Computing Security
Golisano College of Computing & Information Sciences
Graduate Open House - October 2020

Sumita Mishra, PhD
Professor & Graduate Program Director
Agenda

- Introductions
- Program Highlights
- Research Highlights
- Q&A
- Student Panel
- Q&A
Introductions

- Dr. Sumita Mishra  CSEC Graduate Program Director
- Ms. Rita McCarthy  Senior Staff Specialist

- Current Students
  - Rajeev Karuvath (First term)
  - Aditya Kotle (Second Term)
  - Neha Sharma (Third term)
  - Geoff Twardokus (BS/MS student – First term MS)
Computing Security @ RIT

National Center of Academic Excellence in Cyber Defense Research and Cyber Defense Education
On Campus Program
Prerequisite/Bridge Requirements

- 2 courses in Computer Programming
- Discrete Mathematics
- 1 year of Calculus (Recommended)
- Statistics
- CSEC 600 Introduction to Computing Security or Equivalent

3.0 or better in prerequisite coursework required.

Prerequisite courses are not part of 30 credit hours required for MS degree.
English Language Testing and GRE

- Students with international undergraduate degrees required to take TOEFL/IELTS and need to submit GRE scores
- Students from domestic degree programs do not need to submit GRE scores
- For borderline TOEFL/IELTS scores, English course(s) assigned by ELC
  - Either take the recommendation or get tested by ELC
Program Of Study
(30 semester credit hours)

Core Courses: (6 credit hours)
- GCCIS-CSEC-604 Cryptography and Authentication - Fall
- GCCIS-CSEC-742 Computer Systems Security - Spring

Research Electives (6 credit hours)

Advanced Electives: (12 - 15 credit hours)

Capstone (3 or 6 credit hours)

The credit hours for the electives and the capstone must total to twenty-four (24)
Research Electives (Pick Two)*

- GCCIS-CSEC 659 Graduate Seminar in Computing Security – Usable Security (F)
- GCCIS-CSEC-741 Sensor and SCADA Security (S)
- GCCIS-CSEC-750 Covert Communications (F)
- GCCIS-CSEC-759 Graduate Seminar in Computing Security – Advanced Malware Forensics and Anti-Forensics (S)

* Current list - subject to change
## Advanced Electives (Pick 4-5)*

- GCCIS-CSEC-603 Enterprise Security
- GCCIS-CSEC 620 Cyber Analytics and Machine Learning
- GCCIS-CSEC-730 Advanced Computer Forensics
- GCCIS-CSEC-731 Web Server and Application Security Audits
- GCCIS-CSEC-732 Mobile Device Forensics
- GCCIS-CSEC-733 Information Security and Risk Management
- GCCIS-CSEC-743 Computer Viruses and Malicious Software
- GCCIS-CSEC-744 Network Security
- GCCIS-CSEC-751 Information Security Policy and Law
- GCCIS-CSEC-759 Graduate Seminar in Computing Security (Penetration Testing)

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<th>Course</th>
<th>Department</th>
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<tr>
<td>GCCIS-ISTE-721 Information Assurance</td>
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<td>Fundamentals</td>
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<td>GCCIS-CSCI-620 Introduction to Big Data</td>
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<td>GCCIS-CSCI-622 Secure Data Management</td>
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<td>GCCIS-CSCI-642 Secure Coding</td>
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<td>GCCIS-CSCI-720 Big Data Analytics</td>
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<td>GCCIS-CSCI-734 Foundations of Security</td>
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<td>Measurement and Evaluation</td>
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<td>GCCIS-CSCI-735 Foundations of</td>
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<td>Intelligent Security Systems</td>
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<td>GCCIS-CSCI-736 Neural Networks and</td>
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<td>Machine Learning</td>
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<td>GCCIS-CSCI-762 Advanced Cryptography</td>
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<td>KGCOE-CMPE-661 Hardware and Software</td>
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<td>Design for Cryptographic Applications</td>
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* Current list - subject to change
Capstone Options

- MS Thesis (6 credits)
- MS Project (3 credits)
- Capstone Course (3 credits) – Spring only
### Research Highlights

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<td>Cyber Analytics: Applying Machine Learning to Security and Privacy</td>
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<td>Security and Privacy in Distributed Systems</td>
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<td>Cryptography and Trusted Hardware</td>
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<td>Cybersecurity Education</td>
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<td>Deployment and Usability of Security</td>
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Global Cybersecurity Institute

- A new state-of-the-art 50,000-sq. ft. facility

- Hands-on and research labs
- Cyber Range
Meet Our Students
Important Websites

- Computing Security (CSEC) department
  https://www.rit.edu/computing/department-computing-security

- CSEC MS Program
  https://www.rit.edu/computing/study/computing-security-ms

- Global Cybersecurity Institute
  https://www.rit.edu/cybersecurity/
Questions?

- Sumita Mishra  
  - Sumita.Mishra@rit.edu
- Paola Pena Rodriguez  
  - paeges@rit.edu
- Neha Sharma  
  - ns3048@rit.edu
- Aditya Kolte  
  - ak8295@rit.edu
- Rajeev Karuvath  
  - rk3824@rit.edu
- Geoff Twardokus  
  - gdt5762@rit.edu