Doctoral Residency Agenda
Dakota State University, March 18-20, 2025

##  Tuesday, March 18, 2025 TCB Auditorium (Rm, 203)

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| 8:30 am | Check-in, TCB 112 (Coffee, Juice, Light Bites) |
| 9:00 am | **Welcome/Introductions****Rebecca Hoey, Vice President Academic Affairs****Mary Bell, Dean of The Beacom College of Computer and Cyber Sciences** **Mark Hawkes, Dean of Graduate Studies**Residency Orientation and Objectives |
|  | **MadLabs Briefing Room** | **KML 201** |
| 9:45 am | **Final Dissertation Defense****Student:** Eli Fulkerson**Chair:** Varghese Vaidyan**Title:** The Effect of Compilation on the Identification of Obfuscated Malware**Committee**: Yong Wang, Gurcan Comert | **Final Dissertation Defense****Student:** Kenji Harada**Chair:** Tyler Flaagan**Title:** Automating Mobile Malware Evasion: An Opcode N-Gram Based Approach to Generate Machine Learning Powered Adversarial Examples**Committee**: Kyle Cronin, Austin O’Brien, Hannah Altmann |
| 11:00 am | **Dissertation Proposal Defense****Student:** Dr. Michael Williams**Chair:** Youssef Harrath**Title:** Using QSE Within IOT Environment Using ZTA**Committee**: Jonathan Lancelot, Varghese Vaidyan | **Dissertation Organization: Features, Function, and Forms**Mike HamAbby ChowningMark Hawkes |
| 12:00 pm | **Lunch, on own** |
| 1:30 pm | **Mike Grigsby**Digital Transformation Evangelist | Smart Cities | Public Sector Innovator**From Here to There: Cyber Leadership in the Real World** TCB 203 |
| 2:30 pm | **Dissertation Proposal Defense****Student:** Max Gorbachevsky**Chair:** Kyle Cronin**Title:** IDS For Wireless Home Network**Committee**: Viki Johnson, Tyler Flaagan | **Online Writing Resources for Dissertation Preparation**Rachelle McPhillips, Abbie Steuhm, DSU Karl Mundt Library. |
| 3:30 pm | **Networking Break** |
| 4:00 pm | **TCB 203****Dissertation Proposal Defense****Student:** Bryan Ikei**Chair:** Yong Wang**Title:** Evaluating the Vulnerabilities of Quantum-Resistant Cryptographic Algorithms to Side-Channel Attacks in Resource-Constrained Microcontrollers’**Committee**: Varghese Vaidyan, Dell Kronewitter (UCSD), Soundes Marzougui (TU Berlin) |
| 6:00 pm | **DSU Advancement Hosted Dinner****Guest Speaker, Mark Stanislav, Ph.D.VP of Security Engineering and Governance, Risk, and Compliance at** [**FullStory**](https://theorg.com/org/fullstory) Location: Dakota State UniversityHeartland Captains Club, Brian Kern Family Football Stadium |

##  Wednesday, March 19, 2025

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| 8:00 am | Meetings as arranged with Dean, Program Coordinator, Dissertation Chair, Classmates, others. Book time to meet with advisor Abby Chowning or BriannaMae Feldhaus. |

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|  | **Tunheim Classroom Building (Rm. 203)** |
| 8:30 am | **Ph.D.CD Comprehensive Exam Process and Prep.Kyle Cronin**This session is for Ph.D.CD students. Dr. Cronin will review the timeline and procedures for comprehensive exam administration. The process will be described as well as approaches to preparation. |
| 9:00 am | **Meet the Program Faculty and Program Updates with Coordinators**Austin O’Brien, Computer Science Kyle Cronin, Cyber DefensePatrick Engebretson, Cyber Operations   |
|  | **MadLabs Briefing Room** | **KML 201** |
| 10:00 am | **Dissertation Proposal Defense****Student:** Leron Gray**Chair:** Michael Ham**Title:** Memerex:A Cryptographic and Secrets Memory Extraction Framework**Committee**: Cody Welu, Tyler Flaagan | **Academic Authorship, Contributorship and Collaboration**Cherie Noteboom, Information Systems Program CoordinatorBill Bendix, Cyber Leadership & Intelligence, Program Coordinator |
| 11:00 am | **Dissertation Proposal Defense****Student:** Warren Thompson**Chair:** John Hastings**Title:** Detecting Covert Channels in IPv6 Using Flow-to-Image Conversion and Convolutional Neural Networks**Committee**:Yong Wang, Shengjie Xu | **Invited Presentation“Translating Dissertation Research into Impact: An Introduction to I-Corps”**Michael Roach and Andrew Behrens, DSU |

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| 11:45 am | **Paulson Cyber Incubator & Entrepreneurial Center Hosted LunchWill Cromartie,** [**Kirkwall**](https://www.linkedin.com/company/kirkwall/) **CEO & Founder**Dakota Prairie Playhouse, Courtesy Research and Economic DevelopmentFree Professional Headshots for DSU Residency Attendees, DSU Marketing & Communications Department 11:45 a.m. to 1 p.m.,  |

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| 1:15 pm | **Final Dissertation Defense****Student:** Gary McCully**Chair:** John Hastings**Title:** Deep Learning Approach to Vulnerability Detection in Lifted Code Using Transformer-Based Embeddings**Committee**: Tyler Flaagan, Austin O’Brien, Varghese Vaidyan, and Shengjie Xu | **Dissertation Proposal Defense****Student:** Dave Schroeder**Chairs:** Cody Welu**Title:** Utilization of Army National Guard Cyber Forces in Title 32 Status For National Cyber Missions**Committee**: Kristin Eschenfelder, Mary Bell |
| 2:30 pm | **Dissertation Proposal Defense****Student:** Michael MacFadden**Chair:** Patrick EngebretsonTitle: Automated Penetration Testing of Cloud Native Systems Using Reinforcement Learning**Committee**: Austin O'Brien, and Shengjie Xu | **Dissertation Proposal Defense****Student:** Joseph Padron (this session moved to online)**Chair:** Tyler Flaagan**Title:** Proactive Cybersecurity Strategies: Integrating Agentic AI, Cyber Threat Intelligence, and Game**Committee**:  |

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| 3:30 pm | **Break (Refreshments provided in Madlabs)** |

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| 4:00 pm | **Final Dissertation Defense****Student:** Zishan Merza**Chair:** Yong Wang**Title:** CGFuzzerArt: A Directed Graybox fuzzer for vulnerability discovery**Committee**: Varghese Vaidyan, Jun Liu | **Final Dissertation Defense****Student:** Tjada Nelson **Chair:** Austin O’Brien**Title:** Malware Classification Using Distance Weighted Control Flow Graphs**Committee**: Cherie Noteboom, Shengjie Xu |

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| 5:30 pm | **Dinner and Drinks (10% Off on purchases of drinks and sandwiches)****5:30-7:30 pm** **At** Gaylen’s Popcorn**100 Egan Avenue South, Madison, SD 57042** |

##  Thursday, March 20, 2025

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| 8:00 am | Meetings as arranged with Dean, Program Coordinator, Dissertation Chair, Classmates, others. Book time to meet with advisor Abby Chowning or BriannaMae Feldhaus. |

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|  | **TCB Auditorium (Rm. 203)** |
| 9:00 am  | **Invited Presentation:** **“Operations Research: Techniques and Applications”**Youssef Harrath, Beacom College of Computer and Cyber Sciences**Abstract**: Operations Research (OR) is a powerful analytical method used to enhance decision-making and optimize complex systems across various industries. This presentation explores the diverse applications of OR techniques, including linear programming, simulation, and heuristics in fields such as logistics and manufacturing. Case studies and real-world applications will be discussed to demonstrate the impact of OR in solving practical problems. |
|  | **MadLabs Briefing Room** | **KML 201** |
| 10:00 am | **Dissertation Proposal Defense****Student:** Alex Wollman **Chair:** Kyle Cronin**Title:** A Design Science Approach to Quantifying the Impact of Security Techniques on Unikernel Security**Committee**: John Hastings, Josh Stroschein  | **Dissertation Prospectus Review**Roundtable SessionFacilitators: Jihene Kaabi Ep Harrath, Chad Fenner, Abid Mehmood, Jared Soundy, Khandaker Ahmed Pre-Register for this SessionBring your emerging dissertation idea in the form of a 3-page prospectus. Be willing to share it with others and discuss how to make it better, stronger and more tractable. |
| 11:00 am | **Final Dissertation Defense****Student:** Robert Riskin **Chair:** Kyle Cronin**Title:** Measuring the Effects of AppLocker Against Banking Trojans**Committee**: Mike Ham | **Final Dissertation Defense****Student:** Prince Boadi**Chair:** Austin O’Brien**Title:** Quantitative Study on Artificial Intelligence Potentials of Privacy Controls on Systems**Committee**: Cherie Noteboom and Varghese Vaidyan |
| 12:15 pm | **Lunch, on ownStart of DSU Research Symposium** |

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| **DSU Research Symposium** (12:30-4:00 pm)**Keynote Speaker: Dennis Eger U.S. Army Senior Open Source Intelligence (OSINT) Advisor**Beacom Collaboration Center and Beacom Institute of Technology ClassroomsTimeline: * 12:30-2:00 pm. Research posters and presentations concurrent with talks in classrooms around the building (with hors d'oevres served in Collaboration Center)
* Break
* 3-4:00 pm keynote speaker (To be Announced), Beacom Collaboration Center
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| **4:00 pm. Doctoral Residency Adjourns.** |

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March 21-23 (Fri.-Sun.): **DSU** [**DakotaCon 12**](https://www.dakotacon.org/#schedule) **including Dakota ConQuest**