre-and post profile assessment and will enable us to track these students and have them participant in future activities.

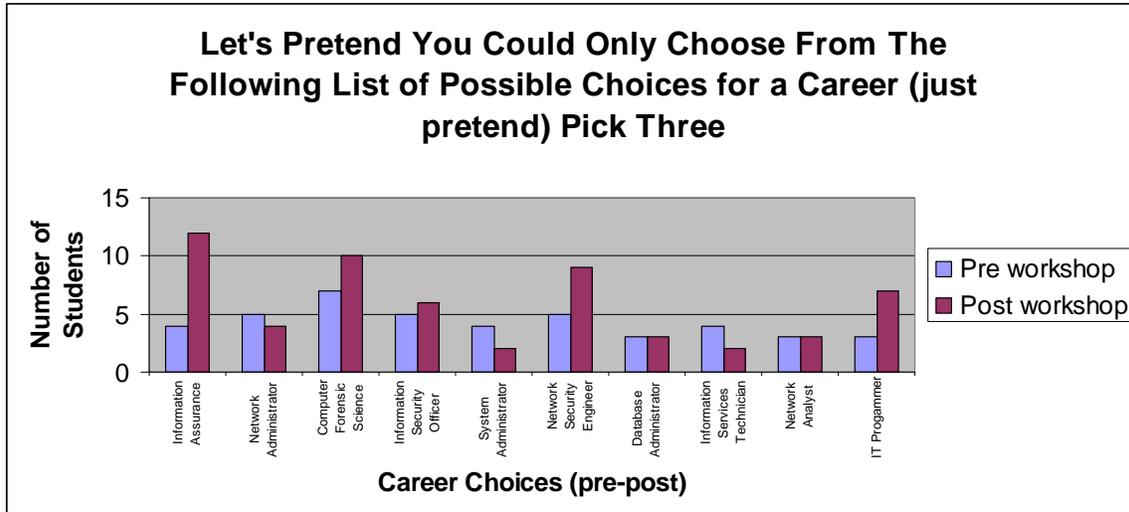
Coordination with the bus schedule and PGCPs was exhausting. The timeframe had to be changed 3 times. Even then, the established time frame was not met and it took longer for the bus to arrive in the morning and then impacted the rest of the day. To make up for the time lost (we did not want to take away from the speaker sessions) we cut into the lunch for the participants. Lunch was demanding, as April 21<sup>st</sup> turned out to be MD campus open house for incoming students. We originally planned to have the participants go to the Stamp Union for lunch to the food courts. Since this was not possible with the number of people on campus we opted to send the girls to the campus south campus dining hall. This caused us to trek across campus back and forth 3 times which was exhausting. We need to anticipate campus events in the future.

PR created numerous unexpected inquires to have others attend. Most were daughters of UMCP employees with 2 University of Maryland students. Unfortunately while we allowed them to attend materials were not printed for them ahead of time. In the future additional copies will be made available.

## Summary Evaluations from the Attendees

Evaluation and Feedback	
<b>General Questions</b>	
The workshop objectives were clear.	3.4
The length of the workshop was sufficient to cover the subject matter	3.2
Overall, the workshop instructors and speakers were effective.	3.9
I learned new information in this workshop.	3.7
I'd like to learn more about IT/IA and Cybersecurity	3.2
I may consider Cybersecurity as a career choice	2.4
<b>Speaker's Presentations</b>	
0 - 4 scale, with 4 being strongly agree	<b>Average</b>
Vonda Williams Sovran Innovations	3.2
Joan Upole NSA	3.5
Trufina	3.0
Geog and GIS programs	4.0
	<b>Average</b>





### How could this conference be improved?

- Not having to walk across campus
- Should have a bus to take us across campus
- More time to visit with other researchers
- Being able to come to campus and see more

### Please list any additional comments or suggestions

- I really enjoyed coming to campus and seeing what students and researchers do
- I never know what researchers and students do on campus and what their desks looked like. This was very interesting.
- Ms. Williams was excellent I would like to work with her company.
- I never know cybersecurity included so many aspects
- This was a great opportunity for the girls to learn about college campus, college and the fields associated with cybersecurity. I hope we can do each year (guidance counselor)