

# JACK VOLTAIC

conference series

Prepare | Prevent | Respond | Report

## CRITICAL INFRASTRUCTURE CYBERSECURITY



**GEORGIA CYBER CENTER**  
**November 9-10, 2021**  
**Augusta, GA**



## BACKGROUND

The critical infrastructure our Federal Government, the Department of Defense (DoD), and our communities rely upon is increasingly connected and potentially vulnerable to cyber attacks. Digital connectivity makes our infrastructure more efficient yet potentially vulnerable – and our reliance on information technology makes cyber incident response more important than ever.

Infrastructure resilience is critical. The unanticipated impact of a breach could ripple across interconnected infrastructure sectors, and varying defensive capabilities among authorities at the local, state, and national levels complicate the response. If exploited by a determined adversary, these unidentified gaps leave our nation vulnerable. These potential threats and vulnerabilities to critical infrastructure have severe consequences for the DoD's operations, as well as operations for commercial entities, cities and counties.

## JACK VOLTAIC 1.0

In 2016 the Army Cyber Institute (ACI), in conjunction with Citigroup, executed a major city, multi-sector, public-private cyber exercise called Jack Voltaic (JV). It was the first step in building a framework to prepare for, prevent, and respond to multi-sector cyber attacks on major cities. Jack Voltaic was a research experiment in the form of a cyber exercise that involved players from multiple sectors, including first responders, emergency management, transportation, telecommunications, power, water, finance and healthcare.

The exercise included two parallel tracks consisting of: 1) an on-range network defender versus attacker live-fire exercise (LFX), and 2) a facilitated table-top exercise (TTX) among sector leadership focused on events occurring in the virtual range play. The goal was to exercise and observe a city's ability, to collaborate in a coordinated respond in any cyber attacks.

## JACK VOLTAIC 2.0

The Jack Voltaic 2.0 Cyber Research Project took place July 24-26, 2018, hosted by the City of Houston. Developed by ACI and in partnership with AECOM and Circadence, this research assembled critical infrastructure partners to study cybersecurity and protection gaps in the oil and gas sector.

JV 2.0 explored the employment of the Reserve and the National Guard to defend the Nation by leveraging military cyber capabilities in its domestic response to cyber attacks. Integration of these capabilities allowed participants to gain a better understanding of how policies and legal authorities affect military responses to a cyber attack and develop policy recommendations. Potential gaps in individual skills, training, and equipment were identified to develop best practices. This framework explored how partnerships that leverage the insights and innovations of the public and private sector can enhance Army cyberspace operations.





## JACK VOLTAIC 2.5

The objective of the Jack Voltaic 2.5 Cyber Workshop Series was to engage the owners of high-priority DoD, commercial, city and county critical infrastructure as well as municipality leaders on the topic of the key relationships between commercial critical infrastructure and DoD critical missions.

In support of these objectives, AECOM, the Army Cyber Institute, Department of Homeland Security, and the National Exercise Division conducted a series of one-day training workshops to share insights, findings, and recommendations from Jack Voltaic 2.0 and discuss how similar efforts have the potential to strengthen the cyber resiliency of DoD missions. The workshops took place in San Francisco, CA; Charleston, SC; Norfolk, VA; Augusta, GA; Tacoma, WA; San Diego, CA; and Savannah, GA..

## JACK PANDEMUS

The Army Cyber Institute, in partnership with FTI Consulting and the Norwich University Applied Research Institute (NUARI) hosted Jack Pandemus, a distributed functional exercise in support of Jack Voltaic® 3.0. This scenario, presented on the DECIDE® platform, explored a gas pipeline disruption caused by a cyber attack, with direct impact to electrical power generation and healthcare delivery. All these events occurred during an ongoing pandemic response.

Jack Pandemus was a remote exercise, using web conferencing technology to cause minimal interruption to the participants daily work schedule while providing a quality venue to exercise critical infrastructure organizations' interdependencies. ACI hosted two separate instances of the same table-top exercise: the June 23, 2020 event focused on the City of Charleston, SC, and the June 30, 2020 event focused on the City of Savannah, GA.

The Jack Pandemus experiment objectives were to maintain engagement with the Cities of Charleston and Savannah in preparation for Jack Voltaic 3.0 in September 2020; provide a venue to capture lessons learned from the current pandemic crisis; and demonstrate the use of analytic tools (e.g. Idaho's National Lab All Hazards Assessment) to support better understanding of Community Lifelines, Critical Infrastructure Interdependencies, and Critical Functions.

## JACK VOLTAIC 3.0

In partnership with FTI Consulting, the first completely virtual Jack Voltaic™ experiment took place on 22 and 24 September, 2020, through a regionally focused exercise that includes commercial critical infrastructure supporting military deployment and global logistics operations. Charleston, SC, and Savannah, GA, are key locations that support military force projection. By conducting Jack Voltaic™ 3.0, both cities have an opportunity gain key insights and better understanding of their respective gaps in incident management for a cyber or cyber-enabled disruption or destructive event. Intrepid Networks (via Intrepid Response) is enabling the live mission with communication, coordination, and collaboration features designed for real-live incident management & response.

The Jack Voltaic™ experiment sought to affect multiple sectors and require a coordinated local, state, federal, and commercial response and provide a learning environment, using the DECIDE® platform, that enables participants to gain exposure, develop relationships, train, review critical gaps and shortfalls, and assess their response.





## JACK VOLTAIC CONFERENCE SERIES

The Jack Voltaic (JV) Conference Series, conducted in partnership with Norwich University, Georgia Cyber Center, The Citadel, and University of Illinois, will run from June 2021 through May 2022 and consist of four events. The purpose of the JV Conference Series is to share research findings, tools, workshops, and discussions that strengthen critical infrastructure resiliency. The research findings from the JV 3.0 Research Report will be discussed by participants from the exercise, with time for a question and answer session. The JV automated tools will be demonstrated to the audience and audience members will have a chance to try them out, time permitting. There will also be the opportunity to participate in a mini-JV workshop, where participants will work through a shortened scenario built using the automated tools and the DECIDE platform, after which participants will discuss their outcomes. For more information, visit: <https://cyber.army.mil/Research/Jack-Voltaic/>.

## ABOUT THE ARMY CYBER INSTITUTE

The Army Cyber Institute confronts the Army's most critical cyber challenges and engages across our government and with our allies to better understand how cyber is changing conflict. ACI was designed with the unique ability to bridge the public and private and to explore challenges through multiple disciplines. This interdisciplinary concept is among ACI's core tenets. The intent is to look for solutions where the Army is not already looking, especially at the strategic and operational levels. For more information, visit <https://cyber.army.mil>.

## ABOUT NUARI

NUARI is a 501(c)(3) non-profit that serves the national public interest through the interdisciplinary study of critical national security issues. We are partially funded by the Department of Homeland Security and the Department of Defense, and federally chartered under the sponsorship of Sen. Patrick Leahy. We are co-located with Norwich University in Northfield, VT, and share their ideals of academic excellence, innovation, and service to country. NUARI provides cyber exercises, secure network monitoring, custom consulting, research, and education. We do this through our DECIDE exercises, the Security Situation Center, technology development and deployment, research deliverables, and in-person and online workforce training. For more information, visit [www.nuari.net](http://www.nuari.net).

## ABOUT THE NUARI JV CONFERENCE

The one-day virtual conference that focused on the new automation technology we are developing in partnership with ACI, 52inc, and Johns Hopkins. We presented some of the lessons we learned from our participation in JV3. The NUARI Exercise Technology Integration and Cyber Resiliency conference was held on 23 June from 9am-4pm ET. Some of the topics will included: the integration of MS Teams with the DECIDE platform for more effective distributed tabletop exercises, lessons learned in JV3, master scenario event list construction of effective data analysis, and our development team will demo the new exercise creation automation tool and run through a short exercise using the DECIDE platform.





## ABOUT THE GEORGIA CYBER CENTER

The Georgia Cyber Center at Augusta University is a unique public/private collaboration among academia, state, federal and local government, law enforcement, the U.S. Army and the private sector. Located on the Nathan Deal Campus for Innovation, the Georgia Cyber Center is designed to meet the growing need for cybersecurity talent in Georgia, the nation and across the globe. The Georgia Cyber Center is home to certificate, undergraduate and graduate level programs in cybersecurity and cyber sciences. and serves as a hub for technology startups with incubator programs to support cybersecurity and technology innovation and entrepreneurship. Firms and organizations supporting the state's cybersecurity ecosystem can leverage the Georgia Cyber Center's resources and benefit from the convenience of co-location with state, federal and other industry associates.

## ABOUT THE GEORGIA CYBER CENTER JV CONFERENCE

The Georgia Cyber Center will host a two-day conference 9 and 10 November, 2021, specifically focused on critical infrastructure cybersecurity. During the conference we will have experts in the field discussing the current threat landscape and current operational challenges, then highlight current research and other capability development efforts that may help fill some of our current gaps. We will have a deliberate focus on Health IT, the Energy sector, manufacturing and supply chain security and the defense industry.

We will also provide an overview of the Jack Voltaic experiment and the exercise framework they are developing for use by any level of government. It is our intent to provide an after action review of an actual state-level exercise that utilizes the Jack Voltaic exercise framework.

## ABOUT THE CITADEL

The Citadel, with its iconic campus located in Charleston, South Carolina, offers a classic military college education for young men and women focused on leadership excellence and academic distinction. The approximately 2,400 members of the S.C. Corps of Cadets are not required to serve in the military, but about one-third of each class earn commissions to become officers in every branch of U.S. military service. Citadel alumni have served the nation, their states and their communities as principled leaders since 1842. The Citadel Graduate College offers 25 graduate degree programs, 25 graduate certificate programs and 10 undergraduate programs in the evening or online. Named Best Public College in the South by U.S. News & World Report for nine consecutive years and No. 1 Best College for Veterans in the South for two consecutive years. The Citadel has been designated as a National Center for Academic Excellence in Cyber Defense Education (CAE-CD) by the National Security Agency and Department of Homeland Security and, in 2016, established the Center for Cyber, Intelligence and Security Studies. The Citadel offers a B.S. in Cyber Operations, undergraduate minors in Cybersecurity and Cyber Inter-disciplinary Studies, and a graduate certificate in Cybersecurity (jointly with College of Charleston). In 2020, with funding from the National Science Foundation, The Citadel established South Carolina's first CyberCorps® Scholarship for Service Program.





## ABOUT THE CITADEL JV CONFERENCE

The Citadel will host the conference “Cyber Resiliency for Critical Infrastructure” on 24-25 February, 2022. The conference will bring together academic, industry, and government leaders to discuss issues pertaining to critical infrastructure resiliency against cyber threats. The conference will highlight the results of Jack Voltaic 3.0 Execution. The tentative agenda for the conference will include a panel discussion on Cyber Protection for Ports, a panel discussion on Critical Infrastructure Protection against Cyber and non-Cyber Threats, a session on Cyber Risk Assessment for Critical Infrastructure, a mini JV Cyber Table Top Exercise for Critical Infrastructure, a poster session for students presenting their research work on Critical Infrastructure Protection, a session on Cyber Workforce Development. Keynote Speakers will be invited from academia, industry, and government.

## ABOUT THE UNIVERSITY OF ILLINOIS/CIRI

The Critical Infrastructure Resilience Institute (CIRI) conducts research and education that enhances the resiliency of the nation’s critical infrastructures and the businesses and public entities that own and operate those assets and systems. CIRI is funded by the Department of Homeland Security and is led by the University of Illinois at Urbana-Champaign with collaborators from other U.S. universities and national labs.

## ABOUT THE CIRI JV CONFERENCE

The JV 3.0 Concluding Symposium will be held 4-5 May, 2022, in Champaign-Urbana, IL. CIRI and the University of Illinois have a rich portfolio of research and tech transition products that are relevant to the topics that will be discussed at the concluding seminar. A CIRI tool, developed through DHS funds, helps ports assess and measure potential disruptions to their networks. The Cybersecurity Assurance and PRISM tools help analyze risks to critical infrastructures posed by interdependencies and implicit interactions. The University of Illinois also boasts a state-of-the-art advanced electric power grid testbed, funded by DARPA.



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### Agenda

#### ***Monday, November 8, 2021 - Arrival***

5:00 pm - 7:00 pm	Ice-Breaker/Evening Reception Reception Sponsored by Deloitte	Shaffer MacCartney Lobby
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#### ***Tuesday, November 9, 2021 - Informative Sessions***

7:00 am - 8:30 am	Registration Check-In/Breakfast	Hull McKnight Lobby 2nd Floor, outside Plug 'n' Play
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8:30 am - 9:30 am	Keynote Address Beth Hansen, Director, Cybersecurity Directorate, National Security Agency - Georgia	Plug 'n' Play
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9:30 am - 10:30 am	Panel Discussion <i>Current Threat Landscape</i> Moderator: Dr. Craig Albert, Augusta University, Graduate Director, Master of Arts in Intelligence and Security Studies at Augusta University Panelist: Klint Walker, Region 4 Cybersecurity Advisor, DHS Cybersecurity and Infrastructure Security Agency Panelist: Major Cory Dombrowski, Deputy Director, Cybersecurity Directorate, National Security Agency – Georgia Panelist: Special Agent Nate Langmack, Federal Bureau of Investigation – Atlanta Field Office Panelist: Jon Dollan, Cyber Strategy Director, Savannah River National Lab, Department of Energy	Plug 'n' Play
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10:30 am - 10:45 am	Networking Break	
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# Agenda

## Tuesday, November 9, 2021 - Informative Sessions

10:45 am - 11:45 am	Panel Discussions <i>Operator Challenges and Opportunities</i> Moderator: Jason LaClair, Corvus Consulting Panelist: Sam Blaney, Senior Vice President, Cybersecurity Simulation Services at Truist Bank Panelist: Steve Sanders, Senior Manager of IT Security at Georgia Power Panelist: Carl Young, Senior Solutions Architect at BAE Panelist: Anthony Locascio, Director, IT Professional Services, Philips Healthcare Panelist: Jeremy Close, Cybersecurity and Privacy Attorney, Kia America	Plug 'n' Play
11:45 am - 12:45 am	Lunch, Sponsored by Big Bear.AI	2nd Floor, outside Plug 'n' Play
12:45 pm - 2:25 pm (12:45 - 1:15, 1:20 - 1:50, 1:50 - 2:20)	Augusta University, Dr. Michael Nowatkowski <i>Medical Device Security at Augusta University</i> Georgia Tech University, Richard DeMillo <i>What Happens When Infrastructure Breaks? Recent developments in hardware and software system vulnerability research</i> Mississippi State University, Dr. DeMarcus Thomas & Shelly Hollis <i>Whole Community Protection Begins with Education</i> University of Texas San Antonio, John Huggins <i>Electromagnetic Defense and Domestic Electromagnetic Spectrum Operations</i> University of West Florida, Dr. Tirhankar Ghosh	Research Spotlights Classroom 2401  Virtual World - Byte  Virtual World - Bit  Plug 'n' Play  Virtual World - Nybble
2:30 pm - 3:30 pm	Panel Discussion <i>Cyber Policy</i> Moderator: Dr. Richard Harknett, Professor and Head of Political Science at the University of Cincinnati Panelist: Dr. Emily Goldman, Director of USCYBERCOM/NSA Combined Action Group Panelist: Dr. Michael Dunaway, Associate Director for Innovation, Smart Grid/Cyberphysical Systems Program, NIST Panelist: Dr. Jim Miller, President of Adaptive Strategies, LLC (former Under Secretary of Defense for Policy) Panelist: Michael Hass, Deputy Chief Information Security Officer at Kroger Panelist: LTC Mark Visger, Associate Professor and Team Lead for Cyber Law & Policy at the Army Cyber Institute at West Point	Plug 'n' Play
3:30 pm - 4:45 pm	Jack Voltaic Overview and Exercise AAR	Plug 'n' Play
4:45 pm - 5:30 pm	Team Building Event	Plug 'n' Play
5:30 pm - 7:30 pm	Evening Social, Sponsored by Peraton	Shaffer MacCartney Lobby





# Agenda

## Wednesday, November 10, 2021 - Workshops

7:00 am - 8:30 am	Networking/Breakfast	2nd Floor, outside Plug 'n' Play
8:30 am - 9:30 am	Keynote Address Dr. David Mussington – Executive Assistant Director for Infrastructure Security, CISA	Plug 'n' Play
9:30 am - 12:00 pm	Breakout Sessions/Workshops Healthcare and Public Health Financial Services Energy Critical Manufacturing Defense Industrial Base	RAM Room Classroom 2401 Virtual World - Bit Virtual World - Nybble Virtual World - Byte
12:00 pm - 1:30 pm	Lunch (see walkable lunch list)	2nd Floor, outside Plug 'n' Play
1:30 pm - 2:30 pm	Prep for Out-Brief Presentations Healthcare and Public Health Financial Services Energy Critical Manufacturing Defense Industrial Base	RAM Room Classroom 2401 Virtual World - Bit Virtual World - Nybble Virtual World - Byte
2:30 pm - 4:00 pm	Out-Brief Presentations	Plug 'n' Play
4:00 pm - 4:15 pm	Conference Close-Out	Plug 'n' Play



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## CRITICAL INFRASTRUCTURE CYBERSECURITY Speaker Profiles

*Use the camera on your smartphone to link to the  
full list of speaker profiles:*

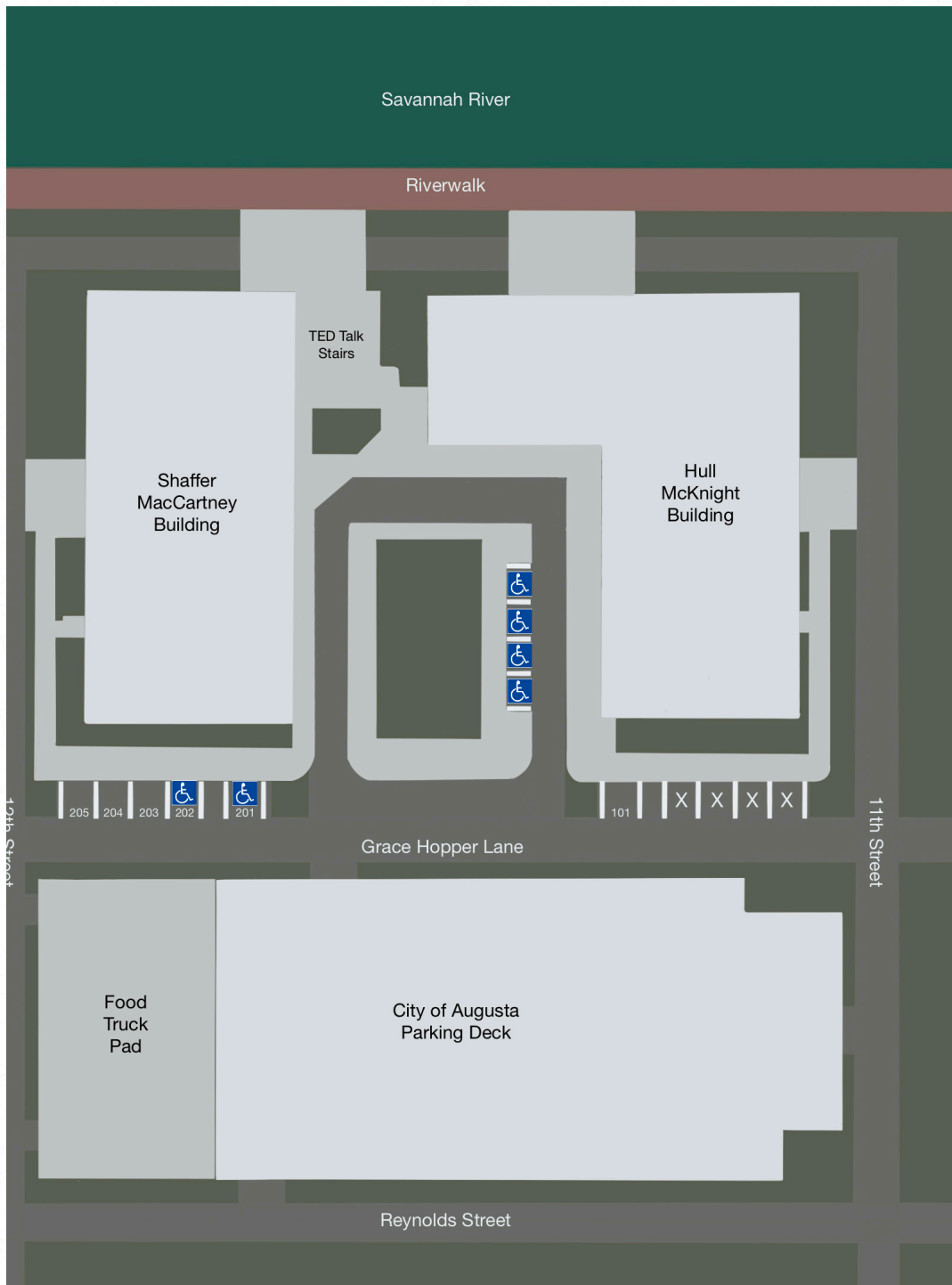






# GEORGIA CYBER CENTER

## CAMPUS MAP

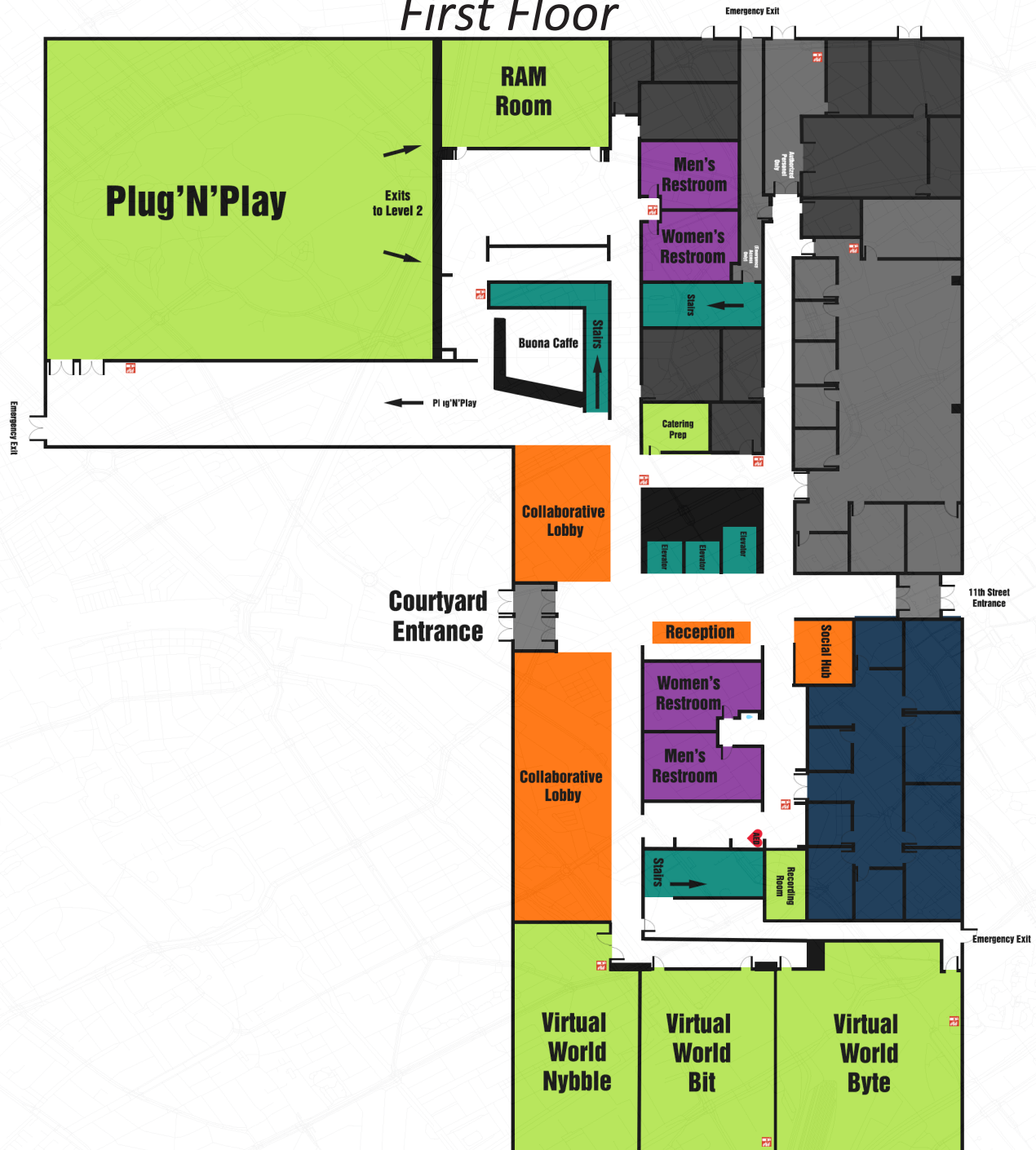




# GEORGIA CYBER CENTER

## HULL MCKNIGHT BUILDING

### First Floor





# HULL MCKNIGHT BUILDING

## *Second Floor*



# Walkable Lunches

## Onsite

### **BUONA CAFFE**

Coffee, Tea, Pastries, Light Lunch  
7:00am-5:00pm  
Hull McKnight 1st Floor Lobby

## 0.1 miles

### **CYBER BISTRO**

Salads, Sandwiches, Burgers  
7:00am-5:00pm  
1030 Reynolds Street

### **MELLOW MUSHROOM**

Pizza, Sandwiches  
11:00am-10:00pm  
1167 Broad St, Augusta GA

## 0.2 miles

### **FARMHAUS**

Burgers  
11:00am-10:00pm  
1204 Broad St, Augusta, GA

### **SUNSHINE BAKERY**

Bakeries, Delis, Sandwiches  
9:00am-3:00pm  
1209 Broad St, Augusta, GA

### **PIZZA JOINT**

Pizza, Sandwiches  
11:00am-10:00pm  
1245 Broad St, Augusta, GA

## 0.3 miles

### **AUGUSTINO'S**

Italian eatery and prime steaks  
11:30am-2:30pm; 5:00pm-10:00pm  
1 10th St, Augusta, GA

### **WHISKEY BAR KITCHEN**

Asian Fusion, Pubs  
11:00am-10:00pm  
1048 Broad St, Augusta, GA

### **THE SOUTHERN SALAD**

Salads, Smoothies  
9:00am-4:00pm  
1008 Broad St, Augusta, GA

## 0.4 miles

### **THE HIVE**

Tapas, Sandwiches, American  
11:30am-2:30pm; 5:00pm-10:00pm  
215 10th St, Augusta GA

### **NEW MOON CAFE**

Sandwiches, Soups, Smoothies  
7:00am-5:00pm  
936 Broad St, Augusta, GA

### **BOLL WEEVIL**

Southern, American, Sweets  
11:00am-9:00pm  
10 James Brown Blvd, Augusta, GA

### **BEAMIE'S AT THE RIVER**

American, Seafood  
11:00am-9:30pm  
865 Reynolds St, Augusta, GA

## 0.5 miles

### **NOBLE JONES**

American, Southern, Closed on Mondays  
11:30am-2:00pm; 5:00pm-10:00pm  
816 Cotton Ln, Augusta, GA

## 0.6 miles

### **GROUCHO'S DELI**

Deli, Salads  
11:00am-9:00pm  
758 Broad St, Augusta, GA

## 0.7 miles

### **HUMANITREE HOUSE**

Vegan, Juice & Smoothies  
8:00am-7:00pm  
305 8th St, Augusta, GA

## 0.9 miles

### **HILDEBRANDT'S**

Sandwiches, German  
11:00am-3:00pm  
226 6th St, Augusta, GA



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**GEORGIA CYBER CENTER**  
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**UNIVERSITY OF  
ILLINOIS**  
URBANA-CHAMPAIGN

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# CYBER RESILENCY FOR CRITICAL INFRASTRUCTURE



**THE CITADEL**  
**February 24-25, 2022**  
**Charleston, SC**

