**Maryland Independent College and University Association**

**MICUA**

# Senate Education, Health and Environmental Affairs Committee

Testimony by

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### *SB 204 – Higher Education - Cybersecurity Public Service Scholarship Program*

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On behalf of Maryland's independent colleges and universities and the 64,000 students they serve, thank you for the opportunity to provide this testimony in support of Senate Bill 204, *Higher Education - Cybersecurity Public Service Scholarship Program* with two technical amendments offered by the sponsor. If enacted, Senate Bill 204 would increase opportunities for students to pursue careers in cybersecurity, encourage graduates to seek careers in public service and secondary education, and increase access to higher education generally.

The first amendment clarifies the institutions eligible to participate in the program are colleges and universities "authorized to operate" in the State. The legislation defines an eligible institution as an institution "that possesses a certificate of approval from the Commission." Several colleges and universities in Maryland, including public and private institutions, were chartered by the Maryland General Assembly and do not require a certificate of approval from the Commission.

The second amendment clarifies that students eligible to participate in the program must be enrolled at an eligible institution in an "approved degree program directly relevant to cybersecurity." The Commission approves academic programs, but does not accredit academic programs.

For many years, the demand for highly-skilled cybersecurity workers in Maryland was fueled by Maryland's robust defense and intelligence industry, which includes numerous federal agencies, military bases, and defense contractors. More recently, the demand is fueled by the need to guard essential services, such as electric grids, banking systems, hospitals, correctional facilities, private sector business activities, and more. As a result, Maryland is experiencing a severe shortage of highly-trained professionals to protect the integrity of data, communications, and intellectual property.

Senate Bill 204 establishes a scholarship program to build and support a pipeline of Maryland students who have demonstrated the commitment and skills necessary to succeed in this highly-technical and critical field. This scholarship program will complement on-going efforts at Maryland's public and private institutions of higher education to expand cybersecurity programs and attract more students to the field.

Five MICUA member institutions have approved cybersecurity programs at the certificate, bachelor's, master's, and doctoral levels.

**Capitol Technology University** launched the first cybersecurity and information assurance program working in partnership with the National Security Agency (NSA). The University was one of the first higher education institutions in the country, and the first in Maryland, to be designated by NSA and the Department of Homeland Security as a *Center for Academic Excellence*. Over the past several years, the University has aggressively developed additional academic programs to prepare more degreed professionals to protect the digital infrastructure of the nation, the State, and the private sector. In 2001, Capitol Technology University launched one of the first online master's degree programs in the field. Today, Capitol offers programs in cybersecurity at both the graduate and the undergraduate levels. Capitol's Doctor of Science (DSc) in Cybersecurity was one of the first regionally accredited programs of its kind in the nation. In June, Capitol announced it will be one of two institutions offering coursework to employees enrolled in the NSA Security Engineering and Enrichment Development program.

**Hood College** offers a graduate certificate in cybersecurity and a master's degree in cybersecurity, which prepare cybersecurity specialists to face real-world cyber threats. The College's exclusive membership in the CyberWatch Consortium offers students access to cutting-edge programs and practices and the opportunity to interact with area businesses, laboratories, and government agencies while they learn. The program's structure allows students to enter from different disciplines and provides a common foundation and robust subject matter training necessary in today's cybersecurity job market.

**The Johns Hopkins University** Information Security Institute (JHUISI) was founded in 2001 as one of the first academic research entities in the country to address the increasingly frequent and severe attacks on the integrity of data, communications, and computation. Since 2003, JHUISI has been named a Department of Defense Center of Academic Excellence in Cyber Defense and Information Assurance. Today, JHUISI is the home to interdisciplinary research in cybersecurity and hosts a rapidly growing full-time Master of Science degree program in Security Informatics (MSSI). The MSSI has produced over 400 graduates who have gone on to positions of technical leadership. Six months post-graduation, almost 100 percent of students have secured jobs. Student teams complete capstone projects in collaboration with organizations like the NSA, Department of Homeland Security, and JHU Applied Physics Laboratory.

**Mount St. Mary's University** offers a major and minor in cybersecurity to train graduates who are prepared for technological careers that contribute to our cyber defense and promote the responsible use of Internet technology. Available to all students, the minor focuses on the computer science, criminological, and criminal justice components of the cyber world and fosters the development of graduates in the analytical and ethical issues associated with technology. The

major, approved in 2016, includes 12 required courses in cybersecurity and computer science plus four electives in subjects such as math, ethics, and criminal justice. A partnership with the Mount's Career Center also allows students to explore internship and employment opportunities with the local cyber technology industry.

The Master of Science in Cyber Forensics program at **Stevenson University** prepares students to contribute in multiple related industries. Since the program began in fall of 2012, 100% of graduates have reported finding full-time employment. Students learn to select the appropriate tools to recover operating systems, artifacts, and data; identify current attack vectors and exploited vulnerabilities; and identify data that has been exfiltrated, among other skills. A unique aspect of the University's forensics programs is the Mock Intrusion and Response Capstone.

In 2014, Stevenson's undergraduate Computer Information Systems program became one of only six undergraduate programs in the nation to earn "The National Centers of Digital Forensics Academic Excellence" accreditation by Defense Cyber Crime Center.

In June of 2017, the Independent College Fund of Maryland (I-Fund), which is managed by MICUA, celebrated its most recent class of National Security Scholars. The **National Security Scholars Program (NSSP)** helps to address the critical and increasing need for qualified, security-cleared agents to support the intelligence and defense industry in Maryland and the nation.

Responding to the expressed needs of the national security industry, the NSSP helps develop a workforce prepared to handle the many aspects of protecting private and public entities. This prestigious program is available to students enrolled at 12 MICUA institutions. The NSSP links students interested in serving their country with defense industry giants and thus provides a unique opportunity for scholars to explore a future in the field of national security and offers a road map to potential employment in the public and private sectors upon graduation.

These NSSP scholars obtain significant scholarships; Top Secret/Security Compartmented Information (TS/SCI) clearances; along with paid summer internships and possible future employment with the National Security Agency (NSA) or one of nine corporate NSSP Partners: Booz Allen Hamilton, Geon Technologies, Fuse Engineering, Leidos, Lockheed Martin, ManTech, Northrop Grumman, Raytheon, and Tech USA Government Solutions, LLC.

Additionally, the NSSP provides a network of opportunities to its partners for the purpose of maintaining a pipeline of future hires addressing current and future employment challenges of the national security industry in Maryland. Now entering its 19th year, the NSSP has awarded $3.4 million in scholarships to more than 300 students.

MICUA members thank Senator Simonaire for his leadership on this issue and urge a favorable Committee report.