DSU Faculty

1) List of Graduate Faculty for Program
2) Full List of Beacom Faculty with interests
3) Vitas for Program Faculty

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Steve Graham,	Professor (Ph.D. Computer Science)
Michael Ham	Assistant Professor, (DS Cyber Security)
Houssain Kettani,	Professor (Ph.D. Electrical Engineering)
Stephen Krebsbach,	Professor (Ph.D. Computer Science)
Jun Liu (BIS),	Associate Professor (Ph.D. Management Info Systems)
Austin O'Brien,	Assistant Professor (Ph.D. Computational Statistics)
Wayne Pauli,	Professor, (Ph.D. Organization and Management)
Ashley Podhradsky	Associate Research Professor (DS Info Syst - Security)
Mark Spanier,	Assistant Professor (Ph.D. Mathematics)
Josh Stroschein	Assistant Professor, (DS Cyber Security)
Yong Wang,	Associate Research Professor (Ph.D. Computer Science)
Shengjie Xu,	Assistant Professor (Ph.D. Computer Engineering)

Full List of Beacom Faculty and Staff

1. **Arash Abbasi**-Assistant Professor of Computer and Cyber Sciences
   Academic Interests: Artificial Intelligence and Machine Learning

2. **Sulabh Bhattarai**-Instructor of Computer and Cyber Sciences
   Academic Interests: Network Security, web security, and mobile communication

3. **Bramwell Brizendine**-Assistant Professor of Computer and Cyber Sciences
   Academic Interests: Exploitation, code-reuse attacks, reverse engineering, malware analysis, offensive security, penetration testing, and cyber operations.

4. **Kyle Cronin**- Assistant Professor of Computer and Cyber Sciences
   Academic Interests: Cellular, wireless, and enterprise-scale computer networking

5. **Edward Dennis**- Assistant Professor of Computer and Cyber Sciences
   Academic Interests: Information security and network security

6. **Kathy Engbrecht**- Instructor of Computer and Cyber Sciences/Retention Specialist
   Academic Interests: Freshman-level computer science courses

7. **Tyler Flaagan**-Assistant Professor of Computer and Cyber Sciences
   Academic Interests: Offensive Security, Defensive Security, Routing & Switching

8. **Steve Graham**-Professor of Computer and Cyber Sciences
   Academic Interests: Game design/development, artificial intelligence, graphics programming, algorithms, agile development.

9. **Tom Halverson**-Associate Professor of Computer and Cyber Sciences
   Academic Interests: Programming, data structures, parallel computing, formal languages, application development.

10. **Michael Ham**-Assistant Professor of Computer and Cyber Sciences
    Academic Interest: Cyber operations, routing and switching

11. **Robert Honomichl**-Instructor of Computer and Cyber Sciences
    Academic Interests: Computer science, web programming, computer hardware

12. **Jason Jenkins**-Instructor of Computer and Cyber Sciences
    Academic Interests: software development life cycle, object-oriented design, web application development.

13. **Houssain Kettani**-Professor of Computer and Cyber Sciences
    Academic Interests: Algorithm design and analysis, cryptography, machine learning, stochastic optimization

14. **Andrew Kramer**-Instructor of Computer and Cyber Sciences
    Academic Interests: low level programming, Linux administration, security fundamentals

15. **Stephen Krebsbach**-Professor of Computer and Cyber Sciences/Coordinator for Master of Science in Computer Science Program
    Academic Interests: Operating System Theory, Programming Language Design, Data Manipulation

16. **Barb Myers**- Lecturer of Computer and Cyber Sciences
    Academic Interests: Introduction to computers, programming, web programming

17. **Austin O'Brien**-Assistant Professor of Computer and Cyber Sciences
    Academic Interests: Machine learning, computational statistics

18. **Wayne Pauli**-Professor of Computer and Cyber Sciences/Coordinator for PhD in Cyber Operations
    Academic Interests: research, research methodologies, dissertation preparation

19. **Ashley Podhradsky**- Associate Professor of Computer and Cyber Sciences and Associate Dean of The Beacom College of Computer and Cyber Sciences
    Academic Interests: Digital forensics and incident response

20. **Robert Richardson**-Instructor of Computer and Cyber Sciences
    Academic Interests: Software Security and Computer Science

21. **Pam Rowland**-Assistant Professor of Computer and Cyber Sciences/Undergraduate Research Coordinator
    Academic Interests: Cybersecurity courses

22. **Mark Spanier**- Assistant Professor of Computer and Cyber Sciences
    Academic Interests: Number Theory and Cryptography, Cryptography and Codes, Operations Research, Signals and Systems, Foundations of Computation, mathematical Foundations of AI, Discrete Mathematics.

23. **Kevin Streff**-Professor of Computer and Cyber Sciences/Coordinator for PhD in Cyber Defense
    Academic Interests: Cyber Risk Management, Cyber Auditing, Cyber Security Management, Cyber Security Education, training, and awareness, Data Privacy Management, and Privacy Impact Assessment.

24. **Josh Stroschein**-Assistant Professor of Computer and Cyber Sciences
    Academic Interests: Malware Analysis and reverse engineering

25. **Brent Tulloss**-Lecturer of Computer and Cyber Sciences
    Academic Interests: introductory computer networking

26. **Yong Wang**-Associate Research Professor of Computer and Cyber Sciences
    Academic Interests: Cryptography, network security, parallel programming, computation theory

27. **Cody Welu**-Assistant Professor of Computer and Cyber Sciences
    Academic Interests: Offensive and defensive security, system administration

28. **Shawn Zwach**- Instructor of Computer and Cyber Sciences
    Academic Interests: Introductory Computer Science and Cyber Security

29. **Alex Wollman**- Instructor of Computer and Cyber Sciences
    Academic Interests: Computer Programming, Reverse Engineering, Data Analysis, Computer Security

30. **Shengjie Xu**- Assistant Professor of Computer and Cyber Sciences
    Academic Interests: Cyber Security, Machine Learning, Edge Computing, Computer Networks

Steven K. Graham skg@dsu.edu 605-480-6603 (w)

Work:

2004 – present Dakota State University
- Professor, Computer Science/Computer Game Design (2018+)
- Associate Professor, Computer Science/Computer Game Design (2008-2018)
- Assistant Professor, Computer Science (2004-2008)

2018 – Arcana Forge, LLC
-- Lead programmer, design consultant

2012 – 2014 Dakota Game Factory
- Founder, producer, creative & technical director
- Produced *Stickman Stew and the Cake Crew* – a game about diversity, respect, and cooperation
- Developed and prototyped *Impendium* – a space mining game about money and credit

2001-2004 University of Kansas,
- Director Information Systems & Research Computing,
  - Civil, Environmental & Architectural Engineering
- Heterogeneous network administration (MS, Mac, Linux), web-programming (PERL, CGI, Python), database design, online training development, data cleansing, meta-data modeling for structures

1997-2001 Digital Archaeology/Delano Technologies
- Senior Computer Scientist (1998-2001), Vice-President of Development (1997-1998)
- Grew R&D team from 1 to 10 individuals, managed development of initial versions of data analysis client/server suite for Windows NT and UNIX through second round of venture funding. Shifted to technical role and worked as architect/technologist during ongoing development of the analysis suite. Product development efforts were primarily on Windows systems using C++.
- Core of product suite was a visual data-flow language for analytic operations on (very large) sets of data.
- Digital Archaeology was acquired in fall of 2000 by Delano Technologies for $17 million cash and $70 million stock.

2000-2001 University of Kansas
- Lecturer in Programming Languages

1990-2001 Graham & Associates
- Consulting
- Freelance writing and editing for: *C/C++ Users Journal*, *SysAdmin*, *Network Administrator*, and *Unique*

1992-1997 Comdisco Systems/Alta Group/Systems &Networks/Cadence Design Systems
- Comdisco Systems was acquired by Cadence Design Systems as Alta Group. Systems & Networks was spun off and then re-acquired.
- Senior Engineer, Senior Consultant, Manager Professional Services, Senior Engineering Manager, Senior Services Manager
- Software design and development of BONeS simulation system in Lisp and C/C++ on SunOS/Solaris and HPUX systems. Consulting, training, managing of consultants, and managing technology transfer for Systems &Networks and for Cadence Design Systems applications of BONeS and SPW systems. Grew technology transfer team from 1 to 10 employees and increased annual bookings from $400,000 to $1,000,000

1991-1992 Artificial Intelligence Research, Inc.

- Member Technical Staff
- Design and development work on the *Logistica* language system in Lisp: Logistica could loosely be described as a cross between Scheme and Prolog. Principle application was implementing modal logic proof systems for non-monotonic reasoning

1984-1992 University of Missouri-Kansas City

- Instructor, Assistant Professor in Computer Science
- Key role in building Computer Science/Telecommunications Program
- Taught a wide variety of courses including: programming languages and semantics, artificial intelligence and knowledge-based systems, Lisp programming, algorithms and optimization, and discrete mathematics.
- Investigator on approximately $500,000 in grants
- Research in artificial intelligence including genetic algorithms, neural networks, non-monotonic reasoning, knowledge representation, computer-assisted learning, and networking applications. Worked with a variety of languages and systems including: Lisp (various flavors), Prolog, Scheme, Smalltalk, Xerox Lisp machines, Windows, Macintosh, UNIX (various flavors), and VMS.

1980-1984 Hewlett-Packard

- Software Design Engineer
- Re-targetable compiler development for HP64000 embedded systems development tools
- Design and development of software components for HP64000 System. Software included device drivers for in-circuit emulators, dis-assemblers, and GUI components.

Education:

1984-1987 University of Kansas, Ph.D. Computer Science

- Advisor: Adrian Tang
- Area: Domain Theory (programming language semantics)
- Dissertation: *Properties of a Probabilistic Domain Construction*

1980-1984 Stanford University, 54 hours toward M.S.E.E. (Computer Engineering)

- Area: Artificial Intelligence
- Note: degree not completed; transferred to KU and worked directly on Ph.D.

1976-1980 University of Kansas, B.S. Computer Science and B.A. Mathematics

- Graduated with Highest Distinction
- Departmental Honors in both Computer Science and Mathematics

Publications:

Creative Work/Professional Practice:

Arcana, work underdevelopment with Dr. Jeffrey Howard, Thomas Van Huffel, Gene Semel, and Scott Graham

- Release limited to closed beta-testing
- Development videos, images, and updates available on Jeff Howard's facebook/twitter feeds.
- Peer feedback: positive and constructive feedback from industry professionals, including Dene Carter, Jacob Garbe, Denis Dyack…; Denis Dyack published a video about the project, https://www.youtube.com/watch?reload=9&v=PHLWwoWnyYE

Clinic Ninja, http://clinicninja.com - released Fall 2014 (not currently accessible, 10 – 15 - 18)
-- executable build available at: <insert link here >

Press:
https://healthpoint.dsu.edu/blog/2014/09/12/regional-extension-center-partners-health-network-develops-game-teach-meaningful-use/

Stickman Stew and the Cake Crew, http://www.dakotagamefactory.com
- released Fall 2012 (not currently accessible, 10 -15-18)

vSurf, http://vsurf.dsu.edu/
- went live Fall 2011

Scholarly Work:

Graham, Steve and Jeff Howard, *The Ontologist Manifesto: Building Worlds and Systems for Games*, CRC Press/Taylor & Francis Group, 2020. (detailed proposal accepted and book under contract).

Graham, Steve and Glenn Berman, *Tsuro: The Game of the Path,* in Learning, Education, and Games, Vol. 3, ed. By Karen Schrier, ETC. Press, 2019.

Graham, Steve and Jeff Howard, *Building Future Game Worlds with Ontological Systems,* 8th Workshop on Integrated Design in Game (IDiG), Dakota State University, Madison, SD, Nov. 8, 2018.

Graham, Steve and Jeff Howard, *Ontological Systems and Worldbuilding for Game Design,* 22nd Great Plains Alliance for Computers and Writing (GPACW), Dakota State University, Madison, SD, Oct. 13, 2018.

Stephen Krebsbach, Steve Graham, Judy Vondruska, George Hamer, *Creating a Virtual Science Center, Virtual DUSEL (vDUSEL)* Proceedings of the ISCA 22nd International Conference on Computer Applications in Industry and Engineering (CAINE-09) San Francisco, Ca. November 4-6, 2009.

Xinwen Fu, Wei Yu, Shu Jiang, Steve Graham and Yong Guan, TCP Performance in Flow-Based Mix Networks: Modeling and Analysis, *IEEE Transactions on Parallel and Distributed Systems* (*TPDS*) 20(5): 695-709, 2009.

Stephen Krebsbach, Steve Graham, Judy Vondruska, George Hamer, *Virtual DUSEL (vDUSEL)*

The Online Educational Project for Sanford Center for Science Education, MICS conference April 17-18, 2009, Rapid City, SD.

Ryan Pries, Wei Yu, Steve Graham, and Xinwen Fu, *On Performance Bottleneck of Anonymous Communication Networks*, In Proceedings of the 22nd IEEE International Parallel and Distributed Processing Symposium (IPDPS), Miami, Florida, April 14-18, 2008

Xinwen Fu, Wei Yu, Xukai Zou, Kevin Streff, and Steve Graham, *On Recognizing Virtual Honeypots and Countermeasures*, Journal of Autonomic and Trusted Computing *(JoATC)*, Accepted 2007

W. Yu, Xinwen Fu, Steve Graham, D. Xuan and W. Zhao, *DSSS-Based Flow Marking Technique for Invisible Traceback*, In Proceedings of IEEE Symposium on Security and Privacy (S&P), Oakland, California, USA, May 20-23, 2007.

Steven Graham, Bin Lu and Xinwen Fu, *Network Security Fundamentals*, Encyclopedia of Computer Science and Engineering, John Wiley & Sons, Inc., 2007.

Xinwen Fu, Shu Jiang, Wei Yu, Steve Graham and Yong Guan, *On TCP Performance in Flow-Based MixNetworks*, The 3rd IEEE International Symposium on Dependable, Autonomic and Secure Computing (DASC),Loyola College Graduate Center, Columbia, MD, USA 25-27, September, 2007

Xinwen Fu, S. Graham, Y. Zhu, Y. Guan and D. Xuan, *Location Privacy in Wireless Networks*, Handbook on Mobile Ad Hoc and Pervasive Communications, American Scientific Publishers, 2006.

Xinewen Fu, W.Yu, D. Cheng, X. Tan, K. Streff, and S. Graham, *On Recognizing Virtual Honeypots and Countermeasures*, The IEEE International Symposium on Dependable, Autonomic and Secure Computing (DASC), Sep. 29-Oct. 1, 2006.

Graham, S. "Modifying DOS Boots*", MS-DOS System Programming* 3rd ed., 1994, R. Ward, D. Burki, eds., R&D Publications, Lawrence, KS.

Oh, Jonathan C.; Graham, Stephen "Does Every Difference make a Difference?", *Lecture Notes in Computer Science*, v. 754, p. 113-118, ISSN 0302-9743, in: Nagle, T.E. (ed.), Pfeiffer, H.D. (ed.); *Conceptual Structures: Theory and Implementation*. Proceedings.; p.3-12; ISBN 3-540-57454-9; Berlin, Heidelberg, New York, etc.: Springer Verlag (1993)

Graham, S. *Fundamentals of Curve Fitting*, The C Users Journal, vol. 10, no. 2, Feb. 1992.

Graham, S. *Evolution in Action*, The C Users Journal, vol. 10, no. 11, Nov. 1992.

Graham, S. *An Easy Road to Windows*, The C Users Journal, vol. 10, no. 12, Dec. 1992.

Graham, S. and Atkinson, J. "ARIA: Automated Revision Implication Assessment", in *Knowledge-Based Systems and Neural Networks: Techniques and Applications*, R. Sharda, J. Cheung, and W.J. Cochran, eds., Elsevier,1991.

Graham, S. and Wilson, M. "The Automation of Retrograde Analysis", *Fourth Oklahoma Symposium on Artificial Intelligence*, Stillwater, OK, Nov. 8-9, 1990.

Graham, S. and P. Schneider "A Knowledge-Based Assistant for Pesticide Identification",

*Proceedings 1990 ACM & IEEE Symposium on Applied Computing,*IEEE Computer Society Press, 1990.

Yi, C. and S. Graham. "Real-time Reasoning with Prolog", *Proceedings 1990 ACM Symposium on Personal and Small Computers,* ACM Press 1990.

Graham, S. and Pradhan, S. "Circumscription Policy: An Important by Neglected Issue", *Proceedings Second Midwest Artificial Intelligence and Cognitive Science Society Conference*, Carbondale, Illinois, March 1990.

Graham, S. and J. Oh "Natural Languages and Programming Languages: Similarities and Differences", *Proceedings Second Midwest Artificial Intelligence and Cognitive Science Society Conference*, Carbondale, Illinois, March 1990.

Graham, S. and M. Carter "How Not to Build an ITS for Remedial Fractions", *Proceedings Second Midwest Artificial Intelligence and Cognitive Science Society Conference*, Carbondale, Illinois, March 1990.

Graham, S. and J. Oh. "Some suggestions on Parsing Free Ordered, Elliptic Languages", *Language Research*, 1989, vol. 25, no. 4.

S.K. Graham. "Closure properties of a probabilistic domain construction" in: Michael G. Main, A. Melton, Michael Mislove, and D. Schmidt, editors, *Mathematical Foundations of Programming Language Semantics (MFPLS '87)*, pages 213-233. Lecture Notes in Computer Science 298, Springer-Verlag, 1988.

Graham, S., B. McKeever, and K. Blundell, "FAULTS – An Expert Systems Environment for Fault Detection and Diagnosis", in *Knowledge-Based Expert Systems for Manufacturing*, ed. By Lu, S. C-Y. and Komandury, R., ASME, 1986.

Graham, S. W. Bulgren, and C. Nicholas, "Investigations of an Additive Random Number Generator", *Proceedings of Modeling and Simulation on Microcomputers*, 1982, San Diego, CA.

Software & Media:

Stephen Krebsbach, Steve Graham, Judy Vondruska, The comprehensive vSURF website: http://vsurf.dsu.edu/ (formerly, Virtual DUSEL.) Site went live July, 2011.

Stephen Krebsbach, Steve Graham, Judy Vondruska, Continued work on the *HomeStake CORE* and the *CoRDIS* projects as part of VSURF. 2009-2011.

Graham, Steven K., *A Blended Learning Module on Legal Issues for Managers*, Kansas Department of Transportation, April 2006.

Presentations & Reports:

Howard, Jeffrey (presented), and Graham, Steven K., *Experimental Hands-On Integrated Design Exercise*, WritingForGames 2.0, 2012, George Mason University, Washington, D.C.

Graham, Steven. K., *Life and Death Problems and the Generation of Tension*, IDIG 2011, Madison, SD, Nov. 4th - 6th.

Graham, Steven K. and Howard, Jeffrey, *Experimental Hands-On Integrated Design Exercise*,

IDIG 2011, Madison, SD, Nov. 4th – 6th.

Graham, Steven K., *Game Design as Game Play*, DSU Game Design Weekend, Sept. 11, 2009, Madison, SD.

Stephen Krebsbach, Steve Graham, Judy Vondruska, George Hamer, *Virtual DUSEL (vDUSEL) The Online Educational Project for Sanford Center for Science Education*, MICS conference April 17-18, 2009, Rapid City, SD.

Sudre ,Gustavo, Samuel Hanson, Adolfo Matamoros, and Steven K. Graham, *Ontology Engineering for Management of Data in the Transportation Domain*, National Transportation Research Board (TRB 86th Annual Meeting), January 21-25, 2007, Washington, D.C.

Xinwen Fu, Wei Yu, Dan Cheng, Xuejun Tan, Steve Graham, On Recognizing Virtual Honeypots and Countermeasures, Technical Report, Dakota State University, April 2006

Odes, Quentin, Browning, JoAnn, and Graham, Steven K., *FINAL REPORT OF STATE TRANSPORTATION OFFICIAL SURVEYS FOR IMPLEMENTING COMPUTER-BASED LEARNING,* Kansas Department of Transportation, February 2006.

Graham, S., S. Krebsbach, O. El-Gayar, X. Fu, J. Vondruska, R. McTaggart, *DUSEL – Proposal for Education and Outreach Infrastructure*, Feb. 2006, Lead, SD.

Graham, Steven, *Playing well with Others: Challenges and Opportunities for Information Interchange*, Techknowledgy Nov 9, 2006, Sioux Falls, SD.

Graham, Steven, *Open Source Software*, FACTS, Oct 6, 2006, Madison, SD.

Graham, S., *Is War the Right Metaphor*, International Technology, Science, and Society Conference, Berkeley, CA, Feb. 18-20, 2005.

Graham, S., *Instant Perl Modules*, (review) UnixReview.com, 2001.

Spratt, L. & S. Graham, *An Overview of Expressions and Connector Parts Lists*, DA TN-44, April, 2001.

Ward, R. and S. Graham, "A Survey of Design Methodologies", Bendix-King, 1992 (developed survey materials on Software Engineering practice).

Arraya, C., D. Leasure, and S. Graham, *A Pattern-matching Sublanguage for Logistica*, AIR, 1992.

Graham, S. *From Computer-Based Training to Intelligent Computer Assisted Learning*, SPTA, 1991.

Graham, S. *Belief Functions and Probabilistic Domains*, Fourth Workshop on the Mathematical Foundations of Programming Language Semantics, Boulder, CO, 1988.

Graham, S. and J. Stach, *State of the Art Assessment in Expert Systems Techniques for Packet Switched Networks*, US Army CECOM report (DAAL03-86-D-001), 1987.

Graham, S., *Retracts of SFP Objects: Probabilistic Domains*, Workshop on the Mathematical Foundations of Programming Language Semantics, Manhattan, KS, 1986.

Graham, S. *Expert Systems for Engineering Diagnosis*, DPC board meeting, 1985.

Graham, S. Schneider, P. *Sources of Uncertainty in the Pesticide Identification Assistant: A Knowledge-Based System to Aid the Analytical Chemist*, CSTP, 1991.

Graham, S., Wilson, M. *Knowledge Representation for Retrograde Analysis*, CSTP Technical Report, 1991.

Oh, J. and S. Graham, *An Idealized Automated Translation System*, CSTP Technical Report, 1990.

Oh, J. and S. Graham, *Ambiguity Reduction Based on Syntactic and Semantic Exceptions,* CSTP Technical Report, 1990.

Oh, J. and S. Graham. *Earliest Possible Ambiguity Reduction: A Parser-Interpret based on Syntax Graphs Report*, CSTP, 1990.

Grants and Industrial Projects:

Senior Personnel, *It's a Hit*, with Horizon Healthcare, CAHIT, DSU HIM faculty – leading design and development of the *Clinic Ninja Game*, supporting the *It's a Hit* curriculum development, 2012.

Co-PI on sub award: (with Dr. Krebsbach) in a grant by Dr. Ben Sayler, Director of SCSE, to help develop E&O plans for the DUSEL preliminary design report, (continuing award**,** *DUSEL Education NSF Grant # 0970160*)

Co-PI on Sub Award (with Dr. Krebsbach) in a subaward supporting vSURF development. (continuing award, *NSF South Dakota EPSCoR RII Grant # 0903804)*

Consultant for*: Game Design and Development for: Motivating College Students to Learn Stress Management Skills through Development of a Game-Based Stress Management Program (Principle Investigator: Katherine Slama, NICHD submission, October 17, 2011)*

Mapping Ontologies for Physics Education (PI), Source: South Dakota Governor Individual Research Seed Grant Program, Duration: 9/2007 - 9/2008

MRI: Acquisition of Equipment to Establish an Information Assurance Infrastructure for Research and Education at Dakota State University (Co-investigator, with PI Dr. Xinwen Fu), Source: NSF, Duration: 8/2007 - 7/2010

DSU Faculty Research Initiative, 2005-2006.

Security Lead for Electronic Health Records (SDEHRA) Grant. w/ Dan Friedrich, Dorine Bennet and others.

A Taxonomy for Transportation Document Management, (with Adolfo Matamoros, KU), $112,000, KDOT, 2004.

Collaborative Research: A Demonstration of the NEES System for studying Soil-Foundation-Structure Interaction, Information Management Component Sub-Contract, research Data Specialist, (with PI Adolfo Matamoros), $130,000, NSF, 2003.

Data Preparation, Proof of Concept, and Process Models for a Web-based Training Center, (with JoAnn Browning, KU), $41,000, KDOT, 2003.

Query Generalization Project, $17,000, through CAT Service Division. Application of neural networks to query generalization in a full-text database.

Establishment of an Artificial Intelligence Research Facility, $56,000, UTI. Creation and management of AI research center with a variety of hardware and software tools.

Expert Systems in Fault Detection, $92,000, UTI. Investigation and development of a shell using fault trees as a knowledge representation technique for expert diagnosis systems. (with K. Blundell)

Principle architect of proposal resulting in $250,000 equipment grant from AT&T for advanced instructional laboratory.

Applicability of Expert Systems Techniques to Connectivity Assessment and Component Failure Detection in Packet Switched Networks, $18,000, US Army CECOM. (with J. Stach)

Computer Aided Instruction for Artificial Intelligence and Expert Systems, McDonnell-Douglas; subject matter expert for AI. (with K. Blundell and D. Heckathorn)

Intensive Introduction to Artificial Intelligence and Expert Systems, KCPL; industrial training program in AI developed and taught (with K. Blundell and J. Oh)

Professional Memberships:

IDGA, HEVGA, AAAI, ACM

Service:

Program Reviewer, SUNY-Canton Game Design Degree Proposal, 2016.

Compiler, DSU Computer Game Design program review, 2016.

Co-organizer, Workshop on Integrated Design in Games (IDIG), 2018
Co-organizer, Workshop on Integrated Design in Games (IDIG), 2017
Co-organizer, Workshop on Integrated Design in Games (IDIG), 2016
Co-organizer, Workshop on Integrated Design in Games (IDIG), 2015
Co-organizer, Workshop on Integrated Design in Games (IDIG), 2014
Co-organizer, Workshop on Integrated Design in Games (IDIG), 2013
Co-organizer, Workshop on Integrated Design in Games (IDIG), 2012
Workshop Chair, Workshop on Integrated Design in Games (IDIG), 2011
Director, DSU Game Lab 2010 – present
Organizer, All Fools' Day Game Faire, Madison, SD, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018
Site Coordinator, Global Game Jam, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018
Regional Coordinator, Global Game Jam, 2013 - 2014
IGDA Education SIG, Steering Committee, 2012 – 2015, 2017-
Organizer, DSU Game Design Weekend, 2009
Director, DSU Information Assurance Lab, 2004-2007
Member, DSU Planning/Implementation Council 2015-2018
Member, DSU Honors Committee 2017-
Member, DSU Assessment Committee 2016-2018
Member, DSU, 2016 provost search committee
Member, DSU, multiple different search committees, for Beacom, BIS, and A&S
Member, DSU Professional Development Committee
Member, DSU Graduate Council, 2005-
Member, DSU Promotion & Tenure committee, 2005-2006
Member, DSU MSIA Admissions Committee, 2004-2008
Member, DSU GAF Committee, 2006-2009
Member, SDBOR, Computing Discipline Committee, 2005-2007
Member, DSU Center of Excellence Committee, 2006-2008
DSU Computer Club, co-advisor, 2004-2009
DSU Computer Game Design Club, advisor, 2008 –
Member, BIS reorganization committee, 2014 -- 2015
Member, Beacom Institute committee, 2015 – 2016

Member, University of Kansas, School of Engineering Technology Committee 2001-2004

Chair, UMKC Computer Science and Telecommunications Program Graduate Committee, 1984-1986
Chair, UMKC Computer Science Telecommunications Program Service Committee, 1987-1988, 1989-1992
Member, UMKC Council on Planning and Evaluation, NCS steering committee, 1987-1992
Coordinate and direct, UMKC AI lab 1984-1992

Co-organizer, Kansas City Area Expert Systems Group 1984-1992

Michael Ham
Michael.Ham@dsu.edu
Dakota State University

EDUCATION:

Dakota State University- Madison, SD
Doctor of Science in Cyber Security
Degree Conferred: Spring 2017

Dakota State University- Madison, SD
Master of Science in Applied Computer Science
Degree Conferred: Spring 2015

Dakota State University- Madison, SD
Master of Science in Information Assurance
Degree Conferred: Spring 2012

Dakota State University- Madison, SD
Bachelor of Science in Computer and Network Security
Degree Conferred: Spring 2010

ACEDEMIC EXPERIENCE:

Assistant Professor of Cyber Operations

Dakota State University – Madison, SD: August 2016 - Current
In my role as an assistant professor, I continue my work in Cyber Operations and Network Security Administration programs at the undergraduate level. Furthermore, I teach in the Cyber Operations doctoral degree. My teaching efforts encompass incorporating security into advanced and fundamental classes in these programs. Some of the subject matter includes software reverse engineering, offensive network security, exploitation, malware analysis, scripting, network administration, routing and switching, networking and programming. Alongside of teaching, I help a considerable number of students with academic advising and new student recruiting. This is accomplished with cross-departmental and college teamwork. Additionally, I dedicate time to service of the university through committees, grant applications, securing funding for security related events, co-administering DakotaCon, and leading the NC Collegiate Cyber Defense Competition Red Team.

Instructor of Information Security

Dakota State University – Madison, SD: August 2013-August 2016
Summary: I taught in both of the Cyber Operations and Network Security Administration programs. My teaching efforts in these programs centered around offensive network security, exploitation, network administration, routing and switching, networking and foundational programming. Also, I dedicated considerable effort to

advising and recruitment activities with teams that were self-led or span multiple university departments. In addition to my assigned teaching responsibilities, I was a part of cyber security grant applications, securing funding for security events, co-administering DakotaCon, and leading the North Central Collegiate Cyber Defense Competition Red Team.
During this time, I also worked with the DSU Information Technology Services department as a lead role in architecting the campus routing and switching infrastructure to allow for a more secure, faster, and more flexible environment within the university.

INDUSTRY EXPERIENCE:

Independent Security Consultant
2013 to Current
Since relocating to the field of academia, I have maintained a strong independent security consulting practice. In this practice, I have performed network and software penetration testing along with physical security assessments for a wide variety of clientele. I also serve clients as an industry expert to make recommendations on infrastructure, vulnerability remediation, and policy. This practice is also focused on developing and maintaining industry relationships alongside of continuing to develop current skillsets and viewpoints needed by industry professionals.

Security Consultant
Eide Bailly – Fargo ND: June 2011 to August 2013
During this time, I worked as the lead cyber security consultant for Eide Bailly. My primary client-facing responsibilities included leading penetration testing efforts on external networks, internal networks, wireless networks, physical site assessment, social engineering, reporting, and making recommendations for bettering security posture. In addition to performing penetration testing, I also managed the internal infrastructure for supporting the penetration testing and security practices. Lastly, I led both internal and external cyber security training engagements.

Communications Network Specialist
South Dakota K-12 Data Center: April 2008 – May 2010
I began my employment at the K-12 data center as a student laborer whose focus was on web and software development, database management and design, statistical data reporting and presentation, and system training. Upon moving to a full time role, my duties expanded into monitoring server hardware/software health, system maintenance, policy development, management of internet-based services such as FTP/email/web, product testing and recommendations, and implementations of new systems and services. In tis role, I gained an understanding of and practiced

skillset in the essential competencies of a successful network administrator.

PUBLICATIONS:

Peer Reviewed

K. Cronin, M. Ham (2020). "Open Source Capture and Analysis of 802.11 Management Frames". Proc. Of the 17th International Conference on Information Technology: New Generations (ITNG: 2020). April 2020, Las Vegas, NV USA (virtual conference).

K. Cronin, M. Ham (2020). "A python tool for rogue 802.11 hunting". Paper presented at Central Area Networking and Security Workshop (CANSec) in Ames, IA.

K. Cronin, W. Pauli, M. Ham. (2012). Using the Cloud: The Cost of Encryption in IaaS. Paper presented at Conference on Information Systems Applied Research in New Orleans, LA.

Kyle Cronin, Wayne Pauli, and Michael Ham, Using the Cloud: Keeping Enterprise Data Private, Journal of Information Systems Applied Research (JISAR 2012), Issue 3, Volume 5, 212

K. Cronin, W. Pauli, M. Ham. (2011). Using the cloud: Keeping Enterprise Data Private. Paper presented at Conference on Information Systems Applied Research in Wilmington NC.

Pauli, M. Ham, M. Zautke, and P. Engebretson. "CookieMonster: Automated Session Hijacking Archival and Analysis". Proc. of the 7th International Conference on Information Technology: New Generations (ITNG 2011). April 2011, Las Vegas, NV, USA

Dissertation:

Ham, M. (2017). *BGP Route Attestation: Design and Observation Using IPv6 Headers* (Unpublished doctoral dissertation). Dakota State University, Madison, South Dakota.

GRANTS RECEIVED:

Dakota State University CyberCorps SFS Renewal (PI)

- Funding Agency: National Science Foundation
- Total Awarded: $3,072,227
- Project Start Date: 07/01/2019
- Project End Date: 06/30/2024
- This project will provide scholarship recipients with the education, skills, and competencies needed to play an effective role in the national security space through experiential learning opportunities

DSU and NDSU GenCyber Partner Camp (Co-PI)

- Funding Agency: National Science Foundation and the National Security Agency
- Total Awarded: $139,468.03
- Project Start Date: 04/01/2019
- Project End Date: 03/31/2020
- DSU and NDSU teamed up to host a GenCyber camp for high school students in Fargo, ND. This time, NDSU was the lead on the camp and issued a sub-award to DSU for their involvement in the grant.

DSU GenCyber Co-Ed (Co-PI)

- Funding Agency: National Science Foundation and the National Security Agency
- Total Awarded: $260,425.46
- Project Start Date: 04/01/2019
- Project End Date: 03/31/2020
- DSU hosted a GenCyber week-long residential camp for rising high school students.

DSU and NDSU GenCyber Partner Camp (PI)

- Funding Agency: National Science Foundation and the National Security Agency
- Total Awarded: $116,617.50
- Project Start Date: 04/01/2018
- Project End Date: 03/31/2019
- DSU and NDSU teamed up to host a GenCyber camp for high school students in Fargo, ND.

DSU GenCyber Co-Ed (Co-PI)

- Funding Agency: National Science Foundation and the National Security Agency
- Total Awarded: $268,023.70
- Project Start Date: 04/01/2018
- Project End Date: 03/31/2019

- DSU hosted a GenCyber week-long residential camp for rising high school students.

CNAP Curriculum Development (Co-PI)

- Funding Agency: National Security Agency
- Total Awarded: $ 490,507.13
- Project Start Date: 09/1/2017
- Project End Date: 08/31/2018
- Curriculum development to meet the future workforce demands of the U.S. Federal Government in response toe the Cybersecurity National Action Plan (CNAP).

DSU GenCyber Co-Ed (Co-PI)

- Funding Agency: National Science Foundation and the National Security Agency
- Total Awarded: $268,023.70
- Project Start Date: 03/01/2017
- Project End Date: 02/28/2018
- DSU hosted a GenCyber week-long residential camp for rising high school students.

Dakota State University NSF-SFS Cyber Corps Renewal (Co-PI)

- Funding Agency: National Science Foundation
- Total Awarded: $4,594,212
- Project Start Date: 08/15/2014
- Project End Date: 07/31/2019
- DSU and NDSU teamed up to host a GenCyber camp for high school students in Fargo, ND.

CURRICULUM VITAE

*Presented in reverse chronological order

- Assistant Professor, Dakota State University: CSC428 Reverse Engineering
  - This course provides fundamental knowledge of secure software development methodologies and applied security topics related to compiled programs. In-depth coverage of source code auditing, fuzzing, introduction to reverse engineering, and exploitation will be emphasized.
- Assistant Professor, Dakota State University: CSC840 Cyber Operations 1
  - This course covers areas related to the following knowledge units/objectives: principles of Security such as general fundamental design, security design, and methods for reducing complexity; legal Issues surrounding international and US laws; networking protocols, architectures, security, analysis, and mapping; and offensive Cyber Operations as they relate to the cyber kill chain, mission planning/execution, mission objectives, and the different phases of cyber ops.
- Assistant Professor, Dakota State University: CSC407 Advanced Routing & Switching
  - This course covers many of the advanced topics that a network communications administrator may encounter. Topics range from advanced routing protocols and security implications, VPNs, firewalls, IDS/IPS, quality of service, multi-vendor internetworking, VoIP, and storage networks. This class is highly hands on and students learn through practical lab work.
- Assistant Professor, Dakota State University: CSC363 Hardware, Virtualization, and Data Communications
  - Students learn about consumer-grade and enterprise-level hardware at multiple angles. Focus areas include how data moves through a computer system, architecture, and its impact on security. Additional areas expose students to server room environments, enterprise routing and switching equipment, and virtualization in the context of user and large scale scenarios.
- Assistant Professor, Dakota State University: CSC387 Routing and Switching
  - Core routing and switching course that covers essential topics, protocols, hardware, implementation, and troubleshooting skills necessary for network communications. Students focus on network segmentation, OSI layers, routing protocols, shortest path algorithms, switching, traffic encryption, and traffic routing. The course delivery methods encompass a variety of vendors in a physical and virtual lab setting for hands on practice and application of course materials.
- Assistant Professor, Dakota State University: CSC436 Offensive Network Security
  - An upper level security course that provides both theoretical and practical aspects of penetration testing, social engineering, and exploitation. Students learn through five distinct phases of penetration testing which are: reconnaissance, scanning/vulnerability assessment, gaining access and exploitation, maintaining access, and covering tracks. These concepts are taught in an applied method and closely guided by the ever evolving methodologies used by professionals.
- Instructor, Dakota State University: INFA736 Offensive Network Security
  - A masters course that is a continuation of the undergraduate Offensive Network Security course. Students take a deeper look at the five distinct phases of ethical hacking including: reconnaissance, scanning and vulnerability assessment, gaining access and exploitation, maintaining access, and covering tracks. A strong

emphasis is placed upon exploit development, research, and writing custom tools. Hands on labs are used to provide students with practical experience.

- Instructor, Dakota State University: CIS383 Networking I
  - Networking I covers a variety of introductory networking topics for beginning students. This class covers LAN topologies, media choices, protocols, transmission techniques, and equipment overviews. Additionally, software offerings and problem determination procedures are presented. This gives students a foundation for developing further networking skills and viewpoints needed by professionals.
- Instructor, Dakota State University: CIS460 Windows Administration
  - In this class, students are given a foundation in day-to-day administration and operation tasks of a Windows-based network. Topics as they relate to the administration of a Windows network include, Active Directory, DHCP, DNS, IIS, routing, security templates, group policy, troubleshooting, and security best practices. Students practice hands-on skills in a virtual environment composed of systems representative of a typical Windows network found in a small to enterprise level business.
- Instructor, Dakota State University: CSC150 Computer Science I
  - Students are exported to an introductory level of C programming. Main concepts include programming logic, data types, loops, conditional operators, functions, prototyping, and best practices. Natural areas of this hands on exploration include compiling, troubleshooting, critical thinking. A critical implementation of this course is the development of secure coding concepts and potential outcomes those practices. Students are offered challenges and sample problem sets to develops these foundational skills.
- Instructor, Dakota State University: CIS462 UNIX/Linux Administration
  - In this course, students are exposed to and prepared for basic administration, networking, and security-oriented tasks in professional UNIX/Linux-based servers. Students are taught to manage services and processes, write she'll scripts, manage the file system, provide services such as DHCP/FTP/DNS, manage accounts, and troubleshoot networks. The course engages students in a practical environment where students may directly see the impacts and benefits of their configuration from a server/client standpoint.

HOUSSAIN KETTANI, PH. D.

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ACADEMIC EDUCATION

University of Wisconsin, Madison, WI, USA

- Doctor of Philosophy (Ph.D.) in Electrical Engineering, 2002
- Master of Science in Electrical Engineering, 2000

Eastern Mediterranean University, Famagusta, Cyprus

- Bachelor of Science (High Honor) in Electrical and Electronic Engineering, 1998

ACADEMIC APPOINTMENTS

Dakota State University, Madison, SD, USA

- Professor, Beacom College of Computer and Cyber Sciences, 2018 – Present

Florida Polytechnic University, Lakeland, FL, USA

- Professor, Department of Computer Science and Information Technology, 2016 – 2018

Fort Hays State University, Hays, KS, USA

- Professor (Tenured), Department of Computer Science and Information Systems Engineering, 2014 – 2016
- Director, Information Enterprise Institute (IEI), 2014 – 2016
- Founding Director, Computer Science and Information Systems Engineering Program, 2014 – 2016
- Founding Director, Information Systems Engineering Program, 2012 – 2014
- Professor, Department of Informatics, 2012 – 2014

Polytechnic University, San Juan, PR, USA

- Professor, Department of Electrical and Computer Engineering and Computer Science, 2009 – 2012
- Founding Director, Partnership Development Office, 2009 – 2012
- Founding Director, Nuclear Education Fellowship Program, 2009 – 2012
- Coordinator, Electrical Engineering Graduate Program, 2008
- Associate Professor, Department of Electrical and Computer Engineering and Computer Science, 2007 – 2009

University of Technology at Malaysia, Skudai, Johor, Malaysia

- Associate Professor (External Supervisor/Academic Advisor), Faculty of Computer Science and Information Systems, 2006 – 2008

Jackson State University, Jackson, MS, USA

- Assistant Professor, Department of Computer Science, 2003 – 2007

University of South Alabama, Mobile, AL, USA

- Assistant Professor, Department of Electrical and Computer Engineering, 2002 – 2003

University of Wisconsin, Madison, WI, USA

- Teaching and Research Assistant, Department of Electrical and Computer Engineering, 1998 – 2002

Eastern Mediterranean University, Famagusta, Cyprus

- Teaching and Research Assistant, Department of Electrical and Electronic Engineering, 1997 – 1998

SUMMER RESEARCH APPOINTMENTS

Oak Ridge National Laboratory, Oak Ridge, TN, USA

- Visiting Research Faculty, Statistics and Data Science Group, Computer Science and Mathematics Division, 2011
- Visiting Professor, Joint Institute for Computational Sciences, The University of Tennessee, Knoxville, and ORNL, 2010
- Visiting Research Faculty, Statistics and Data Science Group, Computer Science and Mathematics Division, 2009
- Visiting Research Faculty, Computer Science Research Group, Computer Science and Mathematics Division, 2007
- Distinguished Visiting Scientist/Faculty, Statistics and Data Science Group, Computer Science and Mathematics Division, 2006
- Visiting Research Faculty, Statistics and Data Science Group, Computer Science and Mathematics Division, 2005

University of Alaska, Fairbanks, AK, USA

- Visiting Research Professor, Arctic Region Supercomputing Center, 2008

Los Alamos National Laboratory, Los Alamos, NM, USA

- Staff Research Assistant, Computing, Information, and Communications Division, 2000

HIGHLIGHTED ACHIEVEMENTS

Dakota State University, Madison, SD, USA

- Taught online undergraduate courses: Computer Science II (C++)
- Taught online graduate (doctoral) courses: Cyber Security Research, Data Privacy, and Secure Software Engineering.
- Chair and keynote speaker at over twenty international conferences.
- Member of several college committees.
- Published over twenty research papers and a book.

Florida Polytechnic University, Lakeland, FL, USA

- Taught undergraduate courses: Applied Cryptography, Algorithms Design and Analysis, Data Structures and Algorithms, Design II, Machine Learning.
- Helped in the preparation of initial SACS and ABET accreditations.
- Member of several university committees
- Chair and keynote speaker at over twenty international conferences, including six that I attracted to campus with external funds.
- Wrote several grant proposals and published six research papers.

Fort Hays State University, Hays, KS, USA

- Taught online and on-campus undergraduate courses: Capstone Seminar in Information Networking, Computer Operation Systems, Computer Science I (C++), Communication Systems, Data Structures and Algorithm Design, Foundations of Information Networking, Foundations of Information Systems Engineering, Information Management, Introduction to Computer Information Systems, Introduction to Cryptography, Random Signal Analysis, Signals and Systems, Networks and Data Communications.
- Directed the Information Enterprise Institute (IEI)
  - A national center of academic excellence in information assurance and cyber defense (CAE IA/CD) certified by the National Security Agency (NSA) and the Department of Homeland Security (DHS)
  - The program provides a certificate for students after successfully completing a set of courses in Information Assurance.
- Founded and directed the first and only four-year undergraduate Engineering program at the University
  - Developed the four-year curriculum of Information Systems Engineering Bachelor of Science program.
  - Designed and taught the core ISE courses.
  - Led the preparation for initial ABET accreditation of the ISE program.
  - Signed several Memoranda of Understanding (MOU) for 2 + 2 transfer agreements with nearby community colleges and some international institutions.
  - Embarked on dozens of national and international recruiting trips to attract students to the program, visiting high schools, community colleges and universities, giving presentations, meeting students, faculty and staff and designing MOUs.
  - Advised students with their course selection and curriculum fulfillment.
- Successfully proposed the merging of CS and ISE programs in a new department which I directed.
- Member of several department, college and university committees.
- Chair and keynote speaker at over twenty international conferences, including one that I attracted to campus with external funds.
- Wrote several grant proposals and published four research papers and a book.

Polytechnic University, San Juan, PR, USA

- Taught undergraduate course: Discrete structures.
- Taught graduate courses: Advanced Design and Analysis of Algorithms, Data Communication Networks.
- Founding Director of the Nuclear Education Fellowship Program (NEFP).
  - Secured funds of half million dollars from the United States Nuclear Regulatory Commission to start the Program.
  - Developed a mentor-protégé program between the University and Oak Ridge National Laboratory (ORNL).
  - NEFP supports graduate students by paying tuition fees and give monthly stipends during the academic year.
  - ORNL supports students during a twelve-week summer period by paying tuition fees and give monthly stipends during the academic year.
  - NEFP Fellows are co-mentored by a researcher from ORNL and a faculty member at PUPR, and the research is part of their Master's thesis
- Founding Director of the Partnership Development Office (PDO).

- Secured various opportunities to faculty and students: funding for trips, scholarships, fellowships, summer internships, joining doctoral programs in the US Mainland, etc.
- Networked for the institution and developed international visibility.
- Secured institutional membership at Oak Ridge Associated Universities (ORAU) for PUPR San Juan, PR and Orlando, FL campuses.
- Appointed by PUPR's President as ORAU Councilor and Chief Research Officer for both campuses.
- Started and led the Partnership Development Office's Lecture Series (PDOLS), a weekly research talk by a student, faculty or a visitor.

- Helped with securing a national center of academic excellence in information assurance education (CAE IAE) certified by the National Security Agency (NSA) and the Department of Homeland Security (DHS).
  - Named Center for Information Assurance for Research and Education (CIARE).
  - The Center provides a certificate for students after successfully completing a set of courses in Information Assurance.
- Coordinated the Electrical Engineering Graduate Program
  - Scheduled classes, assigned courses to faculty and advised students.
- Helped with ABET reaccreditation efforts for electrical engineering, computer engineering and computer science programs.
- Chair and keynote speaker at over fifty international conferences, including eight that I attracted to campus with external funds.
- Wrote several grant proposals, published close to forty research papers and edited conference proceedings.

RESEARCH INTERESTS

Computational Science and Engineering, High Performance Computing Algorithms, Information Retrieval, Network Traffic Characterization, Number Theory, Population Research, and Robust Control and Optimization.

COURSES TAUGHT

- **Undergraduate:** Algorithm, Design and Analysis (17 times), Applied Cryptography (5), Capstone Seminar in Information Networking (4), Computer Science I (C++) (1), Computer Operating Systems (1), Data Structures and Algorithm Design (7), Digital System Design (3), Discrete Structures (33), Electromechanical Energy Conversion (1), Electronic Circuits II (1), FORTRAN (1), Foundations of Information Networking (4), Foundations of Information Systems Engineering (2), Information and Computer Security (4), Information Management (1), Introduction to Computer Information Systems (4), Machine Learning (2), Networks and Data Communications (1), MATLAB (3), PSpice (1), Random Signals in Linear Systems (2), Random Signals Analysis (1), Signals and Systems (1) and Pascal (1)
- **Graduate:** Advanced Digital Signal Processing (1), Communication Systems Laboratory (1), Cyber Security Research (1), Data Structures and Algorithm Analysis (4), Data Communications Networks (3), Data Privacy (1), Digital Image Processing (1), Information and Computer Security (4), Introduction to Numerical Methods (2), Numerical Linear Algebra (2), Pattern Recognition (1) and Secure Software Engineering (1)

PROPOSALS & GRANTS

AWARDED GRANTS

Excluding travel grants (around $10,000 per year) & funding to organize international conferences (around $5,000 per conference)

- PI: H. Kettani, *Five Cisco 2800 Routers*, Cisco, valued at $10,000, October 2013.
- PI: H. Kettani, *Polytechnic University of Puerto Rico Nuclear Education Fellowship Program,* U.S. Nuclear Regulatory Commission. Grant of $400,000 awarded under subcontract NRC-38-09-937 for the period of August 2009 – August 2013.
- PI: H. Kettani, *Polytechnic University of Puerto Rico Research Laboratory Equipment Support*, U.S. Nuclear Regulatory Commission. Grant of $35,000 awarded under subcontract NRC-27-10-512 for the period of August 2010 – August 2011.
- PI: H. Kettani, *Polytechnic University of Puerto Rico Faculty Research Support*, U.S. Nuclear Regulatory Commission. Grant of $23,000 awarded under subcontract NRC-27-09-310 for the period of April 2009 – December 2010.
- PI: H. Kettani and O. Rodriguez, *Travel Assistance to Attend DOE's Day of Science Event on October 28-29, 2007*, U.S. Nuclear Regulatory Commission. Grant of $21,000 awarded under subcontract NRC-27-08-304 for the period of October – November 2007.
- PI: H. Kettani. *Intelligent Information Management in Data-Intensive HPC Environments Using Content-Based File Systems*, High Performance Computing Visualization Initiative (HPCVI), US Department of Defense via the Army/Engineering Research and Development Center, Vicksburg, Mississippi. Grant of $147,257 awarded under subcontract W912HZ-05-C-0051 for the period of July 2005 – December 2006.
- PI: L. A. Moore. Co-PI: H. Kettani. *Collaborative Project: A Cyber Service Scholarship Proposal*, National Science Foundation. Grant of $222,074 Awarded for the period of August 2003 – August 2006

- PI: L. A. Moore. Co-PI: H. Kettani. *Collaborative Project: Expansion and Enhancement of the Center of Excellence in Information Assurance Program*, National Science Foundation. Grant of $127,527 Awarded for the period of August 2003 – August 2004
- PI: H. Kettani. *A New Monte Carlo Circuit Simulation Paradigm with Specific Results for Resistive Networks*, Center for University Scholars, Jackson State University in June 2003. Grant of $5,000 received for the period of July 2003.
- H. Kettani, *The Design of a New Stochastic Model for TCP-Modulated Network Traffic*, Los Alamos National Laboratories. Grant of $17,000 received under subcontract 25136-001-01-4T for the period of January 2001 - June 2001.
- Funded by the National Science Foundation through professor B. Ross Barmish to perform research in the area of Robust Control, under Grants ECS-9711590 and ECS-9811051, January 1999 - May 2000

SELECTED PUBLICATIONS

BOOKS

- Kettani, H. & Kasim, R. (Eds.). (2011). *Proceedings of the 2011 International Conference on Measurement and Control Engineering (ICMCE 2010), San Juan, Puerto Rico, October 2011*. New York, NY: ASME Press. 500 pages. ISBN: 978-0-7918-5985-8.
- Kettani, H. & Li, Y. (Eds.). (2010). *Proceedings of the 3rd International Conference on Environmental and Computer Science (ICECS 2010), San Juan, Puerto Rico, October 2010*. Chengdu: Institute of Electrical and Electronic Engineering Inc. 98 pages, ISBN: 978-1-4244-8666-1.
- Kettani, H. & Li, Y. (Eds.). (2010). *Proceedings of the 2nd International Conference on Software Technology and Engineering (ICSTE 2010), San Juan, Puerto Rico, October 2010*. Chengdu: Institute of Electrical and Electronic Engineering Inc. Vol. 1: 442 pages, Vol. 2: 417 pages. ISBN: 978-1-4244-8665-6.
- Kettani, H. & Yanqun, Z. (Eds.). (2010). *Proceedings of the 4th International Conference on Distance Learning and Education (ICDLE 2010), San Juan, Puerto Rico, October 2010*. Chengdu: Institute of Electrical and Electronic Engineering Inc. 246 pages. ISBN: 978-1-4244-8750-9.
- Rawani, A.M., Kettani, H. & Zhang, L. (Eds.). (2010). *Proceedings of the 2010 International Conference on Innovation, Management and Service (ICIMS 2010), Singapore, February 2010*. Singapore: World Academic Press. 296 pages. ISBN: 978-1-8462-6027-8.
- Rawani, A.M., Kettani, H. & Zhang, L. (Eds.). (2010). *Proceedings of the 2010 International Conference on Business, Economics and Tourism Management, (ICBETM 2010), Singapore, February 2010*. Singapore: World Academic Press. 388 pages. ISBN: 978-1-8462-6026-1.
- Rawani, A.M., Kettani, H. & Zhang, T. (Eds.). (2010). *Proceedings of the 2010 International Conference on Behavioral, Cognitive and Psychological Sciences (ICBCPS 2010), Singapore, February 2010*. Singapore: World Academic Press. 192 pages. ISBN: 978-1-8462-6028-5.
- Rawani, A.M., Kettani, H. & Zhang, T. (Eds.). (2010). *Proceedings of the 2010 International Conference on Humanities, Historical and Social Sciences (ICHHSS 2010), Singapore, February 2010*. Singapore: World Academic Press. 704 pages. ISBN: 978-1-8462-6025-4.
- Kettani, H. (2002). *A Novel Approach to the Estimation of the Long-Range Dependence Parameter*. Madison, WI: University of Wisconsin. 79 pages.

BOOK CHAPTERS

- Rohani, M.F., Maarof, M.A., Selamat, A. & Kettani, H. (2008). Horizontal LoSS Analysis in Multi-Level Sampling Structure. In M.A. Maarof (Ed.), *Advanced Computer Network and Security* (pp. 87-112). Skudai: Penerbit UTM Press

REFEREED JOURNALS

- Gallo, P., & Kettani, H. (2020). On privacy issues with Google Street View. South Dakota Law Review, 1-5.
- Nur, M., & Kettani, H. (2020). Challenges in protecting data for modern enterprises. *Journal of Economics, Business and Management, 7*(2), 1-7. https://doi.org/10.18178/JOEBM
- Carnley, P.R., & Kettani, H. (2019). Identity and access management for the internet of things. *International Journal of Future Computer and Communication, 8*(4), 129-133. https://doi.org/10.18178/ijfcc.2019.8.4.554
- Lange, T., & Kettani, H. (2019). On security challenges of future technologies. *Journal of Communications, 14*(11), 1002-1008. https://doi.org/10.12720/jcm.14.11.1002-1008
- Stines, A.A., & Kettani, H. (2019). Exploring open education resources in cyber training. *International Journal of Culture and History, 5*(3), 10-13. https://doi.org/10.18178/ijch.2019.5.3.139
- McNicholas, J.B., & Kettani, H. (2019). Consideration of insider-based collusion attacks on cyber systems. *International Journal of Social Science and Humanity, 9*(2), 31-35. https://doi.org/10.18178/ijssh.2019.9.2.986
- Rohani, M.F., Maarof, M.A., Selamat, A., & Kettani, H. (2010). Multi-level sampling approach for continuous loss detection using iterative window and statistical model. *IIUM Engineering Journal, 11*(2), 151-162. Retrieved from http://journals.iium.edu.my/ejournal/index.php/iiumej/article/view/29

- Rohani, M. F., Maarof, M. A., Selamat, A. & Kettani, H. (2009). Loss of Self-Similarity Detection Using Exact and Asymptotic Self-Similarity Models. *Journal of Information Assurance and Security*, 4(6), 571-581. Retrieved from http://www.mirlabs.org/jias/vol4-issue6.html
- Rohani, M. F., Maarof, M. A., Selamat, A. & Kettani, H. (2007). An implementation of LoSS detection using SOSS model. *Journal of Information Technology*, 19(2), 22-34. Retrieved from http://eprints.utm.my/id/eprint/5603/
- Rohani, M. F., Maarof, M. A., Selamat, A. & Kettani, H. (2007). Uncovering anomaly traffic based on loss of self-similarity behavior using second order statistical model. *International Journal of Computer Science and Network Security*. 7(9), 116-122. Retrieved from http://paper.ijcsns.org/07_book/200709/20070917.pdf
- Kettani, H. (2006). On the conversion between number systems. *IEEE Transactions on Circuits and Systems II*. 53(11), 1255-1258. https://doi.org/10.1109/TCSII.2006.882856
- Kettani, H. & Barmish, B.R. (2006). A new Monte Carlo circuit simulation paradigm with specific results for resistive networks. *IEEE Transactions on Circuits and Systems I*. 53(6), 1289-1299. https://doi.org/10.1109/TCSI.2006.875183
- Kettani, H. & Gubner, J.A. (2006). A novel approach to the estimation of the long-range dependence parameter. *IEEE Transactions on Circuits and Systems II*, 53(6), 463-467. https://doi.org/10.1109/TCSII.2006.873828
- Alam, M.S., Haque, M., Khan, J.F. & Kettani, H. (2004). Fringe-adjusted joint transform correlator based target detection and tracking in forward looking infrared image sequence. *Optical Engineering*, 43(6), 1407-1413. https://doi.org/10.1117/1.1731236

REFEREED CONFERENCES

- Badami, C. & Kettani, H. (2020). On malware detection in the Android operating system. *Proceedings of the International Conference on Algorithms, Computing and Systems (ICACS), Berlin, Germany.* New York, NY: ACM.
- Begian, C. & Kettani, H. (2020). Analysis of fuel pump skimming devices. *Proceedings of the International Conference on Information System and Data Mining (ICISDM), Hilo, HI.* New York, NY: ACM.
- Steinhagen, D. & Kettani, H. (2020). An inventory of existing neuroprivacy controls. *Proceedings of the International Conference on Information System and Data Mining (ICISDM), Hilo, HI.* New York, NY: ACM.
- Matthews, R. & Kettani, H. (2020). Cryptojacking: a hidden theft. *Proceedings of the International Conference on Information System and Data Mining (ICISDM), Hilo, HI.* New York, NY: ACM.
- McNulty, M. & Kettani, H. (2020). On cybersecurity education for non-technical learners. *Proceedings of the International Conference on Information and Computer Technologies (ICICT),* San Jose, CA. Piscataway, NJ: IEEE.
- Nelson, T. & Kettani, H. (2020). Open source PoweShell-written post exploitation frameworks used by cyber espionage groups. *Proceedings of the International Conference on Information and Computer Technologies (ICICT),* San Jose, CA. Piscataway, NJ: IEEE.
- Bumanglag, K. & Kettani, H. (2020). On the impact of DNS over HTTPS paradigm on cyber systems. *Proceedings of the International Conference on Information and Computer Technologies (ICICT),* San Jose, CA. Piscataway, NJ: IEEE.
- Koerner, G., & Kettani, H. (2019). Privacy concerns on expungement laws in the digital world. *Proceedings of the International Conference on Information System and System Management (ISSM),* Rabat Morocco. New York, NY: ACM. https://doi.org/10.1145/3394788.3394791
- Henricks, A., & Kettani, H. (2019). On data protection using multi-factor authentication. *Proceedings of the International Conference on Information System and System Management (ISSM),* Rabat Morocco. New York, NY: ACM. https://doi.org/10.1145/3394788.3394789
- Prevost, S., & Kettani, H. (2019). On data privacy in modern personal vehicles. *Proceedings of the International Conference on Big Data and Internet of Things (BDIoT'19),* Rabat, Morocco. New York, NY: ACM. https://doi.org/10.1145/3372938.3372940
- Jernejcic, T., & Kettani, H. (2019). On the intersection of big data and privacy. *Proceedings of the International Conference on Big Data and Internet of Things (BDIoT'19),* Rabat, Morocco. New York, NY: ACM. https://doi.org/10.1145/3372938.3372939
- Jarocki, S., & Kettani, H. (2019). Examining the efficacy of commercial cybersecurity certifications for information security analysts. *Proceedings of the International Conference on Information Systems Engineering (ICISE 2019),* Shanghai, China, 1-5. Piscataway, NJ: IEEE. https://doi.org/10.1109/ICISE.2019.00008
- Lam, T., & Kettani, H. (2019). PhAttApp: A phishing attack detection application. *Proceedings of the International Conference on Information System and Data Mining (ICISDM 2019),* Houston, TX, 1-6. New York, NY: ACM. https://doi.org/10.1145/3325917.3325927
- Kettani, H., & Wainwright, P. (2019). On the top threats to cyber systems. *Proceedings of the International Conference on Information and Computer Technologies (ICICT 2019),* Kahului, HI, 175-179. Piscataway, NJ: IEEE. https://doi.org/10.1109/INFOCT.2019.8711324

- Wainwright, P., & Kettani, H. (2019). An analysis of botnet models. *Proceedings of the International Conference on Compute and Data Analysis (ICCDA 2019),* Kahului, HI, 116-121. New York, NY: ACM. https://doi.org/10.1145/3314545.3314562
- Lange, T., & Kettani, H. (2019). On security threats of botnets to cyber systems. *Proceedings of the International Conference on Signal Processing and Integrated Networks (SPIN 2019)*, Noida, India, 176-183. Piscataway, NJ: IEEE. https://doi.org/10.1109/SPIN.2019.8711780
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- Kettani, H. & Ostrouchov, G. (2008). On the distribution of the distance between two multivariate normally distributed points. *Proceedings of the 7th Annual Hawaii International Conference on Statistics, Mathematics and Related Fields,* Honolulu, HI.
- Rohani, M.F., Maarof, M.A., Selamat, A. & Kettani, H. (2007). Loss of self-similarity detection with second order statistical model and multi-level sampling approach. *Proceedings of the International Conference on Robotic, Vision, Information and Signal Processing (ROVISP'07)*, Park Royal Penang, Malaysia, 152-156.
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- Kettani, H. (2004). Monte Carlo analysis of uncertain digital circuits. *Proceedings of the 7th Annual Military and Aerospace Programmable Logic Devices (MAPLD) International Conference,* Washington, DC.
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- Barmish, B.R. & Kettani, H. (2000). Monte Carlo analysis of resistive networks without a priori probability distributions. *Proceedings of the 2000 Annual IEEE International Symposium on Circuits and Systems (ISCAS 2000),* Geneva, Switzerland, 1462-1465. Piscataway, NJ: IEEE. https://doi.org/10.1109/ISCAS.2000.856047

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OTHER CONFERENCE ABSTRACTS & PRESENTATIONS

- Torres-Santiago, J., Alvarez, G. & Kettani, H. (2011). *DMRG++ code refactoring: Implementing a JSON format for the input file*. Research Alliance in Math and Science (RAMS) Summer Poster Session. Oak Ridge, TN.
- Borges-Hinks, R.C., Patton, R. & Kettani, H. (2011). *BitPredator: Discovery algorithm for BitTorrent initial seeders and peers*. Research Alliance in Math and Science (RAMS) Summer Poster Session. Oak Ridge, TN. [RAMS 2011 Best Oral Presentation Award].
- Camacho-Bonaparte, Y.M., Kettani, H., Ostrouchov, G. & Sisneros, R. (2011). *Preprocessing climate data for access to local spatial extremes*. Research Alliance in Math and Science (RAMS) Summer Poster Session, Oak Ridge, TN.
- Fuentes, F., Ostrouchov, G., Kettani, H., Stoitsov, M. & Nam, H.A. (2010). *Nuclear density functional theory parameters correlations*. Research Alliance in Math and Science (RAMS) Summer Poster Session, Oak Ridge, TN. [RAMS 2010 Best Poster Award].
- Hernandez-Jimenez, J.M., Pouchard, L. & Kettani, H. (2010). *Analyzing temperature data in a high-performance computing cluster*. Research Alliance in Math and Science (RAMS) Summer Poster Session, Oak Ridge, TN.
- Fuentes, F., Ostrouchov, G., Kettani, H., Stoitsov, M. & Nam, H.A. (2009). *Exploration of high-dimensional nuclei data*. Research Alliance in Math and Science (RAMS) Summer Poster Session, Oak Ridge, TN.
- McBride, C.P., Kettani, H., Gray, L. & Fata, S.N. (2007). *Iterative solution of Hermite boundary integral equations.* Research Alliance in Math and Science (RAMS) Summer Poster Session, Oak Ridge, TN.
- Kettani, H. (2006). *A cryptographic application of number systems base conversion*. The 22nd Annual Computer Security Applications Conference (ACSAC), Miami, FL.
- Kettani, H. (2006). *A parallel computing algorithm for number systems base conversion*. The International Conference for High Performance Computing, Networking, Storage and Analysis (SC06), Tampa, FL.
- Lovett, L., Ostrouchov, G. & Kettani, H. (2006). *A multiscale algorithm for dimension reduction and clustering*. Research Alliance in Math and Science (RAMS) Summer Poster Session, Oak Ridge, TN.
- Lovett, L., Ostrouchov, G. & Kettani, H. (2005). *RobustMap: A fast and robust algorithm for dimension reduction and clustering.* The 3rd Annual Rockey Mountain Regional Bioinformatics Conference, Aspen/Snowmass, CO.
- Anyanwu, M. & Kettani, H. (2005). *Wireless and mobile networks security*. The 21st Annual Computer Security Applications Conference (ACSAC), Tucson, AZ.
- Lovett, L., Ostrouchov, G., & Kettani, H. (2005). *RobustMap: A fast and robust algorithm for dimension reduction and clustering.* The 2005 Annual Biomedical Research Conference for Minority Students (ABRCMS), Atlanta, GA.
- Lovett, L., Ostrouchov, G. & Kettani, H. (2005). *RobustMap: A fast and robust algorithm for dimension reduction and clustering.* Research Alliance in Math and Science (RAMS) Summer Poster Session, Oak Ridge, TN.
- Lovett, L. & Kettani, H. (2004). *Finding primality by base conversion.* The 2004 Annual Biomedical Research Conference for Minority Students (ABRCMS), Dallas, TX.
- Lovett, L. & Kettani, H. (2004). *Finding primality by base conversion*. LSMAMP Statewide Research Symposium, Jackson, MS.

MAGAZINE ARTICLES

- Anyanwu, M. & Kettani, H. (2005). Wireless networks: An overview. *InTech*, 52(11), 40.

TECHNICAL REPORTS

- Kettani, H. & Feng, W. (2001). *On the stationarity and variation of self-similarity in network traffic* (Unclassified Report 01-0906). Los Alamos National Laboratory, Los Alamos, NM.
- Kettani, H. & Feng, W. (2001). *A new method for estimating the Hurst parameter in self-similar traffic* (Unclassified Report 01-0905). Los Alamos National Laboratory, Los Alamos, NM.

AWARDS & HONORS

- **Fellow**, Science and Engineering Institute (SCIEI), 2012
- **Fellow**, International Association for Information Technology, Communication and Development (IAITCD), 2012
- **Fellow**, International Association of Computer Science and Information Technology (IACSIT), 2012
- **The Research Alliance in Math and Science (RAMS) Summer Internship Recognition Award** for "exceptional mentoring" of students in the program at Oak Ridge National Laboratory, Oak Ridge, Tennessee, August 2009, 2010 and 2011
- **Visiting Faculty Fellowship**, High Performance Computing and Modernization Program Office, Department of Defense, Lorton, Virginia, June 2008 – August 2008
- **Microsoft Best Paper Award**, presented at the 4th FSKSM Postgraduate Annual Research Seminar (PARS'08), Skudai, Johor, Malaysia, July 2008

- **The Research Alliance in Math and Science (RAMS) 2007 Summer Internship Recognition Award** for "selfless mentoring" of students in the program at Oak Ridge National Laboratory, Oak Ridge, Tennessee, August 2005, 2006, and 2007
- **Oak Ridge Associated Universities (ORAU) Corporate Award**, ORAU's partnership Development Office, amount of $6,250 received in recognition to my research contributions, Oak Ridge, Tennessee, June 2007
- **Women's Institute in Summer Enrichment (WISE) Fellowship**, University of California, Berkeley, California, June 2007
- **Outstanding Professor/Researcher**, United States Citizenship and Immigration Services (USCIS), Mesquite, Texas, June 2006
- **Certificate of Appreciation**, "in recognition of your outstanding achievements and tireless efforts with the Computer Science Students at Jackson State University," presented by the ACM students Chapter, Jackson State University, Jackson, Mississippi, April 2006
- **The Seventh Workshop on Education in Computer Security (WECS7) Scholarship**, Naval Postgraduate School, Monterey, California, January 2006
- **Marquis Who's Who Recognition,** January, 2005
- **The Sixth Workshop on Education in Computer Security (WECS6) Scholarship**, Naval Postgraduate School, Monterey, California, July 2004
- **LCN 2002 Best Paper Award,** presented at the 27th Annual IEEE Conference on Local Computer Networks (LCN 2002), Tampa, Florida, November 2002
- **Outstanding Leadership & Achievement Award,** the Student Organization Office, University of Wisconsin – Madison, in recognition of my work with the Muslim Students Association, May 2002
- **Gerald Holdrege Tutorial/Course Development Award**, the Electrical and Computer Engineering Department, University of Wisconsin – Madison, in recognition of my contributions to feedback control systems course, May 2000
- Recipient of **Academic Excellence Scholarship**, awarded to students with outstanding academic achievement, February 1996 – June 1998
- Ranked the third out of over 100 graduates, July 1998
- Received **high honor certificates** every semester for academic achievement, February 1996 – June 1998

RESEARCH LEADERSHIP SERVICE ACTIVITIES

JOURNAL EDITORIAL BOARD

- **Editor-in-Chief**, International Journal of Signal Processing Systems (IJSPS), 2013-current
- **Editor**, International Journal of Image Processing and Data Visualization (IJIPDV), 2011-2016
- **Editor**, International Journal of Computer Communications and Networks (IJCCN), 2011-2016
- **Editor**, International Journal of Future Generation Distributed Systems (IJFGDS), 2011-2016
- **Editor**, International Journal of Innovative Information and Electrical Engineering (IJIIEE), 2012-2015
- **Editor**, International Journal of Social Sciences and Humanities (IJSSH), 2012-2015
- **International Scientific Advisory Board**, Global Journal Al Thaqafah (GJAT), 2012-2015

CONFERENCE CHAIRING & KEYNOTE

- **Keynote Speaker & Chair**, the International Conference on Knowledge Management Systems (ICKMS), Lakeland, FL, 2018, Houston, TX, 2019, Hilo, HI, 2020
- **Keynote Speaker & Chair**, the International Conference on Information System and Data Mining (ICISDM), Lakeland, FL, 2018, Houston, TX, 2019, Hilo, HI, 2020
- **Keynote Speaker & Chair**, the International Conference on Algorithms, Computing and Systems (ICACS), Rabat, Morocco, 2019, Berlin, Germany, 2020
- **Keynote Speaker & Chair**, African Electronics, Computer and Communication Conference (AECCC), Rabat, Morocco, 2019, 2020
- **Keynote Speaker**, the International Conference on Collective Intelligence and Computing Revolution Technologies (CICRT), Chennai, India, 2020
- **Keynote Speaker**, the International Conference on Big Data and Internet of Things (BDIoT), Martil, Morocco, 2019.
- **Keynote Speaker & Chair**, the International Conference on Information Systems Engineering (ICISE), Hays, KS, 2014, Las Vegas, NV, 2015, Los Angeles, CA, 2016, Charleston, SC, 2017, Shanghai, China, 2018, 2019
- **Keynote Speaker & Chair**, the International Conference on Computing and Data Engineering (ICCDE), Shanghai, China, 2018, 2019
- **Keynote Speaker**, the International Conference on Social Science and Humanity (ICSSH), Osaka, Japan, 2019
- **Keynote Speaker**, the International Conference on Language, Medias and Culture (ICLMC), Osaka, Japan, 2019
- **Keynote Speaker**, the International Conference on Signal Processing and Integrated Networks (SPIN), Noida, India, 2018, 2019
- **Keynote Speaker & Judge**, the International Students Conference on Innovations in Science and Technology (SPECTRUM), Kolkata, India, 2019
- **Keynote Speaker & Chair**, the International Conference on Smart Digital Environment (ICSDE), Rabat, Morocco, 2017, 2018

- **Keynote Speaker & Chair**, the International Conference on Computing and Data Analysis (ICCDA), Lakeland, Florida, 2017
- **Keynote Speaker & Chair**, the International Conference on Network and Cyber Security (ICNCS), Lakeland, Florida, 2017
- **Keynote Speaker & Chair**, the International Conference on Humanity and Social Sciences (ICHSS), Macau, 2017
- **Keynote Speaker & Chair**, the International Conference on Information Systems and Data Mining (ICISDM), Charleston, SC, 2017
- **Keynote Speaker & Chair**, the International Conference on Network, Communication and Computing (ICNCC), Kyoto, Japan, 2016
- **Keynote Speaker & Chair**, the International Conference on Network Security (ICNS), Kyoto, Japan, 2016
- **Keynote Speaker**, the International Conference on Reliability, Infocom Technology and Optimization (ICRITO), Noida, India, 2017
- **Keynote Speaker & Chair**, the International Conference on Chemical and Material Engineering (ICCME), Havana, Cuba, 2017.
- **Keynote Speaker & Chair**, the International Conference on Software Engineering and Information Management (ICSIM), Chengdu, China, 2011, Casablanca, Morocco, 2018
- **Keynote Speaker & Chair**, the International Conference on Big Data and Smart Computing (ICBDSC), Casablanca, Morocco, 2018
- **Keynote Speaker & Chair**, the International Conference on Nano and Materials Science (ICNMS), Lakeland, FL, 2018
- **Keynote Speaker & Chair**, the International Conference on Manufacturing Technologies (ICMT), Lakeland, FL, 2018
- **Keynote Speaker**, the International Symposium on Mechatronics and Its Applications (ISMA), Sharjah, UAE, 2018
- **Keynote Speaker**, the International Conference on Electronics, Communications and Control Engineering (ICECCE), Male, Maldives, 2018
- **Keynote Speaker**, the International Conference on Automation and Robotics (ICAR), Male, Maldives, 2018
- **Keynote Speaker & Chair**, the International Conference on Software and Information Engineering (ICSIE), Phuket, Thailand, 2012, Chennai, India, 2013, Singapore, 2014, Dubai, UAE, 2015, Tokyo, Japan, 2016
- **Keynote Speaker**, the International Conference on Economics and Finance Research (ICEFR), Osaka, Japan, 2016
- **Keynote Speaker & Chair**, the International Conference on Electronics Engineering and Power Engineering (CEEPE), Guilin, China, 2015
- **Keynote Speaker & Chair**, the International Conference on Information Management (ICIM), Guilin, China, 2015
- **Keynote Speaker & Chair**, the International Conference on Software and Information Systems (ICSIS), Las Vegas, NV, 2015
- **Keynote Speaker & Chair**, the International Conference on Electronics Engineering (ICOEE), Las Vegas, NV, 2015
- **Keynote Speaker & Chair**, the International Conference on Robotics and Artificial Intelligence (ICRAI), Las Vegas, NV, 2015
- **Keynote Speaker & Chair**, the International Conference on Robotics and Vision (ICRV), Dubai, UAE, 2015
- **Keynote Speaker & Chair**, the International Workshop on Pattern Recognition (ICOPR), Dubai, UAE, 2015
- **Keynote Speaker & Chair**, the International Conference on Communication and Broadband Networking (ICCBN), Phuket, Thailand, 2012, Chennai, India, 2013, Singapore, 2014
- **Chair**, the International Conference on Internet and Web Engineering (ICIWE), Phuket, Thailand, 2012, Chennai, India, 2013, Singapore, 2014
- **Chair**, the International Conference on Electronics Computer Technology (ICECT), Kuala Lumpur, Malaysia, 2010, Kanyakumari, India, 2011, 2013, Phuket, Thailand, 2012,
- **Chair**, IACSIT & SCIEI Annual Meeting, Kowloon, Hong Kong, 2012.
- **Chair**, the International Conference on Advanced Management Science (ICAMS), Chengdu, China, 2010, Zhengzhou, China, 2012
- **Chair**, the International Conference on Engineering Technology and Economic Management (ICETEM), Zhengzhou, China, 2012
- **Chair**, the International Conference on Computer Research and Development (ICCRD), Kuala Lumpur, Malaysia, 2010, Shanghai, China, 2011, Chengdu, China, 2012
- **Chair**, the International Conference on Manufacturing Engineering and Process (ICMEP), Chengdu, China, 2012
- **Chair**, the International Conference on Industrial and Intelligent Information (ICIII), Singapore, 2012
- **Chair**, the International Conference on Solid State and Integrated Circuit (ICSIC), Singapore, 2012
- **Chair**, the International Conference on Fluid Dynamics and Thermodynamics Technologies (FDTT), Singapore, 2012
- **Chair**, the International Conference on Communication and Electronics Information (ICCEI), Mumbai, India, 2012
- **Chair**, the International Conference on Advanced Material Research (ICAMR), Chengdu, China, 2012
- **Chair**, the International Conference on Electrical Energy and Networks (ICEEN), Chengdu, China, 2012
- **Chair**, the International Conference on Innovation and Information Management (ICIIM), Chengdu, China, 2012
- **Chair**, Machine Learning Algorithms, Systems and Applications (MLASA) Workshop at the International Conference on Machine Learning and Applications (ICMLA), Honolulu, Hawaii, 2011
- **Chair**, Partnership Development Office's Lecture Series (PDOLS), Polytechnic University, San Juan, PR, 2011
- **Keynote & Chair**, the International Conference on Computer Technology and Development (ICCTD), Cairo, Egypt, 2010, Chengdu, China, 2011
- **Keynote Speaker**, the International Conference on Modeling and Optimization (ICMO), Cairo, Egypt, 2011
- **Chair**, the International Conference on Networks and Information (ICNI), Chengdu, China, 2011

- **Chair & Keynote Speaker**, the International Conference on Power Science and Engineering (ICPSE), Chengdu, China, 2011
- **Chair & Keynote Speaker**, the International Conference on Measurement and Control Engineering (ICMCE), Chengdu, China, 2010, San Juan, PR, 2011
- **Chair & Keynote Speaker**, the International Conference on Computer Engineering and Management (ICCEM), San Juan, PR, 2011
- **Chair & Keynote Speaker**, the International Conference on Software and Intelligent Information (ICSII), San Juan, PR, 2011
- **Chair & Keynote Speaker**, the International Conference on Intelligent Network and Computing (ICINC), Kuala Lumpur, Malaysia, 2010
- **Chair & Keynote Speaker**, the International Conference on Manufacturing Science and Technology (ICMST), Kuala Lumpur, Malaysia, 2010
- **Chair & Keynote Speaker**, the International Conference on Mechanical and Aerospace Engineering (ICMAE), Kuala Lumpur, Malaysia, 2010
- **Chair & Keynote Speaker**, the 2010 International Conference on Computer and Electrical Engineering (ICCEE), Chengdu, China, 2010
- **Chair & Keynote Speaker**, the 2010 International Conference on Environmental and Computer Science (ICECS), San Juan, PR, 2010
- **Chair & Keynote Speaker**, the 2010 International Conference on Software Technology and Engineering (ICSTE), San Juan, PR, 2010
- **Chair & Keynote Speaker**, the 2010 International Conference on Distance Learning and Education (ICDLE), San Juan, PR, 2010
- **Chair**, the International Conference on Advanced Computer Theory and Engineering (ICACTE), Chengdu, China, 2010
- **Chair**, the International Conference on Instructional and Computer Technology (ICICT), Chengdu, China, 2010
- **Chair**, the International Conference on Information and Applied Electronics (ICIAE), Chengdu, China, 2010
- **Chair**, the International Conference on Computer Science and Information Technology (ICCSIT), Chengdu, China, 2010
- **Chair**, the International Conference on Signal Processing Systems (ICSPS), Dalian, China, 2010
- **Chair**, the International Conference on Applied Physics and Mathematics (ICAPM), Kuala Lumpur, Malaysia, 2010
- **Chair**, the International Conference on Computer Engineering and Technology (ICCET), Chengdu, China, 2010
- **Chair**, the International Conference on Information Management and Engineering (ICIME), Chengdu, China, 2010
- **Chair**, the International Conference on Bioinformatics and Biomedical Technology (ICBBT), Chengdu, China, 2010
- **Keynote Speaker**, the International Conference on Education and Management Technology (ICEMT), Cairo, Egypt, 2010
- **Keynote Speaker**, the International Conference on Social Sciences and Humanities (ICSSH), Singapore, 2009
- **Chair**, the 6th CRA-W/CDC Distinguished Lecture Series, San Juan, PR, 2009

CONFERENCE SESSION CHAIRING

- Cloud Computing, 5G and IoT Session, the International Conference on Signal Processing and Integrated Networks (SPIN), Noida, India, 2019
- Work in Progress (WIP) Session, the 3rd GENI Research, Experimental and Education (GREEE) Workshop, Atlanta, Georgia, March 2014
- Session I, the 2009 International Conference on Social Sciences and Humanities (ICSSH), Singapore, October 2009
- Curriculum Development + Tools & Techniques, the 2009 International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS), Las Vegas, Nevada, July 2009
- General: Frontiers In Education, the 2009 International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS), Las Vegas, Nevada, July 2009
- Learning Techniques + Tools & Novel Methods, the 2009 International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS), Las Vegas, Nevada, July 2009
- Data Mining: Predictions and Patterns Session Chair, the 6th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA), Doha, Qatar, April 2008
- Statistical Modeling Session Chair, the 7th Annual Hawaii International Conference on Statistics, Mathematics and Related Fields, Honolulu, Hawaii, January 2008
- Communication Systems and Algorithms Session Chair, the 2006 International Conference on Parallel and Distributed Techniques and Applications (PDPTA), Las Vegas, Nevada, June 2006
- Modeling and Simulation Session Chair, the 2006 International Conference on Scientific Computing (CSC), Las Vegas, Nevada, June 2006
- Statistics and Probability Session Chair, the 5th Annual Hawaii International Conference on Statistics, Mathematics and Related Fields, Honolulu, Hawaii, January 2006
- Optimization and Algorithms Sessions Chair, the 2005 International Conference on Foundations of Computer Science (FCS), Las Vegas, Nevada, June 2005
- Analog and Digital - Circuits and Systems I Session Chair, the 2004 Annual IASTED International Conference on Circuits, Signals, and Systems (CSS), Clearwater Beach, Florida, November 2004.
- Computational Mathematics Session Chair, the 2004 International Conference on Algorithmic Mathematics and Computer Science (AMCS), Las Vegas, Nevada, June 2004

- Computational Mathematics Session Chair, the 3rd Annual Hawaii International Conference on Statistics, Mathematics and Related Fields, Honolulu, Hawaii, June 2004

GRANT PROPOSALS REVIEWING

- Review Coordinator, Oak Ridge Associated Universities' Ralph E. Powe Junior Faculty Enhancement Awards Program, March – April 2009
- Review Panelist, National Science Foundation (NSF) Information Technology Experiences for Students and Teachers (ITEST) Program, June 2007

INVITED PANELIST

- Plagiarism and Ethical Issues Related to Scientific Research Paper Writing Session, the International Conference on Signal Processing and Integrated Networks (SPIN), Noida, India, 2019
- US Nuclear Regulatory Commission Funded Programs, the 2nd Annual Technical Assistance and Capacity Building Workshop for Minority Serving Institutions, Dallas, Texas, September 2008
- Legal Contingencies in the Use of Technology, InfoSecurity Puerto Rico 2008, San Juan, Puerto Rico, April 2008
- Advancing the Science, Technology, Engineering and Math (STEM) Education and Research Enterprise, National Historically Black Colleges and Universities Week Conference, White House Initiative on Historically Black Colleges and Universities, Washington, District of Columbia, September 2007
- Track C: Hot Topics II – Thinking of a Career in Information Assurance?, the 21st Annual Computer Security Applications Conference (ACSAC2005), Tucson, Arizona, December 2005

EXHIBITOR

- Information Assurance Graduate Program at FHSU, iCollege Academic Partner Open House, National Defense University, Washington, DC, October 2013
- Informatics Degree Programs, Majors and Graduate Programs Fair, Fort Hays State University, Hays, KS, October 2013
- Information Systems Engineering, Career Exploration 2013, Otero Junior College, La Junta, CO, April 2013
- Fort Hays State University, the 2013 International Conference and Exhibition on Higher Education (ICCH), Riyadh, Saudi Arabia, April 2013
- Minority Outreach Program, the International Conference for High Performance Computing, Networking, Storage and Analysis (SC06), Tampa, Florida, November 2006

ACADEMIC SERVICE

PARTNERSHIPS & ACCREDITATIONS

- Member of the Advisory Board of the American University of Leadership, Orlando, FL, USA, 2014 – Current
- Academic Alliance Member Representative for Fort Hays State University, the National Center for Women and Information Technology (NCWIT), 2013 – 2016
- External Examiner, Electrical Engineering Graduate Program, Gulf University, Manama, Bahrain, 2012
- Oak Ridge Associated Universities (ORAU) Councilor and Chief Research Officer for Polytechnic University, Orlando, FL, USA, 2010 – 2012
- Oak Ridge Associated Universities (ORAU) Councilor and Chief Research Officer for Polytechnic University, San Juan, PR, USA, 2008 – 2012

STUDENTS MENTORING PROGRAMS

- Mentor, Kansas Academy of Math and Science (KAMS), Hays, Kansas, 2013 – 2016
- External Supervisor/Academic Advisor, Faculty of Computer Science and Information Systems, University of Technology at Malaysia, Skudai, Johor, Malaysia, 2006 – 2008
- School Coordinator, U. S. Department of Energy's Day of Science, Knoxville, Tennessee, October 2007
- Mentor, Research Initiative for Scientific Enhancement (RISE), Jackson State University, Jackson, Mississippi, 2003 – 2007
- Mentor, Research Alliance in Math and Science (RAMS), Computing and Computational Science Directorate, Oak Ridge National Laboratory, Oak Ridge, Tennessee, Summers 2005 – 2011
- Judge, Mississippi Science and Engineering Fair (MSEF), Jackson State University, Jackson, Mississippi, 2004 – 2007

UNIVERSITY, COLLEGE & DEPARTMENT COMMITTEES MEMBERSHIP

- Equity, Diversity and Inclusion Committee, Dakota State University, 2019-2020

- Digital Forensics Faculty Search Committee, Dakota State University, 2018
- CSIT Faculty Hiring Committee, Florida Polytechnic University, 2017
- Institutional Effectiveness Committee, Florida Polytechnic University, 2017
- Academic Policies & Procedures Review Committee, Florida Polytechnic University, 2016
- Student Technology Fee Committee, Florida Polytechnic University, 2016-2017
- Library Committee, Fort Hays State University, 2015 – 2016
- Saudi Arabia Task Force Committee, Office of Strategic Partnerships, Fort Hays State University, 2013 – 2016
- Brazil Task Force Committee, Office of Strategic Partnerships, Fort Hays State University, 2013 – 2016
- Institutional Review Board, Fort Hays State University, 2013 – 2014
- Internationalization Committee, College of Business and Entrepreneurship, Fort Hays State University, 2013 – 2014
- Research Committee, College of Business and Entrepreneurship, Fort Hays State University, 2012 – 2014
- Graduate Council, Jackson State University, 2006 – 2007
- University Curriculum Committee, Jackson State University, 2006 – 2007
- Objectives and Assessments ABET Committee, Department of Computer Science, Jackson State University, 2006 – 2007
- Institutional Support and Financial Resources ABET Committee, Department of Computer Science, Jackson State University, 2006 – 2007
- Institutional Facilities ABET Committee, Department of Computer Science, Jackson State University, 2006 – 2007
- Graduate Admission Committee, Department of Computer Science, Jackson State University, 2003 – 2007
- Department Curriculum Development/Evaluation Committee, Department of Computer Science, Jackson State University, 2005
- College of Science, Engineering, and Technology Policies and Procedures Review Committee, Jackson State University, 2005
- Performance-Based-Pay Committee, Jackson State University, 2004 – 2005
- Chair, Theoretical Foundations ABET Committee, Department of Computer Science, Jackson State University,2003

STUDENTS SUPERVISION

DOCTORAL THESES

- Jude Ejiobi, *Cyber Resilience and Recovery: Aligning recovery expectations with organizational goals and objectives*, Dakota State University, Madison, SD, 2020.
- Hicham Amraoui, *Achieving Secure and Cooperative Intelligent Wireless Communications Based on Trusting Mechanisms,* Mohammed V University, Rabat, Morocco, 2018
- Bachir Bouamoud, *Multi-Objective Enhancement of Topology Advertisement in Proactive Routing Schema of Mobile Ad-hoc Networks,* Mohammed V University, Rabat, Morocco, 2018
- Mohd Foad Bin Rohani, *Network Traffic Monitoring using Loss of Self-Similarity (LoSS) Analysis*, Ph.D. Thesis, UTM, 2004-2010. Currently Lecturer at the Department if Computer Science and Information Systems, Universiti Teknologi Malaysia.
- Mohd Yazid Idris, *An Efficient On-Line Hurst Parameter Estimator for Detecting Volume-Based Network Intrusion*, Ph.D. Thesis, UTM, 2004-2008. Currently Senior Lecturer at the Department of Software Engineering, Universiti Teknologi Malaysia.

MASTER'S THESES/PROJECTS

- Constanze Knahl, ImA – A National Immunization Registry for Germany, Master's Thesis, FPU, 2017
- Yael M. Camacho, *Detecting Anomalies for High Performance Computing Resilience*, Master's Thesis, PUPR, 2011-2012, (funded by NRC's NEFP and ORNL's RAMS Programs). Currently, Instructor at Department of Electrical and Computer Engineering and Computer Science, Polytechnic University of Puerto Rico.
- David Cruz, *Parallel Evaluation of Large Scale Hierarchical Clustering Results*, Master's Thesis, PUPR, 2010-2012, (funded by NRC's NEFP and ORNL's RAMS Programs). Currently, Electronics Engineer at Naval Surface Warfare Center, (NAVSEA), Crane Division, Indiana.
- Eduardo Ponce, *Asynchronous Computing Using CUDA on a Tesla C2050 GPU*, Master's Thesis, PUPR, 2010-2012, (funded by NRC's NEFP and ORNL's RAMS Programs). Currently, Ph.D. student at the Department of Electrical Engineering and Computer Science, University of Tennessee, Knoxville.
- Jesus Torres, *Towards Increasing the Efficiency of Numerical Simulations of Mott Insulators*, Master's Thesis, PUPR, 2010-2011, (funded by NRC's NEFP and ORNL's RAMS Programs). Currently, Electronics Engineer at Naval Surface Warfare Center (NAVSEA), Dahlgren Division, Virginia.

- Raymond C. Borges, *BitPredator: Discovery Algorithm for BitTorrent Initial Seeders and Peers*, Master's Thesis, PUPR, 2010-2011, (funded by NRC's NEFP and ORNL's RAMS Programs). Currently, Ph.D. student at Lane Department of Computer Science and Electrical Engineering, West Virginia University.
- Jarilyn M. Hernandez, *Analyzing Temperature Data in a High-Performance Computing Cluster*, Master's Thesis, PUPR, 2009-2011, (funded by NRC's NEFP and ORNL's RAMS Programs). Currently, Ph.D. student at Lane Department of Computer Science and Electrical Engineering, West Virginia University.
- Tijan Kanteh, *Wireless Sensor Networks*, Master's Project, JSU, 2006-2007. Currently, Advanced Systems Engineer at Wal-Mart, Inc, Arkansas.
- Tanya Ray, *Audio Steganography*, Master's Project, JSU, 2006-2007.
- Justus Nyamweya, *Re-Thinking Passwords: A Statistical Analysis of How Passwords Are the Weakest Link in Network Security; Case Study*, Master's Project, JSU, 2006-2007. Currently, Ph.D. student at the Department of Computer Science and Software Engineering, Auburn University, Alabama.
- Matthew N. Anyanwu, *Advances in Wireless Networks Technology*, Master's Project, JSU, 2006-2007.Received Ph.D. in Computer Science from the University of Memphis in 2011. Currently, Lead Discovery Informatics Systems Administrator, St. Jude Children's Research Hospital, Tennessee.

UNDERGRADUATE PROJECTS

- Adkins, C., Onorato, H., Schill, R., Weingarten, Z. (2017). *Intelligent Policing: Crime Data Analysis*, Capstone Project, FPU
- Allen, T., Francisco, W., Livingston, J., & Quinn, M. (2017). *Data Warehouse Development for Curtiss-Wright Company*, Capstone Project, FPU
- Armstrong, A., Engel, W., Heinbach, R., & Pla, E. (2017). *Uberization of Freight Management Using iOS Mobile Application*, Capstone Project, FPU
- Culbert, M., Goode, A., Laatsch, N., & Wrigley, J. (2017). *Uberization of Freight Marketplace Using Android Mobile Application*, Capstone Project, FPU
- Benedum, K., Newquist, A., & Nunez, J. (2017). *Nielsen Retailer Information System Analytics*, Capstone Project, FPU
- Biship, I., Kravchunovska, I., Rigaud, C., & Shirley, C. (2017). *American Sign Language to Voice (ASL to Voice)*, Capstone Project, FPU
- Denig, C., Langenkamp, S., Rentos, D., & Wooldridge, C. (2017). *IVALE: Interactive Visual Art Learning Experience*, Capstone Project, FPU
- Douglas, T., Rezk, K., Russell, R., & Suppe, N. (2017). *Travel Time Tracker*, Capstone Project, FPU
- Gilbert, B., Kemp, A., & Ramon, J. (2017). *Efficient Grouping of Riders*, Capstone Project, FPU
- Anderson, R., Brown, N., Flam, A., & Lozano, P. (2017). *Florida Polytechnic Course Recommender*, Capstone Project, FPU
- Browne, E., Martinez-Moctezuma, K., Strosnider, N., & Zheng, Z. (2017). *Advanced Diagnostic IoT Device*, Capstone Project, FPU
- Cervone, P., Doty, L., Loctar, J., & Wolff, B. (2017). *My Zen Space*, Capstone Project, FPU
- Cipolla, P., Ganster, B., Gray, E., & Veith, N. (2017). *Small Business Analytics Dashboard*, Capstone Project, FPU
- Farrell, M., Godwin, S., Perez, M., & Pittman, A. (2017). *Behavior Based Security in Mobile Computing Environment (MobSec)*, Capstone Project, FPU
- Fronteddu, A., Gutierrez-Pinho, J., Provenzano, M., & Whitfield, M. (2017). *Pro Poi*, Capstone Project, FPU
- Glendenning, B. & Ronstrom, E. (2017). *Heterogeneous, Autonomous, Remotely Adaptable Modular Bot Infection (HARAMBI)*, Capstone Project, FPU
- Holecheck, N., Roper, C., & Trowbridge, B. (2017). *Virtual Smart Home*, Capstone Project, FPU
- Lee, B., Medrano-Berumen, C., & Salveson, B. (2017). *Swift Parking*, Capstone Project, FPU
- Dao, H. (2014). *Migration of Analog Digital IP-Based Video Surveillance System*, Capstone Project, FHSU
- Alhamdan, O. (2014). *Wireless Signals in Fort Hays State University*, Capstone Project, FHSU
- Alshahrani, F. (2014). *Campus Network Project for a New IT Buidling*, Capstone Project, FHSU
- Dalrymple, D. (2014). *Creating an e-Commerce Website*, Capstone Project, FHSU
- Morlang, C. (2014). *Kumihangul: A Korean Vocabulary Learning Website*, Capstone Project, FHSU
- Bowman, K. (2014). *Nexus 7K Core Migration*, Capstone Project, FHSU
- Miracle, J. (2013). *RE Technology Services with Automated Account Maintenance System Development and Implementation*, Capstone Project, FHSU
- Millen-El, S. (2013). *Stitched, Website Project Reflection*, Capstone Project, FHSU
- Lane, J. (2013). *giftjobs.biz,* Capstone Project, FHSU

- Gimberline, S. (2013). *Network Data Captures: Introduction to Taking and Troubleshooting Network Captures,* Capstone Project, FHSU
- Powers, L. (2013). *Processes Management System*, Capstone Project, FHSU
- McQuillen, C. (2013). *Fund Management Tool: SQL Script Automation*, Capstone Project, FHSU
- Sharp, M. (2013). *The Adoption and Integration of Technology within a Newly Founded Nonprofit Organization*, Capstone Project, FHSU
- Nkouaga, A. (2013). *Mashiyyat Center Website*, Capstone Project, FHSU
- Stowell, N. (2013). *Expansion of Telecommunications Concentration for Fort Hays State University*, Capstone Project, FHSU
- Balkenbush, N. (2013). *Forever Flowers*, Capstone Project, FHSU
- Fuentes, A. (2013). *MWR Guest Wireless Network Implementation*, Capstone Project, FHSU
- Harter, R. (2013). *Nex-Tech IPTV Emulator*, Capstone Project, FHSU
- Flax, C. (2013). *Self-Taught Instructional DVD Experience over the Basics of Subnetting*, Capstone Project, FHSU
- Homerski, J. (2013). *Active Directory Migration and Information Systems Integration*, Capstone Project, FHSU
- Kricfalusi, D. (2013). *Software Development for Canadian Currency Acceptance as Payment Tender Point of Sale*, Capstone Project, FHSU
- Wright, M. (2013). *Enterprise iPhone Deployment Strategy Using Airwatch MDM*, Capstone Project, FHSU.
- Floersch, J. R. (2013). *Solutions for Wowza Media Systems: High Definition Video Streaming Performance Testing*, Capstone Project, FHSU
- Anabel Wernsman-Sandmeier, A. (2013). *The Making of WW Enterprises*, Capstone Project, FHSU
- Pantuso, P. (2013). *Southeast Iowa Websites Directory*, Capstone Project, FHSU
- Mann, C. (2013). *Researching Benefits of Network Virtualization and Software*, Capstone Project, FHSU
- Billings, M. L. (2012). *Business Success by Billings, LLC. Better Business Practices*, Capstone Project, FHSU
- Fairbanks, M. A. (2012). *A Program Implementing Automatic Invoice Pre-Printing*, Capstone Project, FHSU
- Filkins, G. E. (2012). *Sloviksoy Stone & Mulch Supply Wireless Network*, Capstone Project, FHSU
- Hawks, J. L. (2012). *Taco Hut E-Renovation Project*, Capstone Project, FHSU
- Hoang, T. A. (2012). *IP-Based Video Surveillance*, Capstone Project, FHSU
- Knoeck, T. J. (2012). *SYSLOG Project: Pure Logging Designs*, Capstone Project, FHSU
- Nieves, C. M. (2012). *A Girl & 2 Guys Development Design (G2GDD), Starting A Business*, Capstone Project, FHSU
- Nixon, S. A. (2012). *The Business Plan: Keep Flippin*, Capstone Project, FHSU
- Olmstead, M. D. (2012). *Security Credentials*, Capstone Project, FHSU
- Ruiz, B. M. (2012). *Learnall.us: The Place to Learn All*, Capstone Project, FHSU
- Sions, A. W. (2012). *Installing Security Solution for XYZ Company*, Capstone Project, FHSU
- Stapp, C. N. (2012). *Wide Area Network Project for Rebajo.inc*, Capstone Project, FHSU
- Fernando Fuentes, *Exploration of High-Dimensional Nuclei Data*, Undergraduate Research Project, PUPR, 2010-2011, (funded by ORNL's RAMS Program). Currently, Ph.D. student at the Department of Computer Engineering, University of California, Davis.
- Emmanuel Aviles-Saez, *Detecting Anomalies for High Performance Computing Resilience Using Cluster Dendrograms*, Undergraduate Research Project, PUPR, 2009, (funded by DoD's FaST Program). Currently, Computer Engineer at Naval Surface Warfare Center (NAVSEA), Port Hueneme Division, California.
- Shamir J. Quinones, *Detecting Anomalies for High Performance Computing Resilience Using R Open Source Software*, Undergraduate Research Project, PUPR, 2009, (funded by DoD's FaST Program).
- Yael M. Camacho, *Detecting Anomalies for High Performance Computing Resilience with GGobi Open Source Visualization Software*, Undergraduate Research Project, PUPR, 2009, (funded by DoD's FaST Program).
- Lionel Lovett, *RobustMap: A Fast and Robust Algorithm for Dimension Reduction and Clustering*, Undergraduate Research Project, JSU, 2005-2006, (funded by NSF's RISE and ORNL's RAMS Programs). Currently, Test Engineer at Raytheon Company, Mississippi, and Ph.D. student at the Department of Computer Engineering, Mississippi State University.

Dr. STEPHEN KREBSBACH
Computer Science Department
College of Computing
Dakota State University, Madison, SD 57042

{*Updated 9/15/2019*}

PROFESSIONAL PREPARATION:

Moorhead State University	Computer Science	B.S.	1986
Moorhead State University	Computer Science	M.S.	1990
North Dakota State University	Computer Science	Ph.D.	2005

APPOINTMENTS:

2016 -- Present Professor of Computer Science, Dakota State University
2006 – 2016 Associate Professor, Computer Science, Dakota State University
2000 - 2006 Assistant Professor, Computer Science, Dakota State University
1998 – 2000 Assistant Professor, Computer Science, South Dakota State University
1997 - 1998 Teaching Fellow, Computer Science, North Dakota State University
1995 - 1997 Research Assistant, Computer Science, North Dakota State University
1988 - 1997 Instructor, Computer Science, South Dakota State University

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2015 – Present Coordinator – Master of Computer Science (DSU)
2003 – 2007 Academic Coordinator of Computer Science, Dakota State University

State of South Dakota Committees/…
2008—2014 DSU EPSCoR Coordinator
2005—2012 Governor's State IT Discipline Council (President 2006-07)
2008 – 2012 VDUSEL/VSURF Project Leader – Sanford Underground Lab
2009 – 2012 Sanford Center of Science Education (SCSE) Project Design Team
2010 – 2013 SD EPSCoR Advisory Committee

DSU Committees:
2008 -- Present University Curriculum
2018 – Present University Hall of Fame Committee
2018 – Present
2016 – Present College of Computing Dean's Advisory
2016 – Present University Faculty Academic Integrity Board (chair)
2015— Present University Graduate Coordinators
2012— Present MSCS Admissions
2000— Present Graduate Council (Graduate Faculty)
2016 – 2018 University Promotion and Tenure
2016 – 2018 University General Education Review
2008— 2016 University Assessment
2015— 2016 Graduate Program Review
2014— 2016 Faculty/Admissions working group
2014— 2015 BIS Taskforce
2006— 2013 University Research
2011— 2012 President's Publication Taskforce (P&T related)
2005 -- 2013 MSIS Admissions

2005— 2014 MSIS Graduate
2010 – 2010 Task Force for Student Emails
2009 – 2010 Faculty Awards

PROFESSIONAL MEMBERSHIPS:

ACM Member
SIGCSE – ACM Special Interest Group in Computer Education Member
IEEE Member
IEEE Computer Society Member

Courses Taught from Fall 2006 – Spring 2020

CSC 150 – Computer Science I
CSC 260 – Object Oriented Design
CSC 300 – Data Structures
CSC 456 – Operating Systems
CSC 461 – Programming Languages
CSC 482 – Algorithm and Optimization (Finished for Dr. Graham (illness))
CSC 592 – Special Topics (various topics)
CSC 710 – Structure and Design of Programming Languages
CSC 714 – Advanced Database Systems
INFS 760 – Database Design and Performance Analysis
INFS 762 – Data Warehousing and Data Mining
INFS 766 – Advance Database
GS 100 – Freshmen Success

Advising:

Program coordinator for the MSCS: currently advising all student in the program, including formal Plans of Study (POS).

Undergraduate advising for the BS in Computer Science program: currently ~ 15+ mainly online students.

2016 – **The Alexander "Sandy" Davidson Award of Excellence in Advising** – DSU

Publications:

Stephen Krebsbach, Steve Graham, Judy Vondruska, George Hamer, "Creating a Virtual Science Center, Virtual DUSEL (vDUSEL)" presented and appear in the Proceedings of the ISCA 22nd International Conference on Computer Applications in Industry and Engineering (CAINE-09) San Francisco, Ca. November 4-6, 2009

Stephen Krebsbach, Steve Graham, Judy Vondruska, George Hamer "Virtual DUSEL (vDUSEL) The Online Educational Project for Sanford Center for Science Education" Proceeding, MICS conference April 17-18, 2009 Rapid City, SD.

- http://micsymposium.org/mics_2009_proceedings/mics2009_submission_25.pdf

Co-author of the "Outreach and Communication Strategies" section of the "*South Dakota EPSCoR – Strategic Implementation Plan*" - 2009

Hamer G., Andrawis D., & **Krebsbach S**. "Application of the RS Method to Detect Steganographic Messages in Database Tables" Proceedings of the ISCA 20th International Conference on Computer Applications in Industry and Engineering (CAINE-2007) November 7-9, 2007, San Francisco, California, USA.

Krebsbach S. & Hamer G. "Achieving Near-Optimal Distortion Reduction with Invisible Watermarking RSSI Algorithms" , Proceedings of the ISCA 19th International Conference on Computer Applications in Industry and Engineering (CAINE-2006) to be held November 13-15, 2006, Las Vegas, Nevada, USA.

Hamer G. & **Krebsbach S.** "Statistical Steganography and Steganalysis of Database Tables" Proceedings of the ISCA 19th International Conference on Computer Applications in Industry and Engineering (CAINE-2006) to be held November 13-15, 2006, Las Vegas, Nevada, USA.

Artifacts:

"***Deep Science – the vision for underground research at Homestake***" - Deep Science Animation support – VDUSEL Stephen Krebsbach – Multiple Animations produced by DSU team, First aired SD Public Television Monday, July 5; 9 p.m. CDT (8 p.m. MDT) – 2010

Deep Science Animations – **Producer of ALL**, Developer or Co-Developer of Some 2009 /2010 (note: not all made final cut for HD 30 minute documentary but most were in early distributed CD versions)

"Walk Through Underground Lab" – **S. Krebsbach**
"Chicago to Black Hills" – **S. Krebsbach**
"Underground Lab Flyover" – Scott Mackenzie, **S. Krebsbach**

Created Concept and closely Directed work:
"Dark Matter Pie Chart" – Cody Thaler (DSU student)
"Homestake Flyover with Open Cut" – Cody Thaler (DSU student)
"Rushmore in Detector" – Travis Bentley, Jon Wornson (DSU students)
"Cosmic Shower" – Ben Wermers (DSU student)
"Underground with LAB and DRILL"
– Michell Davis, Margaret Pillatzaki, Bethany Mlady – (DSU Students)
"LUX Experiment" – Travis Bentley, Jon Wornson (DSU Students)

Created vDUSEL slides for Dr. Kevin Lesko; Lawrence Berkeley Lab (LBL) for his presentation at the National Internet 2 conference in the spring of 2009.

"***vDUSEL Intro Teaser***" (Full Animation) – Scott Machenzie, Produced by **Stephen Krebsbach** DSU – 2008

VSURF Website : Formal website of the vSURF project; Created much content, created and voiced **ALL** example videos on the site. http://vsurf.dsu.edu/

Featured Research(er)Profile:

"*Sanford Underground Research Facility Website Enables Users to Explore Virtual Underground Environment Online*" - SD EPSCoR UPDATE- Winter 2012 Edition – Authored by Dr. Stephen Krebsbach – 2012

"*DSU website taking a closer look at Sanford lab in Lead*" – Rapid City Journal – September 27, 2011

State of South Dakota Featured Researcher Profile – Dr. Stephen Krebsbach, Research, Education, & Economic Development Network (REED) Brochure/Booklet, SDBOR - 2009

"*Virtual DUSEL to be major educational component for lab*" – Wendy Pitlick; Black Hills Pioneer & The Rapid City Weekly News – October 21, 2008

Grants:

Awarded:

PI : **$75,588** (2009), as part of the State of South Dakota EPSCoR RII Track 1 proposal, for plan the vDUSEL E&O project as South Dakota continues to partner on the DUSEL (vSURF) project. This EPSCoR participation in a major grant for DSU helped build our research presence in that organization. It also included funding to support State research communication infrastructure.

Additional Funds extended within this framework.

- + additional ~ $5000 for Govenor's PBS Documentary video
- + additional ~ $2000 for additional vDusel work
- + additional ~$1500 for VDUSEL Teaser Video

PI : $5000 (2008) "Virtual SUSEL/DUSEL" SDBOR Mini Grant – This was pre EPSCoR vDUSEL and helped lay the groundwork for inclusion in that major grant

Co-Principal Investigator Approx $400,000 over 4 years (2002-2005)NSF - 02-006 CSEMS – CS, ENG & MATH SCHOLARSHIPS MACSTECH Scholars: A Mathematics and Computer Science Technology Scholarship Program. **Continued to server as CO-PI and awarded ~ $83,640 over the FY06-08 period.**

*** Have applied for and received several small DSU grants for course development etc.. and although not listed here I would like to thank the Distance Education people for their support of online courses. I will not list them here as I feel that the grants are just part of DSU support for faculty and programs.*

Submitted (*but Not Awarded*):

CO-PI for $50,000 (with Ms. Judy Vondruska) – "*iPads in the Science and Math Classroom*" a NCLB Federal pass through grant managed by SDBOR- **Submitted 2013**

CO-PI for 49,777 (with Ms. Judy Vondruska) - "*CEPT-SCI Curriculum Enhancement for Portable Technology in Science*" A No Child Left Behind Act, Tittle II-A - **Submitted April , 2012**

PI on Collaborative Award: $99,900 (**amount is DSU share) -** grant collaborators SDSU, USD, BHSU, entitled Collaborative Project: Deep Science; Deeper Education: New Models for Distributed Learning Experiences around Deep Underground Science -**Submitted October 2010**

PI on Sub Award: $170,000 (**amount is DSU share)** by Dr. Peggy Norris, Deputy Director of SCSE, entitled "Integrating DUSEL Science into the South Dakota curriculum NASA K-12 CAN" ; The DSU would be for vDUESEL support of its envisioned expanded role in the exhibit design for the physical science center and a summer support for Dr. Barbra Szczerbinska **– Submitted June 2009**

PI on Collaborative Award: $350,546, (**amount is DSU share)** grant collaborators DSU, SDSU, NDSU to NSF entitled "Collaboration Research: vDUSEL CORE in support of Cyberinfrastructure-enabled Learning and Research Projects**" Submitted Feb. 12, 2009**

Presentations:

Invited Roundtable Panelist: Sioux Land TECH EXPO – Session: Talent Recruitment and On-Campus Recruiting, May17th, 2016

Presented: Faculty are People Too – Autobiography of an "Accidental" Academic, Dakota State University, December 3rd, 2014

Presented at NSF EPSCoR RII ALL INVESTIGATOR MEETING, Chamberlin SD. June 14 -15 , 2011

Co-Led a session entitled *National Virtual Science Centers* at the National Cyber Learning Conference held in Berkeley Cal. March 7th – 11th - 2011

Presented (with Ben Saylor) vDUSEL and SCSE E&O to NSF review team – Rapid City, SD. –April 13, 2010

Presented "1 Mile Under – Can you Hear me Now – What is Duels Anyway" - DSU Computer Club invited talk – March 31st. 2010

Presented at the DUSEL Monitoring Workshop – March 8-9, 2010 Lead, SD.

Presenter of : "Creating a Virtual Science Center, Virtual DUSEL (vDUSEL)" the ISCA 22nd International Conference on Computer Applications in Industry and Engineering (CAINE-09) San Francisco, Ca. November 4-6, 2009

Invited Panelist & Presenter – Session : V.B, "Computational Sciences & Engineering R&E Program Development – Status , Goals and Needs" SD EPSCoR Cyber-Enabling Research Education, & Economic Development meeting – September 23rd-24th, 2009

Presenter of : "Virtual DUSEL (vDUSEL) The Online Educational Project for Sanford Center for Science Education" **Stephen Krebsbach**, Steve Graham, Judy Vondruska, George Hamer at the MICS conference April 17-18, 2009 Rapid City, SD.

Presented vDUSEL at E&O breakout session of the first formal NSF Review of DUSEL, University of California Berkeley, Berkeley, CA. January 28-30, 2008

Presented vDUSEL section at the NSF Presentation Practice Meeting, Lawrence Berkeley Laboratory, Berkeley, CA. – December 10-12, 2008

Hosted the **VIRTUAL DUESEL SYMPOSIUM** – Dakota State University – Madison, SD. November 21st, 2008

Presenter - University Round Table Discussion on DUSEL , Research, Collaboration, and Education; gave presentation after round table group discussion followed by Dr. Steven Chu's presentation. Rapid City, SD. September 23, 2008

Workshops / Participatory Meetings

2015 NSA Recruitment Partners Day – & Meeting with Rita Doerr, NSA Civilian Directorate for Education and Training College of Cyber – Fort Mead, MD. August 12th 2015

Attended the MOBILE Workshop at the University of Wisconsin - Eau Claire which dealt with new innovative technology and approaches to enhance the delivery of computer science course software materials. Sponsored by the NSF – Eau Claire, WI. June 12-13,2013

EPSCoR-NSF RII Track 1 PANS AAAS Review , Chamberlain, SD, June 2-3, 2011
NFS EPSCoR RII All Investigator Meeting, Chamberlain, SD. June 1-3, 2011
NFS EPSCoR Diversity Summit, Chamberlain, SD. June 1, 2011

SCSE Meeting with Dr. Norris – SCSE Sanford Lab, Lead SD. – April 16, 2011

EPSCoR RII Year 2 Review Reverse Site Visit (vDUSEL) – External reviewers – Madison, SD. April 4th, 2011

NFS EPSCoR RII All Investigator Meeting, Chamberlain, SD. June 14-15, 2010

DUSEL Cyberinfrastructure Advisory Committee (CAC) Meeting – Sanford Laboratory, Lead SD. – March 10-11, 2010

Sanford Center for Science Education Initial Content Development Workshop, Denver, CO. January 19-21, 2010

"An Evening at Mt. Rushmore" with the Governor and members of the National Science Foundation in support of DUSEL/vDUSEL – September 23, 2010

vDUSEL Meetings – March 8-9, 2010 Lead, SD.

Gov. Rounds Meeting on video and vDUSEL Animation – Deadwood, SD. – January 10, 2010

EPSCoR RII Grant Management Meeting – Sioux Falls, SD. October 27-28, 2009

October Workshop on DUSEL Science and the Development of the MREFC – Also go underground, Lead, SD. Sept 30-Oct 3, 2009

Cyber-Enabling Research, Education and Economic Development, 2009 SD/WY State EPSCoR Meeting – Rapid City, SD. September 23-24, 2009

vDUSEL Update meeting with Dr. Perry – Pres. Office DSU March 16, 2009

Hosted the vDUSEL - VIRTUAL DUSEL SYMPOSIUM – Dakota State University – Madison, SD. November 21st, 2008

NSF Grant Workshop – Omaha, NE. October 20, 2008

Presenter - University Round Table Discussion on DUSEL , Research, Collaboration, and Education; September 23, 2008 Rapid City, SD. 2008

South Dakota EPSCoR State Conference – Sioux Falls, SD September 11, 2008

DUSEL meeting on Education and Outreach (E&O) – Homestake-Lead, SD, February 2006

Other Conferences:

Game+Learning+Society Conf. (GLS) (Represent vDUSEL) – Madison,WI. June 9-11, 2010

Game+Learning+Society Conf. (GLS) (Represent vDUSEL) – Madison,WI. June 13-17, 2011

EDU Symposium (Represent vDUSEL) - Madison,WI. June 14, 2010

Graduate Project Advisor:

Graduate Project Supervisor (students are in MIS/MSA graduate Programs at DSU)

Date	Student	Title
Spring 2016	Edward Mosier	**Custom Reports Tracking Database – *in development***
11/2015	Lora Ersland	**ITS Program Database**
11/20/2014	Muthukumar Venkatachalam	**Utilization of industry data models in healthcare master data management**
6/27/2013	Abdelhamid Chefchaouni	**Customer Marketing Campaign Datamart**
4/30/2013	Aaron Napierala	**Virtualized Educational Lab**
7/26/2012	Michael Kaderly	**Stat Taker: A Basketball Statistic Software Application Project**
12/16/11	Marilyn Halgerson	**Enrollment Extract Suite: Improved Enrollment for DSU**
8/16/11	Divya Vemula	**Online Courier Service**
7/29/11	Mahendranadh Manne	**Common Enrollment System**
7/20/11	Connie Fan	**An Automated Software Production and Reporting System**
5/4/11	John Hardebeck	**A Data Warehouse for Faculty Pay**

4/27/11	Swathy Kodati	**Java Implementation of an Office Communicator**
4/27/11	Daniel Jones	**Class Grading System**
4/26/11	Archana Samineni	**Info Pool**
12/8/10	Bob Van Roekel	**Database Merge**
8/16/10	Sudhakar Katamaneni	**Web Banking**
8/8/10	Narendra Manna	**Campus Events**
7/27/10	Eric Johnson	**Active Directory and ULT PLUS Resource Database**
5/3/10	Ajaya Kumar Loya	**Organizational Internal Survey**
5/1/09	Daren Anderson	**RMP Capital Corp - An in-house IT Solution**
4/30/09	Varghese Abraham	**10g Grid Control for Enterprise Database Monitoring**
12/18/08	Adupudi Sriram	**Bug Tracking for Improving on Software Reliability**
12/18/08	Allan Wasserman	**Permissions for Site Servers in a Windows Domain**
12/01/08	George Hogan	Centralized College Client DB Creation from Diverse Interrelated Sources
7/23/08	Govardhan Goud Gudidevuni	**Development of Report and Sales/Inventory/Purchasing Data Mart**
5/19/08	Eric Urff	**Student Data Repository and Warehouse**
11/30/07	Christopher Haufschild	**The Implementation of a Repository for Data Reporting and Analysis**
8/24/07	Steve Kuchta	**Website Conversion: PHP to ASP**
5/7/07	Bobbi Jo Kyte	**Developing a Web Presence for a Photography Business**
12/14/06	Ben Condol	**Quality Product Grading**
12/8/06	Kranthi K. Chigullapally	**Correction Action Tracker**
12/6/06	David Stendel	**Service Center Project**
12/4/06	Mark Dykstra	**The Migration of an IBM Legacy System**
11/27/06	Marianne Gorecki	**Customer Extranet Metrics**
11/27/06	Srinivas Jujjavarapu	**Inventory Management of Medical Drugs**
11/27/06	Prasun K Rachamalla	**Web Based Insurance Enrollment System**
5/11/06	Steve Hawks	**Image Database for the SDSU Fillbrandt Observatory**
5/9/06	Mathew Lehmann	**Workflow Management**
5/5/06	Pavan Gandra	**A Diagnostics service for Monitoring LED Components**

Dissertation Committee Member (Doctor of Information Science) – Donald Heier Fall 2014

Graduate Project Committee Member: from 2006 to 2011 I served on more MIS project committees than I was advisor for. As the MIS deemphasized the project I have been on only a couple a year on average. Most were on committees for Dr. Shan (DSU).

Jun Liu

Email: jun.liu@dsu.edu
Phone: (605)256-5172(Work), (858)519-5345(Home), (520)248-2248(Mobile)

PROFESSIONAL EXPERIENCE

Associate Professor of Information Systems 2018- present
Assistant Professor of Information Systems 2012- 2018
Coordinator for MS in Analytics 2014- present
Dakota State University, Madison, SD
Played a critical role in the development and approval of a joint Masters in Analytics program in collaboration with South Dakota State University's Department of Mathematics and Statistics and developed three core analytics courses for the program (Spring 2014); responsible for supervising and coordinating the administration of the MSA program; responsible for promoting and advertising the program; played a key role in the curriculum development and approval of a new graduate certificate program Business Analytics, in collaboration with SAS (Fall 2012); continued involvement with graduate Information Systems programs at DSU through advising graduate students and teaching graduate courses through on-campus, online, and blended delivery modes; actively pursuing research in areas of interest and submitted grant proposals to NSF and South Data Board of Regents.

Research Scientist August 2010-August 2012
Opera Solutions, San Diego, CA
Developed pricing strategies for Toys "R" Us Stores using machine learning approaches; collaborated with Netflix prize winners A. Töscher and M. Jahrer in developing a recommender system for British Airways; participated in the Heritage Health Prize Machine Learning Competition (the Opera team ranked fifth in the competition).

EDUCATION

Ph.D. in Management Information Systems 2010
University of Arizona, Tucson, AZ
Minor: Economics
MS in Management Information Systems 2004
University of Arizona, Tucson, AZ
BA in Economics 1996
Nanjing University

TEACHING EXPERIENCE

College of Business and Information Systems, Dakota State University Graduate Courses
INFS 792-D01: *Advanced Data Mining Applications (new course development) (2012)*
INFS 792-D03: *Collaboration and Social Network Analysis (new course development) (2012)*
INFS 768: *Predictive Analytics for Decision Making (new course development) (2013-2016)*
INFS 770: *Advanced Data Mining Applications (new course development) (2013-2014, 2017-2018)*

INFS 772: *Programming for Data Analytics (new course development) (2015-2017)*
INFS 762: *Data Warehousing and Data Mining (2013-2018)*
INFS 756: *Cloud Computing and Network Services (2013)*
INFS 830: *Decision Support Systems Research (2015-2016)*
INFS 838: *Decision Support Systems* (20172018)
INFS 890: *Research Seminar (2012-2015)*
INFS 774: *Big Data Analytics* (2016 – 2018)
Department of Management Information Systems, University of Arizona
MIS 304: *Using and Managing Information Systems (2006, 2010)*

HONORS AND AWARDS

- DSU Merrill D. Hunter Award of Excellence in Research (2017)
- Principle investigator, South Dakota Board of Regents - Research and Development Innovation Grants ($40,000), 2014
- South Dakota Board of Regents - Performance Improvement Fund ($64,668), 2012
- Principle investigator, Dakota State University - Faculty Research Initiative Award, 2012, 2014, 2015
- Best Paper Award, Workshop on Information Technologies and Systems (WITS), 2009

RESEARCH PUBLICATIONS

Journal Publications

1. Jun Liu and Sudha Ram (2018): "Using big data and network analysis to understand Wikipedia article quality", Data & Knowledge Engineering 115, 80-93
2. Jun Liu, Prem Timsina, Omar El-Gayar (2018): "A comparative analysis of semi-supervised learning: The case of article selection for medical systematic reviews", *Information Systems Frontiers*, 20 (2), 195-207
3. Swayambhu Chatterjee, Shuyuan Deng, Jun Liu, et al. (2019): "Classifying facts and opinions in Twitter messages: a deep learning-based approach" in Journal of Business Analytics Vol. 1.
4. Jun Liu and Sudha Ram (2017): "Improving the Domain Independence of Data Provenance Ontologies: A Demonstration Using Conceptual Graphs and the W7 Model", *Journal of Database Management* 28 (1), 43-62
5. Mohammad Abdel-Rahman, Jun Liu, Omar El-Gayar (2017): "Discovering Design Principles for Health Behavioral Change Support Systems: A Text Mining Approach", *ACM Transactions on Management Information Systems*, Volume 8 Issue 2-3, August 2017
6. Prem Timsina, Jun Liu, Omar El-Gayar (2015): "Advanced analytics for the automation of medical systematic reviews", *Information Systems Frontiers*, Volume 18, Issue 2, pp 237–252
7. Sudha Ram and Jun Liu (2012): "A Semantic Foundation for Provenance Management", *Journal of Data Semantics*, Volume 1, Issue 1, pp. 11-17.
8. Jun Liu and Sudha Ram (2011): "Who Does What: Collaboration Patterns in the Wikipedia and Their Impact on Article Quality", *ACM Transactions on Management Information Systems*, Volume 2, Issue 2, pp. 11-23. (the second most cited paper of the journal)

9. Sudha Ram and Jun Liu (2008): "A Semiotics Framework for Analyzing Data Provenance Research", *Journal of Computing Science and Engineering*, Vol. 2, No. 3, September 2008, pp. 221-248.
10. Sudha Ram and Jun Liu (2005): "An Agent Based Approach for Sourcing Business Rules in Supply Chain Management", *International Journal of Intelligent Information Technologies*, Vol. 1, January 2005, pp. 1-16.

Book Chapters

1. Sudha Ram and Jun Liu (2010): "Provenance Management in BioSciences", Advances in Conceptual Modeling – Applications and Challenges. *Lecture Notes in Computer Science* 6413, pp 54-64
2. Sudha Ram and Jun Liu (2007): "OABIS: An Ontology-based Approach for Business Rules Management", in *Application of Agent and Intelligent Information Technologies*, 2007, Vijay Sugumaran (eds.), Idea Group Inc, Hershey, PA, pp.1-21.
3. Sudha Ram and Jun Liu (2007): "Understanding the Semantics of Data Provenance to Support Active Conceptual Modeling", *Lecture Notes in Computer Science 4512*, Leah Wang and Peter Chen (eds), pp. 1-12.

Conference Papers

1. "Impact of IT Investment on Hospital Performance: A Longitudinal Data Analysis", with Giridha Bojja, HICSS 2019.
2. "Matching Possible Mitigations to Cyber Threats: A Document-Driven Decision Support Systems Approach", with Matha McNeil, Cherie Noteboom, et al. HICSS 2019.
3. "The Effect of Enterprise Crowdsourcing Systems on Employees' Innovative Behavior and Job Performance", with Vetrivadivel Vel, Insu Park, HICSS 2018.
4. "Improving Opinion Mining by Classifying Facts and Opinions in Twitter" with Chatterjee, S., Deng, AMCIS 2017.
5. "A Neuropsychological Approach for Investigating Behavioral Beliefs Using Facial Expression Emoticons", with Tamandja, M., Insu, P., AMCIS 2017.
6. **"**Users Acceptance of Health Behavioral Change Support Systems"**,** with Mohammad Al-Ramahi, Insu Park), AMCIS 2016
7. "Using Semi-supervised Learning for the Creation of Medical Systematic Review: An exploratory Analysis", HICSS 2016 (with Prem Timsina, Omar El-Gayar)
8. "Discovering Design Principles for Persuasive Systems: A Grounded Theory and Text Mining Approach", HICSS 2016 (With Mohammad Al-Ramahi, Omar El-Gayar)
9. "Exploring Health Knowledge Transfer in Online Healthcare Communities", HICSS 2016 (with Yanyan Shang)
10. "Designing Intrusion Detection Systems to Detect Zero Day Attacks with the Defense Attack Vector Identification (DAVID) Method", WITS 2015 (with Master Lawrence, Shuyuan Deng)
11. "Users Feedback Based Design Principles for Persuasive Systems: A Text Mining Approach", WITS 2015 (With Mohammad Al-Ramahi, Omar El-Gayar)
12. "Predicting Big Movers Based on Online Stock Forum Sentiment Analysis." AMCIS 2015 (With Mohammad Al-Ramahi, Omar El-Gayar, Yenling Chang)
13. "Users' Continuance Participation in the Online Peer-to-peer Healthcare Community: A Text Mining Approach", AMCIS 2015 (With Yanyan Shang)
14. "Exploring the Activeness of Professional Online Community Members", AMCIS 2015, (with Yanyan Shang**,** Jie Xiong)

15. "Active Learning for the Automation of Medical Systematic Review Creation", AMCIS 2015 (with Prem Timsina, Omar El-Gayar)
16. "Leveraging Advanced Analytics Techniques for Medical Systematic Review Update", HICSS 2014 (with Prem Timsina, Omar El-Gayar)
17. "The Impact of Collaboration on the Quality of Wikipedia Articles: A Social Network Perspective", *SIGBPS 2012* (with Yanyan Shang)
18. "Internal Bonding, External Bridging and Functional Diversity: Impact of Social Capital on the Quality of Wikipedia Articles", WITS 2011, Shanghai, China (with Sudha Ram).
19. "Who Does What: Collaboration Patterns in the Wikipedia and Their Impact on Data Quality", WITS 2009, Phoenix, Arizona, USA (with Sudha Ram), ***Best Paper Award. This research received media coverage from Discovery News and MSNBC.***
20. "PROVISIA: Visualization of Data Provenance", WITS 2009, Phoenix, Arizona, USA (with Sudha Ram and Arjhun Thiagarajan).
21. "A New Perspective on Semantics of Data Provenance", Proceedings of the First International Workshop on the Role of Semantic Web in Provenance Management, October 25, 2009, Washington D.C., USA (with Sudha Ram).
22. "PROMS: A System for Harvesting and Managing Data Provenance", Proceedings of the 16th Annual Workshop on Information Technologies and Systems (WITS 2006), December 9-10, 2006, Milwaukee, WI (with Sudha Ram and Regi T. George)
23. "Toward Developing a Provenance Ontology for Biological Images", Proceedings of the Eighth Annual Bio-Ontologies Meeting, June 24, 2005, Detroit , MI (with Sudha Ram, Nirav Merchant, et al).

Conference Presentations

1. **"**Using Online Social Support to Predict Cancer Stage", with Tareq M. Nasralah, Ali Ahmed, AMCIS 2017.
2. **"**A Comprehensive Evaluation of Electronic Medical Record System Implementation in Saudi Arabia", with Hassan Alyami, Cherie Noteboom, AMCIS 2017
3. "Predicting Users' Continuous Participation in Online Health Virtual Community: Demographic and Content Cues", with Iljoo Kim, Yanyan Shang, INFORMS 2016
4. "Semi-supervised Article Selection for Medical Systematic Reviews", with Prem Timsina, Omar El-Gayar, INFORMS 2015

Work in Progress

1. Leveraging Content, Context, and Social Attributes to Detect Malicious Short URLs in Online Social Networks (with Yong Wang, Raj Nepali, under review, Information and Management)
2. A Social Media Presence-Based Trust for Enterprise Knowledge Sharing: A Partial Least Squares Structural Equation Modeling Approach, (with Tamandja, M., et al., under review, Issues in Information Systems Journal)
3. Determinants of Users' Continuance Participation in the Online Peer-to-peer Healthcare Community (with Yanyan Shang, will be submitted to JMIS)
4. "The Effect of Enterprise Crowdsourcing Systems on Employees' Innovative Behavior and Job Performance", (with Insu Park, Vetrivadivel Vel, will be submitted to Decision Support Systems)

RESEARCH PROJECTS

1. <u>An Analytics Research Cyber-Infrastructure for Intelligent Persuasive Systems</u> (2014-2015)

Funding Agency: South Dakota Board of Regents, Research and Development Innovation Grants

- Developed a Hadoop Cluster that consists of nine servers.
- Developed design principles for persuasive systems using text mining.

2. Measuring Material Data Quality (2009 - 2011)

Funding Agency: Science Foundation Arizona

- Used machine learning approach to automatically assessing material data quality.

3. Investigating Data Provenance in the Context of New Product Design and Development (2005 - 2007)

Funding Agency: National Science Foundation (IIS-0455993)

- Designed and developed the W7 model, an ontology that captures the semantics of data provenance.
- Designed and developed a PROvenance Management System (PROMS) that records and represents data provenance in a systematic way.

4. Data Management for the Human Subjects Protection Program (2004 –2006)

Funding Agency: National Institutes of Health (NIH).

- Designed and developed a comprehensive data management system to support the business processes of the Human Subjects Protection Program (HSPP) at the University of Arizona.

5. Dynamically Adaptable Business Rules (2003 –2004)

Funding Agency: Intel

- Proposed an approach to automating the data sourcing for business rules.
- Developed a software system to deploy business rules in supply chain management systems.

UNIVERSITY SERVICE ACTIVITIES

- Coordinator, MS in Analytics Program Committee, 2014-2017
- Member, D.Sc. (IS) Program Committee, 2012-2017
- Member, University Graduate Policy Review Committee, 2015 - 2016
- Member, DSU Assessment Committee, 2015
- Member, DSU Student Scholarship Committee, 2015-2017
- Member, Graduate Council, 2014-2017
- Member, IS Faculty Search Committee, 2014, 2016, 2017
- Member, BUS Faculty Search Committee, 2016

PROFESSIONAL SERVICE ACTIVITIES

- Guest Editor, Decision Support Systems Journal (2016)
- Program Committee Member, The Pacific Asia Conference on Information Systems (PACIS, 2016)
- Program Committee Member, China Summer Workshop on Information Management (CSWIM 2015 - 2017)
- Program Committee Member, the 31st International Conference on Conceptual Modeling (ER 2012)
- Co-chair of Big Data and Analytics for Improving Healthcare and Clinical Processes and Services, SIGBPS 2015
- Chair of the SA&D Methodologies and Processes session, AMCIS 2008.

- Reviewed manuscripts for the following journals and conferences: MIS Quarterly, Information Systems Research, Decision Support Systems, Information Systems Frontiers, Journal of Database Management, ICIS, WITS, ECIS, HICSS, AMCIS, etc.

Austin F. O'Brien, Ph.D.

Professional Preparation

South Dakota State University	Computer Science	B.S., 2004-2007
South Dakota State University	Computer Science	M.S., 2007-2009
South Dakota State University	Computational Statistics	Ph.D., 2010-2017

Appointments

Assistant Professor, Department of Computer Science, Dakota State University, 2015-Current
Research Assistant, Department of Statistics, South Dakota State University, 2012–2015.
Teaching Assistant/Instructor, Department of Statistics, South Dakota State University, 2010–2015.
Statistical Research/Programmer, The Mitre Corporation, 2013
Instructor, Department of Computer Science, South Dakota State University, 2009
Teaching Assistant, Department of Computer Science, South Dakota State University, 2007–2009.

Teaching Experience

Courses Developed:

Dakota State University

Machine Learning Fundamentals, Undergraduate Department of Computer Science: 2019
Machine Learning for Cyber Security, Graduate Department of Computer Science: 2019
Machine Learning Fundamentals, Graduate Department of Computer Science: 2017

Courses Taught

Dakota State University

Algorithms and Optimization, Department of Computer Science, 2018-2019
Data Structures, Department of Computer Science, 2016-2019
Object-Oriented Design, Department of Computer Science, 2016
Computer Science II, Department of Computer Science, 2016-2019
Software Engineering, Department of Computer Science, 2015-2016
Computer Science I, Department of Computer Science, 2015-2019

South Dakota State University

Modern Applied Statistics, Department of Statistics, 2015
College Algebra, Department of Mathematics, 2014-2015
Introduction to Statistics, Department of Statistics, 2010-2012
Graphical User Interfaces, Department of Computer Science, 2009.
Parallel Programming, Department of Computer Science, 2009.
Computer Applications, Department of Computer Science, 2007-2009.

Publications

Dangi, B., Gamet, J., Kulm, A., Nelson, T., O'Brien, A., Pauli, W. (2019) "Alert Prioritization and Strengthening: Towards an Industry Standard Priority Scoring System for IDS Analysts Using Open Source Tools and Models of Machine Learning". South Dakota Law Review Journal.

O'Brien, Austin, "A Kernel Based Approach to Determine Atypicality" (2017). *Theses and Dissertations*. 1711. https://openprairie.sdstate.edu/etd/1711

Miller, J., Gantz, D., Saunders, C., O'Brien, A., On Parametric Models for Pairwise Comparisons.

Min, M., O'Brien, A., Shin, S. (2010). Improved PSOR Algorithm for Minimum Power Multicast Tree Problem in Wireless Ad Hoc Networks. *International Journal of Sensor Networks,* Vol 8, Issue 3, 193-201.

Min, M., O'Brien, A. (2009). Lookahead Expansion Algorithm for Minimum Power Multicasting in Wireless Ad Hoc Networks. *Wireless Algorithms, Systems and Applications*, 70-79.

O'Brien, A. (2009). Optimality of Minimum Power Broadcasting in Wireless Ad Hoc Networks. *South Dakota State University*.

Min, M., O'Brien, A., Shin, S. (2009). Partitioning-Based SOR for Minimum Energy Multicast Tree Problem in Wireless Ad Hoc Networks. *Computer Communications and Networks, 2009. ICCCN 2009. Proceedings of 18th International Conference*, 1-6.

Min, M., O'Brien, A., Shin, S. (2008). SOR Revisited: Partitioning and Recovering After Shrinking. *Computer Communications and Networks, 2008. ICCCN 2008. Proceedings of the 17th International Conference.* 1-6.

Presentations

Nov. 2019. "Alert Prioritization and Strengthening: Towards an Industry Standard Priority Scoring System for IDS Analysts Using Open Source Tools and Models of Machine Learning". CLEAR Cyber Leaders Conference. Sioux Falls, SD. Research Paper Presentation.

Jul. 2019. "AI & Technology – Future of Workforce", Brookings Area Workforce Conference. Brookings, SD. Invited Talk.

Jul. 2019, "Machine Learning Research Opportunities", Research Experiences for Undergraduates Summer Program. Madison, SD. Invited Lecture.

Feb. 2018, "Using Atypicality to Identify Outliers", SDSU Data Science Symposium. Brookings, SD.

Sept. 2017, "Atypicalities for Discovering Abnormalities in Multidimensional Data", ICFIS, Minneapolis, MN, Invited Talk.

Feb. 2016, "Atypicalities for Discovering Abnormalities in Multidimensional Data", Pittcon, Atlanta, GA, Invited Talk.

Sept. 2012, "Grapevine Phenotype Analysis," South Dakota State University. Computational Science and Statistics Seminar, Invited Talk.

Aug. 2009, "Optimality of Minimum Power Broadcasting in Wireless Ad Hoc Networks," South Dakota State University, Computer Science Seminar, Invited Talk.

Conferences/Training Attended (non presenting):

South Dakota State University Data Science Symposium. *2018.*
CAE Community Faculty Professional Development Workshop. *2019.*
ACM SIGCSE Conference. *2019.*
Computer Science Teacher's Association Conference. *2019.*
DSU Research Symposium. Best Poster Judge. *2018-2019.*

Service

Curriculum Development
Minor in Artificial Intelligence. Dakota State University. *2020.*

DSU Committees
Dakota State University ALAST Student Journal creation committee, *2019-present.*
Beacom College Library Committee Representative, *2015-present.*
ABET Accreditation Committee member, *2018-present.*
University Research Committee, *2019-present.*
Faculty Award Selection Committee, *2018-present.*
General Activity Fund Committee, *2017-present.*

Faculty Hiring Committees
Chair. Game Design. *2020.*
Member. Beacom College Dean. *2020.*
Chair. Software Engineering. *2019.*
Member, several others, including: Digital Arts and Design, Beacom College, Arts and Sciences, Computing Information Systems. *2016-present.*

GenCyber Camps at DSU
GenCyber Coed Camp, Advanced Programming Instructor, Dakota State University, *2016-present.*
CybHER Jr. High Girls Camp, Python Instructor, Dakota State University, *2018-present.*
GenCyber Teachers Camp, Python Instructor, Dakota State University, *2018-present.*

Competitive Clubs – Coaching
ACM North American Programming Championship Coach, Dakota State University, *2019*
Digi-Key Competitive Coding Competition Winners, Coach, Dakota State University, *2018-2019.*
Competitive Programming Club Advisor/Coach, Dakota State University, *2017-Present.*
Collegiate Penetration Testing Competition Advisor/Coach, Dakota State University, *2017.*
Cyber Defense Competition Coach, Dakota State University, *2017.*
ACM Regional Programming Competition Coach, Dakota State University, *2015-2017.*
DSU Game Jam Judge, Dakota State University, *2016-present.*

Recruiting

International Student Career Fairs. Multiple Community Colleges in CA & TX. *2019*.
Facebook Live Student Sessions. StudyUSA. *2020*.
DSU Discover Days, Assistant. *2016-present*.

Research Mentor

Graduate Student Research Initiative, Advisor, Dakota State University, *2019-Present*.
Undergraduate Student Research Initiative, Advisor, Dakota State University, *2019-Present*.
High School Unity Programming Project, Poudre School District, CO. *2017-2018*.

Thesis & Ph.D. Research Committees

Jonah Baron. Doctor of Philosophy in Cyber Defense. *2019-Current.*
Sujita Chaudhary. Master of Science in Computer Science. *2019-Present.*
Charles Frank. Doctor of Philosophy in Cyber Defense. *2017-2019*.

Contact Information

Austin O'Brien
Department of Computer Science
Dakota State University
12 East Hall
Madison, SD 57042

Phone: (605) 256-5820
Email: austin.obrien@dsu.edu

Dakota State University
East Hall – Room 104
Madison, SD 57042

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Fax 1-(605) 256-5060
E-mail wayne.pauli@dsu.edu

Dr. Wayne E. Pauli

Goal

To utilize my education, professional background, teaching experience and personal traits collectively in creating the most positive environment that I can for the student body, the university, alumni, benefactors and the DSU Foundation.

Education

2002 – 2005 Capella University Minneapolis, MN
Ph.D. Organization and Management specialization in E-Business

1999 - 2001 Dakota State University Madison, SD
Masters of Science Information Systems – E-Commerce Specialization

1998-1999 Dakota State University Madison, SD
Undergraduate Minor in Information Systems

1981-83 Colorado Graduate School of Banking Boulder, CO
Non-Degreed Diploma

1973-1976 Northern State University Aberdeen, SD
Bachelors of Science Degree in Business Administration

Scholarly Activities and Honors

2020 – Chair the admissions committee for the PhD in Cyber Operations program. To date 11 degrees conferred and 80 admissions.

2020 – Program Coordinator for the PhD in Cyber Operations program.

2020 – Chairing 5 dissertation committees

2019 – PI for a grant in the amount of $59,000 from the National Security Agency for the continued operation of the CRRC which DSU operates in conjunction with the NSA

2019 – Chair the admissions committee for the PhD in Cyber Operations program. To date 6 degree conferred and 66 admissions.

2019 – Program Coordinator for the Dr. of Science in Cyber Security program.

2019 – Chairing 3 dissertation committees

2018 – Chair the admissions committee for the Dr. of Cyber Security program.

2018 – Program Coordinator for the Dr. of Science in Cyber Security program.

2018 – PI for a grant in the amount of $258,000 from the National Security Agency for the promotion of cyber education within the middle school population.

2018 – PI for a grant in the amount of $147,000 from the National Security Agency for undergraduate cyber research within the INSuRE Program

2018 – Chairing 2 dissertation Committees

2017 – Chair the admissions committee for the Dr. of Cyber Security program.

2017 – Program Coordinator for the Dr. of Science in Cyber Security program.

2017 – PI for a grant in the amount of $339,000 from the National Security Agency operating the North Central CRRC and for running Faculty Professional Development workshops nationwide for cyber training

2017 – PI for a three-year grant with the NSF in the amount of $479,658 for the creation of a Cyber Training Center at DSU

2017 – Chairing 3 dissertation committees

2016 – Chair the admissions committee for the Dr. of Cyber Security program.

2016 – Program Coordinator for the Dr. of Science in Cyber Security program.

2016 – Chairing two dissertation Committees

2015 – PI for a grant in the amount of $156,000 from the National Security Agency for the promotion of cyber research with undergraduate students at DSU.

2015 – Chair the admissions committee for the Dr. of Cyber Security program. To date 28 students are in the program.

2015 – Named Program Coordinator for the Dr. of Science in Cyber Security program. Admitted 10 students in 2015 and 13 in 2016.

2015 – PI for a grant in the amount of $156,000 from the National Security Agency for the promotion of cyber research with undergraduate students at DSU.

2015 – Promoted to Full Professor by the Promotion and Tenure Committee, DSU Administration, and the Board of Regents of the State of South Dakota

2015 – Chairing the dissertation committee of the first 2 doctoral students of the Cyber Security doctorate at DSU

2014 – Conference paper at the 2014 ISECON / CONISAR, Baltimore, MD. “Piloting the E-Text in an Undergraduate Systems Analysis & Design Course” considered for inclusion in the Information Systems Education Journal and nominated for best paper award

2014 – Serving on Dissertation Committee for a DSU doctoral learner

2013 – Conference paper at the 2013 ISECON / CONISAR, San Antonio TX. “Creating a Virtualized Environment for Large-Scale Hands-On IA Education” considered for inclusion in the Information Systems Education Journal – not accepted

2013 – Presentation at the 2013 Southern Fried Agile Conference in Charlotte, NC. “Incorporating Agile Into a CIS Curriculum”

2013 – Served as a beta tester for E-textbook evaluation conducted by the South Dakota Board of Regents. One course from each campus selected

2013 – Dissertation Chair for a DSU doctoral learner

2012 – Curriculum review and consulting for Niagara University of NY

2012 – Conference paper at the 2012 ISECON / CONISAR, New Orleans, LA. “Using the Cloud: The Cost of Encryption in IaaS”

2012 – Dissertation Chair for a DSU doctoral learner- successful defense that lead to a May 2012 graduation

2012 – Created and delivered workshop on Agile Development at the November 2012 ISECON / CONISAR, New Orleans, LA

2011 – Dissertation Chair for 2 DSU Doctoral students – successful defense for one of the students

2011 – Panel Discussion Panelist at the 2011 ISECON Conference, Wilmington, NC. “Model Curriculum “Wiki” Birds of a Feather Panel Session”

2011 – Conference paper at the 2011 ISECON / CONISAR, Wilmington, NC. “Using the Cloud: Keeping Enterprise Data Private”

2011 – Journal article “ The 2010 CIS Baccalaureate Degree Compared with IS 2010 Guidelines”, published in the Journal of Higher Education Theory and Practice V 11(2) ISSN: 2158-3595

2010 – Dissertation Chair for a DSU Doctoral student. Successful defense that lead to May 2011 graduation

2010 – Conference paper at the 2010 ISECON / CONISAR, Nashville, TN. “The 2010 CIS Baccalaureate Degree Compared with IS 2010 Guidelines”

2010 – Network review and consulting for Ogallala Lakota College of Kyle, SD

2009 – Dissertation Chair for a Doctoral student. Successful defense that lead to May 2010 graduation

2009 - Project chair for three MSIS students

2009 – Conference paper at the 2009 ISECON Conference in Washington DC. “Computers for Humanity: A Service Learning Approach to Computer Education”

2009 – Authored a total redesign of the Computer Information Systems undergraduate degree at Dakota State university

2008 – Delivered keynote address and received honorary lifetime membership into Delta MU Delta National Honor Society for Business majors at the spring banquet held at Dakota State University

2008 – Successfully designed, developed, and delivered a five part seminar series entitled “Cultivating Success” for College of BIS seniors

2008 – Selected as a faculty beta tester for the Desire 2 Learn (D2L) Course management system adopted by the Board of Regents

2007 – Project Chair for three MSIS students

2007 – Conference Paper at the 2007 MWAIS Conference in Madison, SD. “The Digital Divide: An Investigation of Native American Undergraduate Population in South Dakota”

2007 – Promoted to Associate Professor and received Tenure by the Board of Regents and Dakota State University

2007 – Dakota State University representative (1 of 2) to the Information Technology Discipline Council of the Board of Regents, State of South Dakota

2007 – Dakota State University representative (1 of 4) to the South Dakota Board of Regents system-wide committee on mobile computing

2007 – Provided training on the Tablet PC to more than 150 employees of the Department of Social Services of the State of South Dakota in various locations throughout the State
2006 – Project Chair for two MSIS students

2006 – Conference paper at the 2006 ISECON Conference in Dallas, TX. “Morality and Prudence and How They Address the 21st Century Ethics Problem in Education

2006 – Named Advisor of the first year National Honor Society, Phi Eta Sigma

2006 – Chaired the technology training seminars for all DSU faculty and staff as part of the Fall 2006 Faculty and Staff Orientation week

2006 – Completion of the Cisco Boot Camp for Security Development

2005- Project chair for three MSIS students that are completing their academic programs

2005 – Provided training on the TabletPC to more than 100 employees of the South Dakota Department of Social Services in various locations throughout the State

2005 – Presented the research of the dissertation to faculty at Dakota State University during a F.R.E.S.H. presentation

2005 – Presenter regarding campus life and how to effectively get along with the faculty at DSU to all incoming freshman students

2005 – Dissertation published at UMI. Title – The Native American Digital Divide: A Preliminary Investigation of an Undergraduate Population in South Dakota

2005 – Keynote speaker at Spring Student Convocation at DSU. Topic – Volunteerism and Getting Involved

2005 – Awarded the South Dakota Board of Regent's 2004-2005 Faculty Recognition Award for Excellence in E-Learning

2004 – Project Chair of a MSIS student

2004 – Speaker at New Student Orientation at DSU. Topic – Faculty Involvement

2003 – Guest Speaker at the annual banquet of Kappa Sigma Iota of Dakota State University. Topic Nobody Cares How Much You Know Until They Know How Much You Care

2003 - Presenter at The E-Learning Journey held in Aberdeen, SD April 10 – 11. Topic The Intellectual Culture of Community in On-Line Learning

2003 – Joint Presenter at The E-Learning Journey held in Aberdeen, SD April 10 – 11. Topic University Instruction Using the Wireless Internet

2002 – Joint presenter at ISECON – ISECON 2002 held at San Antonio, TX October 31 – November 3. Topic Bringing Your Distance Class to Your Student's Desktop

2002 – Joint presenter at Innovations – Educating New Generations held at Brookings, SD March 1-2. Topic RITELink Experiences

Professional 2015 – current Dakota State University Madison, SD

experience

- Tenured Full Professor in the College of Computing
- Coordinator of the Cyber Operations Doctoral program
- Graduate faculty member
- Serve on the Board of Trustees of the Dakota State University Foundation – chairing the Investment and finance committee and as a member of the Executive Committee

Member of many DSU committees, including Assessment, Scholarship, and Graduate Coordinators committee.

Created curriculum for Doctoral classes, CSC 803 and CSC 809. Chairing tw0 dissertation committees, and serving on 2 others as of this time.

2014 – 2015 Dakota State University Madison, SD

- Associate tenured Professor in the College of Business and Information System
- Graduate faculty member
- Serve on the Board of Trustees of the Dakota State University Foundation – chairing the Investment and finance committee and as a member of the Executive Committee

Member of the following DSU committees: Scholarship Committee and Faculty Development.

2007 – 2014 Dakota State University Madison, SD

- Director of the DSU Center of Excellence in CIS
- Associate Dean in the College of Business and Information Systems
- Associate tenured Professor in the College of Business & Information Systems
- Phi Eta Sigma National Honor Society faculty advisor
- MSIS / MSIA Graduate Faculty
- Vice President of the Board of Regents Information Technology Discipline Council
- Committee member and DSU representative to the Board of Regents system-wide Wireless Mobile Computing committee
- GS 100 instructor (Freshman Success) in the College of Business and Information Systems
- Faculty Advisor to the Dakota State University Student Senate
- College faculty mentor to new faculty members
- Serve on the Board of Trustees of the Dakota State University

Foundation – chairing the Investment and finance committee and as a member of the Executive Committee

Member of the following DSU committees: Academic Council, CRAC, Assessment, Center of Excellence-Honors, University Research, Institutional Effectiveness, Scholarship Committee and Administrative Council.

2007 – 2008 Logic Lizard, LLC Madison, SD
Minority owner in the custom application development company specializing in Web development and Web 2.0 interfaces

2006 – 2007 Dakota State University Madison, SD

- Director of the DSU Center of Excellence in CIS
- Associate Dean in the College of Business and Information Systems
- Assistant Professor in the College of Business & Information Systems
- MSIS / MSIA / Dr. of Sc Graduate Faculty
- DSU representative to the SDBOR Information Technology Discipline Council
- Volunteer GS 100 instructor (Freshman Success) in the College of Business and Information Systems

Member of the following DSU committees: Academic Council, CRAC, Assessment, Writing Intensive, Institutional Effectiveness, and Administrative Council.

2005 – 2006 Dakota State University Madison, SD

- Director of the DSU Center of Excellence in CIS
- Asst Professor in the College of Business & Information Systems
- MSIS / MSIA Graduate Faculty

Member of the following DSU committees: Academic Council, CRAC, Assessment, Graduate Council, Center of Excellence-Honors, University Research, and Administrative Council.

2004 – 2005 Dakota State University Madison, SD

- Director of the DSU Center of Excellence in CIS
- Asst Professor in the College of Business & Information Systems
- MSIS / MSIA Graduate Faculty

Member of the following DSU committees: Athletic Department Strategic Planning, Academic Council, CRAC, Assessment, Graduate Council, Center of Excellence-Honors, and Administrative Council.

2003 – 2004 Dakota State University Madison, SD

- Director of the DSU Center of Excellence in CIS
- Faculty member in the College of Business & Information Systems
- Appointed to the MSIS Graduate Faculty

Member of the following DSU committees: Academic Council, CRAC, Assessment, Graduate Council, Center of Excellence-Honors, WMCI Initiative, and Administrative Council.

2002 – 2003 Dakota State University Madison, SD

- Director of the DSU Center of Excellence in CIS
- Faculty member in the College of Business & Information Systems
- Consulting faculty member for the NSF funded RITELink adult education training program

Member of the following DSU committees: Academic Council, CRAC, Assessment, Graduate Council, Center of Excellence-Honors, and Administrative Council.

2001 – 2002 Dakota State University Madison, SD

- Director of the DSU Center of Excellence in CIS
- Faculty member in the College of Business & Information Systems

Member of the following DSU committees: Academic Council, CRAC, Assessment, Graduate Council, Center of Excellence-Honors, and Administrative Council.

- Consulting faculty member for the NSF funded RITELink adult education training program
- Assisted with the grant application for the MACSTECH Scholarship program. Funding was approved by NSF

Summer 2001 Schwan's Sales Enterprises Marshall, MN
Developer – Client Services Development Team

- Utilized Microsoft Visual Basic in a real world environment
- Successful completion of Schwan's two-tier programming training
- Actual work experience in SDLC of an application

2000 – 2001 Dakota State University Madison, SD
Graduate Assistant – Adjunct Faculty Instructor

- Instructor for two sections of CIS 130 Visual Basic (Fall 2000)
- Instructor for two sections of CIS 251 Visual Basic (Spring 2001)
- Distance delivery of CIS 130 to 33 students in 3 states and Germany
- Monitored online testing for students measuring computer skills
- Assisted in the registration of incoming students
- Assisted in the registration of existing students
- Assisted Athletic department by providing advising to potential student/athletes

1999 – 2000 Dakota State University Madison, SD
Graduate Assistant – Instructor and Assistant Basketball Coach

- Instructor for two sections of Visual Basic programming
- Conducted weekly review sessions on MS Office
- Substitute teaching for C++ programming, COBOL Programming, and Introduction to Computers
- Monitored online testing for college students measuring computer skills
- Conducted training sessions on MS Windows and MS Office
- Assistant Coach of the women's basketball team – team advanced to the Elite 8 of the NAIA National tournament
- Head Junior Varsity Women's basketball coach

1998 – 1999 Dakota State University Madison, SD

Assistant basketball Coach and Intramurals

- Assistant Director of Intramural Activities
- Assistant Coach of the women's basketball team
- Monitored online testing for college students measuring computer skills
- Supervised team study sessions for all student/athletes with GPA < 2.75

1993 – 1998 Self-Employed Business Owner Graceville, MN

- Coordinated the efforts of the public agencies of nine (9) counties in West Central Minnesota, on a contract basis, dealing with residential options and services for the frail-elderly of Minnesota
- Ownership and management of a used vehicle sales and service business

1991 – 1993 First State Bank Graceville, MN

President, Chief Operating Officer, and member of the Board of Directors

- Managed an asset base of $14 Million dollars
- Managed a loan portfolio of 8 Million Dollars

- Managed an investment portfolio of $5 Million Dollars

1989 – 1991 Tri-County State Bank Kimball, SD

Vice President and Manager

- Managed an asset base of $20 Million dollars
- Managed a loan portfolio of $12 Million Dollars

1986 – 1989 High Plains Bank Elizabeth CO
Executive Vice President, Manager and Minority Owner

- Managed an asset base of $15 Million Dollars
- Managed a loan portfolio of $7 Million Dollars
- Managed an investment portfolio of $6 Million Dollars
- Member of the Board of Directors of a two bank holding company

1984 – 1986 First Fidelity Bank Gregory, SD

Vice President and Manager

- Doubled the size of this branch from $4 Million to $8 Million of assets
- Loan portfolio increased in size from $1 Million to $3.5 Million Dollars
- Member of the Board of Directors

1977 - 1984 First Fidelity Bank Colome, SD
Vice President and Cashier

- Began career as an Officer trainee
- Managed bank owned Insurance Agency
- Managed all internal bank operations

During this time, I successfully converted three branch banks from manual data processing to main frame computer systems

Ashley L. Podhradsky, D.Sc

Associate Dean, Beacom College of Computer and Cyber Sciences
Associate Professor, Digital Forensics
Founding Director, DigForCE: Digital Forensics for Cyber Enforcement
Co-Founder, CybHER www.CybHER.org
Director, Board of Directors First Bank and Trust

Dakota State University
(215) 275-6214
Ashley.Podhradsky@dsu.edu

Dr. Ashley Podhradsky is an Associate Professor of Digital Forensics and Associate Dean of the Beacom College of Computer and Cyber Sciences at Dakota State University. Ashley is also a member of the First Bank and Trust Board of Directors. Ashley has been an invited speaker at several events and universities including The Pennsylvania State University, Bureau of Justice Affairs, Women in CyberSecurity, InfraGard and DePaul University among others. Her research teams have received over 5.3 M in competitive grants. Current awards include an NSF REU site, NSF NRT program and NSA GenCyber. In addition to her academic and professional work, she has a strong passion for increasing gender diversity in cybersecurity. She is the PI and Camp Director for GenCyber: Girls in CybHER Security, a program sponsored by the NSA. Ashley was the recipient of the EmBe 2017 "Young Woman of Achievement", The 2017 Merrill Hunter Award for Excellence in Research, 2017 and 2018 New America Cybersecurity Fellow, and is a 2019 American Association for the Advancement of Science IF/THEN Ambassador.

Education

Dakota State University, Madison, South Dakota — 2010
Doctor of Science in Information Systems
Specialized in Information Assurance and Computer Security
3.9 GPA

Dakota State University, Madison, South Dakota — 2007
Master of Science in Information Systems
Specialized in Network Security
3.9 GPA

Dakota State University, Madison, South Dakota — 2006
Bachelor of Science in Electronic Commerce and Computer Security
Minors: Business Administration, Computer Information Systems, Networking and Security

Continuing Education

Penn State — 2019
Academic Leadership Academy
Penn State University, June 16 – June 20, 2019
State College, Pennsylvania

Yale University — 2019
Cyber Leadership Forum
How the Public and Private Sectors Can Address the Cyber Threat Together
Yale University, February 28-March 2, 2019
New Haven, Connecticut

Research Interests

- Digital Forensics in emerging devices, developing investigative approaches
- Data Privacy – specifically residual data remnants on retired sanitized disks
- Insider threats- specifically how to mitigate activities with proactive approaches
- Increasing gender diversity in cyber security

Career History – Industry & Academia

Dakota State University, Madison, South Dakota 2018-Current

Associate Dean of the Beacom College of Computer and Cyber Sciences

- Lead initiatives for online student retention, engagement and advising
- Lead curriculum accreditation
- Develop and implement new faculty mentoring program
- Lead efforts to update articulation agreements and create new agreements
- Create CLEAR Cyber Leaders Conference: The intersection of Cyber Law, Education and Applied Research

Dakota State University, Madison, South Dakota 2012-Current

Associate Professor of Information Assurance and Digital Forensics

- Promoted to tenured associate professor in fall 2016
- Assistant Professor from Fall 2012-Spring 2016
- Teach courses and conduct research in the areas of computer security, information assurance and cyber security, & computer forensics.
- Develop curriculum in digital forensics, computer security, and cyber security
- Sample of Courses Taught: CIS 245, Information Security Fundamentals, CSC 388 Computer Forensics, CSC 418 Advanced Computer Forensics, INFA 720 Incident Response, INFA 721 Computer Forensics, CSC 807 Cyber Security Research

Program Coordinator of Master of Science in Cyber Defense 2014-2018

- Work directly with Dean of Graduate Programs to manage program including faculty teaching assignments, student recruitment, advertising, and curriculum
- Lead admissions graduate program committee and admissions committee

Founder and Co-Chair of Cyber Security Industry Advisory Board

- Coordinate bi-annual meetings with industry partners to advisee Cyber Operation and Network Security program on curriculum, industry trends, and work to increase opportunities for students

Drexel University, Philadelphia, Pennsylvania 2012-2016

Adjunct Professor of Computing and Security Technology

- Teach courses and develop curriculum in the areas of computer information system and computer security, cyber security, specifically computer forensics.

BK Forensics, Philadelphia, Pennsylvania 2011-2013

Digital Forensics Training Coordinator/ Director

- Coordinate course development and updates, including materials (PowerPoint slides, practical/lab exercises, and course books)
- Coordinate beta-training

- Conduct instructor evaluations
- Handle helpdesk for instructors during training sessions
- Intermittent teaching of classes

Drexel University, Philadelphia, Pennsylvania 2010-2012

Assistant Professor of Computing and Security Technology, Tenure Track

- Teach courses and conduct research in the areas of computer information system and computer security, cyber security, specifically computer forensics.
- Develop curriculum in digital forensics, computer security, and cyber security
- Explore the process of ABET accreditation for the CST program
- Represent the CST program for the Middle States 5 year review
- Worked on the inaugural Industry Advisory Board for the CST Program
- Courses Developed: CT 100 Computer Hardware, CT 212 Computer Forensics, CT 120 Computer Software, CT 213 Forensics Data Recovery

Dakota State University, Madison, South Dakota 2008-2010

Instructor of Computer Information Systems and Computer Science

- Teach courses and conduct research in the areas of computer information system and computer science, specifically computer and network forensics.
- Courses Taught: CIS 350 Computer Hardware, Networking and Telecommunications, CIS 388 Computer Forensics, CIS 418 Advanced Computer Forensics, CIS 432 Anti-Forensics, and CIS 434 Portable Media Forensics
- Courses Developed: CIS 350 Computer Hardware, Networking and Telecommunications, CIS 388 Computer Forensics

Dakota State University, Madison, South Dakota 2007-2008

Graduate Teaching Assistant

- Computer Science \ Computer Information Systems: Teach and conduct research in Computer Information Systems and Information Assurance for undergraduate programs
- Courses Taught: CIS 350 Computer Hardware, Networking and Telecommunications, CSC 206 Access, CSC 206 Excel, CSC 206 SharePoint, CIS 388 Computer Forensics, CIS 418 Advanced Computer Forensics
- Co-Taught a OneNote 2007 Seminar

Flandreau Santee Sioux Tribe, Flandreau, South Dakota 2005-2006

Information Technology Support Specialist

- Troubleshoot computers, laptops, network issues, hardware, software, projectors, and point of sales machines
- Supported VoIP infrastructure
- Developed new hire information technology eight week training program
- Performed daily, monthly and yearly backups of all servers
- Implemented a WSUS server to automate the update process of personal systems and servers
- Upgrade workstation and servers
- Administer Active Directory

Dakota State University, Madison, South Dakota 2002-2006

Help Desk Technician

- Assisted faculty, staff and students in technology related issues

- Troubleshoot hardware, software and networking issues
- Supported 1800+ laptop environment

Selected Refereed Journal and Conference Proceedings Publications

1. **Podhradsky,** Jones, Opoku-Boaten, Kulm (2019). "DigForCE: Digital Forensics for Cyber Enforcement." South Dakota Law Review. Accepted, publishing pending.
2. Stroschein, **Podhradsky**, Plucker (2018). "Crossing Cyber Security Domains: Advancing Student Knowledge in Malware Analysis and Computer Forensics." Advances in Security Education. Baltimore, Maryland. USENIX 2018.
3. Rowland, **Podhradsky,** Plucker (2017). "CybHER: A Method for Empowering, Motivating, Educating and Anchoring Girls to a Cybersecurity Career Path. Hawaii International Conference on System Science. Kona, Hawaii. January, 2018.
4. Casey, **Podhradsky** (2016). "Steganography and the Xbox: How Terrorist May Be Hiding in Plain Sight." Conference on Digital Forensics, Security and Law. Daytona, FL. May, 2016
5. Miller, Stroschein, **Podhradsky** (2016). "Reverse Engineering a NIT That Unmasks TOR Users." Conference on Digital Forensics, Security and Law. Daytona, FL. May, 2016
6. **Podhradsky**, LeBlanc, Bartolacci (2014). "Personal Denial of Service Attacks (PDOS) and Online Misbehavior: The Need for Cyber Ethics and Information Security Education on University Campuses. Journal of Cyber Security Vol 3 No 3. Page 1-18.
7. Bartolacci, Leblanc, **Podhradsky** (2014). "Personal Denial of Service (PDOS) Attacks: A Discussion and Exploration of a New Category of Cyber Crime. Journal of Digital Forensics, Security and Law. Vol 9. No 1. Page 19-36.
8. **Podhradsky**, Higgens (2014). "The Current State of Modern Mobile Media and its Impact on the Digital Forensics Community: An Analysis of Smart Phones and Tablets." Hawaii International Conference on Business. Honolulu, HI.
9. Engebretson, **Podhradsky** (2013). "Security Analysis of Xbox 360 Vulnerabilities" 17th World Multiconference on Systemics, Cybernetics and Informatics (WMSCI 2013), Orlando, USA.
10. **Podhradsky**, D'Ovidio, Engebretson, Casey (2013). "Xbox 360 Hoaxes, Social Engineering, and Gamertag Exploits." *Hawaii International Conference on System Science.* Maui, HI.
11. **Podhradsky,** Casey, Ceretti (2012). "The Bluetooth Honeypot Project: Measuring and Managing Bluetooth Risks in the Workplace." *The International Journal of Mobile Network Design and Innovation.*
12. **Podhradsky,** D'Ovidio, Casey (2012). "The Xbox 360 and Steganography: How Criminals and Terrorists could be "Going Dark." *The Conference on Digital Forensics, Security and Law.* May 2012. Richmond, VA.
13. **Podhradsky,** Kelley (2012). *"*Analyzing the Impact that Idle Garbage Collection has on Solid State Drives in Windows and UNIX Platforms." *The Security Conference.* May 2012, Las Vegas, NV.
14. **Podhradsky**, Casey, Ceretti (2012). "Managing Bluetooth Risks in the Workplace." Wireless Telecommunications Symposium (WTS). April, 2012.London, UK. In Press. IEEE.
15. **Podhradsky**, Casey, Ceretti (2012). "The Bluetooth Honeypot Project." Wireless Telecommunications Symposium (WTS). April, 2012.London, UK. In Press. IEEE.
16. **Podhradsky,** Streff. (2011): "Testing Data Sanitization Practices of Retired Drives with the Digital Forensics Data Recovery Project. *Journal of Information Privacy and Security.* Ivy League Publication. ISSN 1553-6548, 09/2011, Volume 7, Issue 3, p. 46
17. **Podhradsky**, D'Ovidio, Casey. (2011): "Identity Theft and Used Gaming Consoles- Recovering Personal Information from Xbox 360 Hard Drives." Proceedings of the America's Conference on Information Systems. Paper 54. August, 2011, Detroit, MI, ISBN 978-0-615-50707-1http://aisel.aisnet.org/amcis2011_submissions/54/
18. **Podhradsky**, D'Ovidio, Casey (2011). "The Practitioners Guide to the Forensic Investigation of Xbox 360 Gaming Consoles." The Conference on Digital Forensics, Security, and Law (ADFSL). May, 2011, VA. ISSN 1931-7379 pp 173-191

19. **Podhradsky** (2011). "Data Sanitization: The Forgotten Aspect of Information Security."*The Security Conference.* May 2011, Las Vegas, NV.
20. **Podhradsky**, Streff, Pauli, and Engebretson. (2011):"A Restructured Information Technology Risk Assessment Model for Small and Medium-Sized Financial Institutions." *Hawaii International Conference on Business (HICB 2011).* May 2011, Honolulu, Hawaii, USApp 206-219
21. **Podhradsky**, Engebretson, Streff, Lovaas.(2009): "An Innovative Information Technology Risk Assessment Model for Small and Medium-Sized Financial Institutions." *Hawaii International Conference on Business (HICB 2009).* June 2009, Honolulu, Hawaii, USA pp 993-1003
22. Streff, **Podhradsky**, Lovaas. (2009):"A Progressive Information Security Program Model for Small and Medium-Size Financial Institutions." *Hawaii International Conference on Business (HICB 2009).* June 2009, Honolulu, HI.
23. Lovaas, Streff, **Podhradsky**(2009): "A Comprehensive Information Technology Audit Framework for Small- and Medium-Sized Financial Institutions." *Hawaii International Conference on Business (HICB 2009).* June 2009, Honolulu, HI.pp898-906
24. Pauli, **Podhradsky**, Pauli, Moran (2009) "Computers for Humanity: A Service Learning Approach to Computer Education." *ISECON. November 2009, Washington, D.C. pp* 3542-3550. http://proc.isecon.org/2009/3524/ISECON.2009.Pauli.pdf
*Others available upon request, several others in progress

Selected Refereed Research Artifacts

25. Ahmed, **Podhradsky**. "Review of Mobile Applications Used for Covert Communication." Midwest Association of Information Systems. Springfield, IL. May, 2017.
26. **Podhradsky**, D'Ovidio, Casey. "Analyzing Data Sanitization Practices of Key Industries." Poster Session of the America's Conference on Information Systems. August, 2011, Detroit, MI, ISBN 978-0-615-50707

Selected Non-Refereed Publications and Research Artifacts

27. **Podhradsky,** Kiesow, Tolman, Redline. "South Dakota Working STEM for Equity (SD-WISE): A system, institutional, and individual level approach to policy change and Salaries in Higher Education Systems." Eastern South Dakota Research Symposium. Sioux Falls, SD. May, 2018
28. **Podhradsky,** Kiesow, Tolman, Redlin. "Advance Salary Data Analysis" NSF Advance Meeting. Washington, DC. October, 2017
29. Tolman, Redlin, Kiewso, Podhradsky**.** NSF Advance Meeting. Washington, DC. October, 2017
30. **Podhradsky,** Casey, D'Ovidio. "Steganography and the Xbox 360: Mapping Criminal and Terrorist Activities." *Drexel University Research Day.* Poster Session. April, 2012
31. Casey, Ceretti, **Podhradsky.** "I Can Hear You Now - The Bluetooth Honeypot Project." *Drexel University Research Day.* Poster Session. April, 2012
32. Kelley, **Podhradsky.** "Analyzing the Impact that Idle Garbage Collection has on Solid State Drives in Windows and UNIX Platforms." *Drexel University Research Day.* Poster Session. April, 2012
33. **Podhradsky**. "Xbox 360 Forensics." TRUST WISE. Carnegie Mellon University. Poster Session. June 2011.
34. Casey, **Podhradsky,** D'Ovidio. "XBOX 360 Forensics. *Drexel University Research Day.* Poster Session. April, 2011. (Computational and Modeling (Non-Bio) Winner).
35. **Podhradsky,** Casey. "The Digital Forensics Data Recovery Project." *Drexel University Research Day.* Poster Session. April, 2011.
36. Tuhinanshu, **Podhradsky.** "Forensically- Sound Insider Threat Tracking Systems (FITTS)." *Drexel University Research Day.* Poster Session. April, 2011.
37. **Podhradsky**, Casey, Lyn and Lugo. "Title: Is private browsing really private? Identifying Web browser risk." *SearchSecurity.com* June 2nd, 2011.
38. **Podhradsky**, Casey."Security sandbox program: Defense-in-depth or layered vulnerabilities?" *SearchSecurity.com* March 17th, 2011.
39. **Podhradsky**, Casey. "Digital Forensic Challenges In A Cloud Computing Environment." *SearchCloudSecurity.com* February11, 2011.

40. **Podhradsky**. "Data Sanitization Policy: How to Ensure Thorough Data Scrubbings." *SearchSecurity.com* January 24, 2011.

Selected Articles and On-Air News Stories with Direct Quotes - Comprehensive List Available upon Request

1. Mendez, Janelle. "A Human to Know: Dr. Ashley Podhradsky." https://www.newamerica.org/cybersecurity-initiative/blog/human-know-dr-ashley-pohdradsky/. August, 2019
2. Anderson, Patrick. https://www.argusleader.com/story/news/business-journal/2019/07/24/coder-shortage-sioux-falls-competition-heated-tech-skills/1779874001/. July, 2019.
3. Wild, Carleen. "Business Owners Beware, Email Scams Targeting You are Rampant." https://www.kdlt.com/2019/07/18/business-owners-beware-email-scams-targeting-you-are-rampant/. July, 2019.
4. "AccessData Conducts Digital Forensics Lab During Cybersecurity Camp for Grils at Dakoat State university." https://www.businesswire.com/news/home/20190716005213/en/. July 2019.
5. Osmosis Conference. "We are excited to announce our keynote, CybHER.org Founder Dr. Ashley Podhradsky." https://www.osmosiscon.com/speakers/dr-ashley-podhradsky/. May, 2019
6. Stuart, S.C. "This South Dakota Summer Camp is All About CybHER Security." https://www.pcmag.com/news/369062/this-south-dakota-summer-camp-is-all-about-cybher-security. June, 2019.
7. McDonald, Sarah. "President Donald Trump has issued an executive order aimed at strengthening the nation's cybersecurity workforce." https://www.keloland.com/news/your-money-matters/president-trump-issues-executive-order-on-cybersecurity-jobs/. May, 2019.
8. Wild, Carleen. "Cyber Conference for Girls Launches Again in 2019." https://www.kdlt.com/2019/04/24/cyber-conference-for-girls-launches-again-in-2019/. April, 2019.
9. Ezarik, Melissa. "Cyber ScienceS: Getting Women into The Room." https://universitybusiness.com/cyber-sciences-getting-women-into-the-room/?fbclid=IwAR0y1vHP6rmvd3IaF7iVB1-pCvVMWGysXA67-6dFE2_3ZE5cmgeoha2rZZ0. April, 2019
10. "NCWIT's Aspirations in Computing Awards Ceremony." https://www.prnewswire.com/news-releases/hetherington-groups-president-to-give-keynote-at-ncwits-aspirations-in-computing-awards-ceremony-300797463.html. February, 2019.
11. Bjelland, Ammi. "Parents Tracking Teens with Technology." https://www.keloland.com/news/eye-on-keloland/parents-tracking-teens-with-technology/1475184695. September 2018.
12. Echols, Michael. "Not In our Digital House. https://www.forbes.com/sites/gradsoflife/2018/08/07/not-in-our-digital-house/#5919289e6af5. Forbes. August 2018.
13. Savage, Tom. "2 local students part of first Rocket Girls camp" https://www.argusleader.com/story/news/dell-rapids/2018/08/08/baltic-and-dell-rapids-students-part-first-rocket-girls-cyberspace-camp-orlando/930329002/. Argus Leader. August 2018.
14. Mallory, Brady. "South Dakota Girls Blast Off to the Kennedy Space Center." https://www.keloland.com/news/education/south-dakota-rocket-girls-blast-off-to-kennedy-space-center/1326072478. July 2018
15. Wild, Carleen. "Author of Code Girls" Coming to Dakota State University. https://www.kdlt.com/2018/04/18/author-code-girls-coming-dakota-state-university/. April 2018.
16. "Siri, Tell Me the Names of Some Women Leaders in Tech." Humans of CyberSecurity. New America https://www.newamerica.org/cybersecurity-initiative/humans-of-cybersecurity/blog/siri-tell-me-names-some-women-leaders-tech/. April, 2018.
17. Wild, Carleen. Encouraging Women to Enter the Field of Cyber Forensics. KDLT News. http://www.kdlt.com/2018/03/28/encouraging-women-enter-field-cyber-forensics/. March, 2018.
18. Johnson, Tim. "Here's a tech problem to debug: Why are so few women in cybersecurity? Read more here:" McClatchy – DC Bureau, 28 Jan. 2018, http://www.mcclatchydc.com/news/nation-world/national/national-security/article196363499.html#storylink=cpy.
19. Johnson, Tim. "Cybersecurity Is Still a Largely Male Realm." PressReader.com - Connecting People through News, Star Tribune, 28 Jan. 2018, www.pressreader.com/usa/star-tribune/20180127/281633895668805.
20. "People You Should Know. Sioux Falls Business Journal with Jodi Schwan. 1 Jan. 2018. http://siouxfalls.business/people-you-should-know-22/

Grants Funded- Compressive List of Submissions Available on Request

- **Funded:** NSF REU: IoT Security 2019-2022
  Co-PI, award 1852145
  $357,487
- **Funded:** DigForCE : Digital Forensics for Cyber Enforcement 2018-2021
  Grant to Attorney Generals office of SD to train law enforcement on
  Digital forensics investigations
  MOU Signed Dec, 2018
  Lead Faculty Investigator
  $750,000
- **Funded:** NSF NRT: Collaborative Research: Cyber-Physical-Social System for Understanding and Thwarting the Illicit Economy 2018-2023
  Collaboration between DSU, SDSU, USD and SDSMT
  Award 1828302
  Principle Investigator
  $2.98 M, $373,608 for DSU
- **Funded**: NSA/NSF GenCyber Girls in CybHER Security Camp 2018
  Plan and host residential camp for 5-8th grade girls.
  Notable guests: Dr. Heather Wilson, Secretary of Air Force
  Diane Janosek, Commandant of NCS at NSA, Access Data Forensics
  1 year award
  Principle Investigator
  $123,287.13
- **Funded**: NSA/NSF GenCyber Girls in CybHER Security Camp 2017
  Plan and host residential camp for middle school girls to learn about programming, networking and security.
  Planned and executed the camp, led recruiting efforts, and worked with
  funding partners at the NSA.
  120 middle-school girls from 16 different states
  1 year award
  Principle Investigator
  $134,000
- **Funded:** NSA/NSF GenCyber: Girls in CyberSecurity. 2016
  Plan and host residential camp for 120 middle school girls to learn about programming, networking and security.
  Secured industry partners for additional $23,500 in private funds
  Principle Investigator
  $129,000
- **Funded:** NSF- ADVANCE PLAN. South Dakota Working in STEM for Equity (SD-WISE): A System, Institutional, and Individual Level Approach to Policy Change 2015
  Award 1463993
  5 year project
  Institutional Principle Investigator
  $749,873
- **Funded:** National Center for Women Information Technology (NCWIT)
  Outreach Award 2015
  Funds to purchase equipment to perform outreach activities for middle school girls
  $5000
- **Funded:** American Association of University Women 2015

Award to increase participation for underrepresented populations in computing
$5000

- **Funded:** NSA/NSF GenCyber: Girls in Cybersecurity 2015
  A camp focused on introducing 8th-12th grade girls about cybersecurity (programming, networking, cybersecurity).
  Principle Investigator
  $78,959
- **Funded** SD Board of Regents Performance Improvement Fund 2012
  Principle Investigator
  Developing research to forensically investigate the Xbox platform for criminal and misuse activity. Several seminal papers were published in high level journals/conferences.
  $75,037
- **Funded** Faculty Research Initiative (FRI), DSU 2012
  $2000
- **Funded** DSU Faculty Research Initiative. Digital Forensics Data Recovery 2009
  $1000
- **Funded** research grant for Digital Forensics Data Recovery Project- PI 2008
  Dakota State University's Center of Excellence in Computer Information System
  $1000
- **Funded** research grant for Digital Forensics Data Recovery Project -PI 2008
  National Center for the Protection of the Financial Infrastructure
  $1000
- **Awarded** Graduate Teaching and Research Assistant Award 2007
  Two-third reduced tuition and $30,000 stipend with 3% annual increase
  $72,662

Committee Involvements \ Service to Program, College, University, and Discipline

Service to Discipline

1. Women in CyberSecurity 2019
   Program Chair
   1200+ Attendees
   Appointed by Dr. Ambareen Siraj, Founder of WiCys
2. IEEE Security and Privacy Symposium 2019
   Publication Chair
   Appointed by Mark Gondree, Naval Postgraduate School, Sonoma State
3. International Conference on Digital Forensics & Cyber Crime 2018
   PC Committee
   New Orleans, LA
4. USENIX Advances in Security Education (ASE) Chair 2018
   Appointed by Zachary Peterson and Mark Gondree
5. Women in CyberSecurity 2018
   Program Chair
   1100+ Attendees
   Appointed by Dr. Ambareen Siraj, Founder of WiCyS
6. IEEE Security and Privacy Symposium 2018
   Publication Chair
   Appointed by Jason Li of University of Florida

7. Reviewer and Co-Chair for Advances in Security Education, USENIX. 2017
   Appointed by Mark Gondree, Sonoma State
8. REU Mentor- Using digital forensics to investigate buying of counterfeit goods 2017
   South Dakota School of Mines and Technology – SPACT
   Dakota Ewing
9. IEEE Security and Privacy Symposium Workshops 2017
   Publication Co-Chair with Gabriella Ciocarlie of SRI
   Appointed by Mark Gondre, Workshop Chair
   Worked with Chair to coordinate the submission of papers of accepted authors and Conference Publishing Services to ensure all papers were submitted correctly and appear in proceedings and IEEE Xplor
10. IEEE Security and Privacy Symposium Workshops Euro 2017
    Publication Chair
    Appointed by Bruno Blanchet, General Chair
    Worked with Chair to coordinate the submission of papers of accepted authors and Conference Publishing Services to ensure all papers were submitted correctly and appear in proceedings and IEEE Xplor
11. IEEE Security and Privacy Symposium Workshops 2016
    Publication Co-Chair with Gabriella Ciocarlie of SRI
    Appointed by Michael Lochasto, General Chair
    Worked with Chair to coordinate the submission of papers of accepted authors and Conference Publishing Services to ensure all papers were submitted correctly and appear in proceedings and IEEE Xplor
12. IEEE Security and Privacy Symposium 2015
    Publication Co-Chair with Michael Butler of University of Florida
    Appointed by Cynthia Irving of Naval Postgrad, Workshop Chair
    Worked with Chair to coordinate the submission of papers of accepted authors and Conference Publishing Services to ensure all papers were submitted correctly and appear in proceedings and IEEE Xplor
13. IEEE Security and Privacy Workshops 2014
    Publication and Awards Chair Appointed by Jean Camp of Indiana, Workshop Chair
    Worked with Chair to coordinate the submission of papers of accepted authors and Conference Publishing Services to ensure all papers were submitted correctly and appear in proceedings and IEEE Xplor
14. Research Experience for Teachers 2014
    Mentor
    Worked with PI to mentor and support 2 HS/MS technology teachers on research projects in field of cybersecurity
15. International Journal of Mobile Network Design and Innovation 2013
    Guest Editor

Honors/Awards:

1. AAAS IF/THEN Ambassadors 2019-2020
2. New America Cybersecurity Fello 2018-2019
3. Dakota State University Faculty Research Award 2017-2018
4. New America Cybersecurity Fellow 2017-2018
5. EmBe Young Women of Achievement Winner 2017
6. EmBe Young Women of Achievement Nominee 2016
   Nominated twice for the Young Women Leader Category
7. TRUST (UC Berkeley) Travel Fellowship 2015
   Travel Award is for participating at WISE 2015
   I was on the planning committee for WISE 2015 and led the Digital Forensics mini-track
   I worked to recruit speakers, schedule presentations, and introduce women to the WISE program.

University of California at Berkeley, Berkeley, CA
$2,500

8. TRUST (UC Berkeley) Travel Fellowship 2014
   Travel Award is for participating at WISE 2014
   Cornell University, Ithica, NY
   $2500
9. **Awarded** TRUST (UC Berkeley) Travel Fellowship 2012
   Travel Award is for presenting at TRUST's Autumn Research Conference
   Washington, D.C
   $2500
10. **Awarded** TRUST (UC Berkeley) Travel Fellowship 2012
    TRUST UC Berkeley
    $3100
11. **Awarded** Women in Science and Engineering Fellowship 2011
    TRUST UC Berkeley, PI
    $3100
12. **Awarded** grant for Computers for Humanity Volunteer Project- PI 2009
    Dakota State University's Center of Excellence in Computer Information Systems funded the Computers For Humanity Project in conjunction with the College of BIS and Education. The project built and gave away 3 computer to local Habitat For Humanity Families
    $4000
13. Google Women in Technology Scholarship Recipient. 2008
    Selected as one of fifty women across the United States

Mark Spanier — Curriculum Vitae

Contact Information

Post: The Beacom College of Computer and Cyber Sciences, Dakota State University
003 East Hall, 820 N. Washington Ave., Madison, SD 57042-1799
Email: mark.spanier@dsu.edu
Voice: 320.493.8660

Education

Ph.D., Mathematics (2015):	North Dakota State University Advisor: Dr. Friedrich Littmann Dissertation: L^1 Approximation in de Branges Spaces
College Teaching Certificate (2015):	North Dakota State University Emphasis: STEM Education
B.S., Mathematics (2010):	North Dakota State University Thesis Advisor: Dr. Marian Bocea Thesis: A Formal Derivation of the Aronsson Equations for Symmetrized Gradients Minors: Computer Science and Psychology

Employment

2017 – Present:	Assistant Professor, Dakota State University
2015 – 2017:	Instructor, Dakota State University
2014 – 2015:	Mathematics Department Teaching Fellow, North Dakota State University
2014 – 2015:	Curriculum Consultant, West Fargo Public School District
2013 – 2014:	College of Science and Mathematics Research Fellow, North Dakota State University
2012 – 2014:	GraSUS K-12 Teaching Fellow, West Fargo Public School District
2011 – 2012:	GraSUS K-12 Teaching Fellow, Fargo Public School District
2011 – 2014:	Graduate Mathematics Instructor, North Dakota State University
2010:	Teaching Assistant, Carnegie Mellon University
2007 – 2010:	Teaching Assistant, North Dakota State University

Publications - Appeared

1. *Extremal Signatures*, with F. Littmann, Constr. Approx. **47**, no. 2 (2018), 339–356
2. *Extremal Functions with Vanishing Condition*, with F. Littmann, Constr. Approx. **42**, no. 2 (2015), 209–229
3. *The Geometry of Tetris*, with L. Mitzel, The Mathematics Teacher, **108**, no. 1 (2014), 58–63.
4. *A Formal Derivation of the Aronsson Equations for Symmetrized Gradients.* Siuro, **3**, no. 1 (2010), 112–119.

Publications - In Preparation

1. *Entire Fejér Interpolation in Weighted Space*
2. *Sign Changes of Extremal Signatures*
3. *Extremal Functions in de Branges Spaces; Poisson and Conjugate Poisson Kernels*

Technical Skills/Programming Languages

Python, SageMath, Mathematica, C/C++, Maple, Visual Basic, Java, MATLAB

Undergraduate Students

1. **Madison Krell**
   B.S. Mathematics and Computer Science – Spring 2021
   Research Project: Mastermind with a Deceptive Code-Maker
2. **Alexis VanderWilt**
   B.S. Mathematics and Computer Science – Spring 2020
   Research Project: Impact of Social Networks on the Spread of Disease
   Co-advisor: Dr. Jeffery Palmer
3. **Emily Ortmann**
   B.S. Mathematics for Information Systems and Computer Science – December 2018
   Honors Thesis: Simulations and Queueing Theory: The Effects of Randomly Bypassing Security
4. **Laura Schuck**
   B.S. Mathematics for Information Systems and Computer Science – December 2018
   Honors Thesis: Simulations and Queueing Theory: The Effects of Priority and VIP Thresholds

Courses taught at Dakota State University

CSC 404: Foundations of Computation - S20 (x2)
CSC 404: Foundations of Computation (Online) - S20
Math 492: Signals and Systems - F19
Math 488: Math Capstone - F17, F18
Math 475: Operations Research - F17
Math 475: Operations Research (Online) - F17
Math 437: Cryptography and Codes - F19
Math 437: Cryptography and Codes (Online) - F19
Math 436: Number Theory and Cryptography - S19, S20
Math 436: Number Theory and Cryptography (Online) - S19, S20
Math 201: Intro to Discrete Math - S17, F17, S18, F18 (x2), F19
Math 201: Intro to Discrete Math (Online) - Su17, F17, S18 (x2), Su18, F18 (x2), Su19, F19, S20 (x2)
Math 123: Calculus I - S17, S18, Su18, S19, Su19
Math 123: Calculus I (Online) - S17, Su17, S18, Su18, S19, Su19
Math 120: Trigonometry - F15, S16, F16, F17, F18
Math 120: Trigonometry (Online) - S16, Su16, Su17, Su18, Su19
Math 104: Finite Mathematics - F16
Math 102: College Algebra - F15 (x3), S16 (x2), F16 (x3)
Math 095: Pre-College Algebra - F15, S16, F16

Courses taught at North Dakota State University

Math 144: Mathematics for Business - Su15
Math 104: Finite Mathematics - S15
Math 128: Introductory Linear Algebra - F14, S16
Math 129: Basic Linear Algebra - F14 (x2)
Math 103: College Algebra - Su14
Math 102: Intermediate Algebra - Su13
Math 265: Calculus III - Su12
Math 259: Multivariate Calculus - Su12
Math 790: Graduate Analysis Seminar 'Analysis Preliminary Exam Bootcamp' - Su11

Courses assisted as K-12 Teaching Fellow in West Fargo Public School District

Algebra II: F12, S13, F13, S14
Geometry: F12, S13, F13, S14
Algebra I: F12, S13, F13, S14
Math 8: F12, S13, F13, S14
Math 7: F12, S13, F13, S14
Math 6: F13, S14

Courses assisted as K-12 Teaching Fellow in Fargo Public School District

Algebra II: F11, S12
Geometry: F11, S12

Recitations taught as Teaching Assistant at Carnegie Mellon University

Math 21-259: Calculus in 3D - F10 (x2)

Recitations taught as Teaching Assistant at North Dakota State University

Math 259: Multivariate Calculus - S11 (x2)
Math 265: Calculus III - F09 (x2), S10 (x2)
Math 165: Calculus I - S09 (x2)
Math 166: Calculus II - F08 (x2)
Math 105: Trigonometry - S08 (x2)
Math 103: College Algebra - F07
Math 146: Applied Calculus - F07

Conference and Seminar Talks

2019: *Mastermind with a Deceptive Code-Maker*, NESeSD MAA Spring Sectional Meetings, College of Saint Mary

2018: *I Prefer Pi: Mathematical Palindromes*, DSU Undergraduate Math Seminar Series, DSU
PRIMES: I have the biggest and best primes. (These primes are going to be Yuge), DSU Undergraduate Math Seminar Series, DSU
Mathematics of the card game SET, DSU Undergraduate Math Seminar Series, DSU

2015: *Extremal Signatures and Best $L^1(\mu)$-Approximations*, AMS-MAA Joint Mathematics Meetings, San Antonio, TX

2014: *Interpolations at Zeros of Laguerre-Pólya Functions and L^1-approximations*, Analysis Seminar, North Dakota State University, Fargo, ND
Beurling-Selberg Extremal Problems in de Branges Spaces, AMS-MAA Joint Mathematics Meetings, Baltimore, MD

2013: *The Beurling-Selberg Extremal Problem and Applications*, Graduate Colloquium, North Dakota State University, Fargo, ND
The Mathematics of Mastermind, Sonia Kovalevsky Mathematics High School Day, North Dakota State University, Fargo, ND

2012: *The Geometry of Tetris*, Sonia Kovalevsky Mathematics High School Day, North Dakota State University, Fargo, ND

2011: *Some Interesting sinc Integrals*, Graduate Colloquium, North Dakota State University, Fargo, ND

2010: *The Aronsson Equations for Symmetrized Gradients*, Mathematics on the Northern Plains, Morningside College, Sioux City, IA

2009: *The Aronsson Equations for Symmetrized Gradients*, Senior Seminar, North Dakota State University, Fargo, ND

Preference Relations and Utility Functions, Center for Nonlinear Analysis Summer Institute, Carnegie Mellon University, Pittsburgh, PA
Algorithms and Applications for Discrete Ricci Flow, Center for Nonlinear Analysis Summer Institute, Carnegie Mellon University, Pittsburgh, PA

2008: *Priority Queue Simulations*, Center for Nonlinear Analysis Summer Institute, Carnegie Mellon University, Pittsburgh, PA

Refereeing

Referee for: Communications on Applied Nonlinear Analysis (CANA), Journal of Function Spaces

University Service

2019 – Present: Honors Committee (DSU)
2019 – Present: Gaming Club Advisor (DSU)
2019 – Present: Title IX Investigator (DSU)
2018 – Present: Organizer for Mathematics Seminar and Speaker Series (DSU)
2018 – Present: Faculty Development Committee (DSU)
2018 – Present: Faculty Game Producer - Kingdom Cleanup (DSU)
2017 – 2019: Curriculum Committee (DSU)
2016 – 2019: Student Success Committee (DSU)
2019: Faculty Search Committee - Assistant Professor of Mathematics (DSU)
2018: Quality Assurance (Online) Reviewer (DSU)
2018: Faculty Search Committee - Visiting Assistant Professor of Biology (DSU)
2018: General Education Math Summit (DSU)
2017: Faculty Search Committee - Assistant Professor of Mathematics (DSU)
2015: NDSU Math Fair
2013 – 2015: NDSU Department of Mathematics Chair's Student Advisory Board
2014: Sonia Kovalevsky Math Day for Young Women in High School (NDSU)
2014: Expanding Your Horizons Conference (NDSU)
2014: Tri-College Mathematics Tournament (NDSU)
2013: Sonia Kovalevsky Math Day for Young Women in High School
2013: North Dakota Science Olympiad Co-Facilitator
2012: NDSU Department of Mathematics Teaching Mentor
2012: Sonia Kovalevsky Math Day for Young Women in High School (NDSU)
2011 – 2012: Applied Mathematics Search Committee - Student Member (NDSU)
2011: Sullivan Middle School Science Fair Judge
2007 – 2010: NDSU College of Science and Mathematics Ambassador
President: 2007–2008 *Congress of Student Organizations Officer:* 2007
2007 – 2015: NDSU Mathematics Club Math-In

Honors and Awards

2015:	NDSU Mathematics Department Graduate Student Teaching Award
2015:	NDSU College of Science and Mathematics Graduate Student Travel Grant
2014:	NDSU Mathematics Department Graduate Student Research Award
2014:	NDSU College of Science and Mathematics Graduate Student Travel Grant
2012:	AMS Student Travel Grant
2009:	Joyce Gackle Johnston Scholarship, NDSU
2008 – 2010:	Mathematics Scholarship, NDSU
2008:	Rao Mathematics Exam Champion, NDSU
2007:	Anderson/Hill Math Scholarship, NDSU
2007:	Mathematics Emerging Talent Scholarship, NDSU
2006 – 2010:	Presidential Honor Scholarship, NDSU

Dr. Joshua Stroschein
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Brandon, SD 57005
(C) 605.553.8044 josh@m9development.com
http://www.linkedin.com/in/joshstroschein

ACADEMIC EDUCATION

Institution/City/State	*Degree*	*Year Graduated*
-Dakota State University, Madison SD	Doctor of Science, Cyber Security	2017
-Dakota State University, Madison SD	M.S. Information Assurance	2013
-Univ. of South Dakota, Vermillion SD	B.S. Computer Science/Criminal Justice	2005

PROFESSIONAL ACHIEVEMENTS

- Conference trainer in reverse engineering, malware analysis, threat hunting and software exploitation: Hack-in-the-Box, BlackHat (US and Asia), DefCon, DerbyCon, SuriCon, ToorCon, RingZero, FloCon and National Cyber Summit (NCS)
- Presenter: CARO 2020, DefCon 2019, ToorCon & HITB 2018, DerbyCon 2017
- Principal Investigator of NSA NCCP grant to develop cyber-security related curriculum ($300,000): 2017 – 2019
- Presenter and program coordinator of NSA Tech Talks for DSU: 2015 – Present
- Guest Presenter in IT– Graduate School of Banking, U. of Wisconsin: 2014 – Present
- Expert witness in USA v Cottom et al, reverse engineered FBI software: 2015
- Moderator Kansas Banker's Association IT Discussion Forum: 2015
- Presented on cyber security at Iowa Banker's Association IT Conference: 2014
- Author CVE-2013-0181 (XSS Vulnerability): January 2013
- Open Web Application Security Project South Dakota Chapter President: 2009 – 2013

PUBLICATIONS

Miller, Matthew J.; Stroschein, Joshua; and Slayden, Stephanie, "Cracking the Off the Grid Password Solution" (2019). *Annual ADFSL Conference on Digital Forensics, Security and Law*. 5.
https://commons.erau.edu/adfsl/2019/paper-presentation/5

Wright, Dallas, and Josh Stroschein. "A Malware Analysis and Artifact Capture Tool." *2018 IEEE 16th Intl Conf on Dependable, Autonomic and Secure Computing, 16th Intl Conf on Pervasive Intelligence and Computing, 4th Intl Conf on Big Data Intelligence and Computing and Cyber Science and Technology Congress (DASC/PiCom/DataCom/CyberSciTech)*. IEEE, 2018.

Stroschein, Josh, "Binary Analysis Framework" (2017). *Masters Theses & Doctoral Dissertations*. 311.
https://scholar.dsu.edu/theses/311

Miller, Matthew; Stroschein, Joshua; and Podhradsky, Ashley, "Reverse Engineering a Nit That Unmasks Tor Users" (2016). *Annual ADFSL Conference on Digital Forensics, Security and Law*. 10.
https://commons.erau.edu/adfsl/2016/wednesday/10

WORK EXPERIENCE

- Bromium/HP **Remote** **2016 - Present**
Malware Analyst / Threat Researcher

- Responsible for reverse engineering, analysis and reporting on unknown/new malware samples received by clients
- Performed research on new malware techniques, research utilized for further product development
- Developed novel techniques for tracking malware campaigns and automating malware analysis for discovery of key indicators of compromise

-Open Information Security Foundation **Remote** **2017 - Present**
Director of Training and Academic Outreach

- Responsible for the development, delivery and evaluation of all OISF/Suricata training material to include in-person and virtual
- Developed online training program utilizing live, in-person training platform
- Expanded training program to include world-class venues such as Hack-in-the-Box, DefCon and (formerly) DerbyCon

-Dakota State University **Madison, SD** **2013 - Present**
Assistant Professor of Cyber Operations

- Responsible for the development, delivery and evaluation of computer science and cyber operations focused curriculum
- Primary teaching areas: reverse engineering, assembly, web application security, network security, programming, application development and project management
- Responsible for designing and implementing graduate and undergraduate course work
- Developed research lab focused on deep technical analysis of malicious software

-**Iowa Air National Guard** **Des Moines, IA** **2016 – Present**
Cyber Warfare Operations Officer

- Responsible for unit cyber defense operations, including threat hunting, development of risk mitigation plans and network baselining
- Developed internal training program to ensure operator proficiencies in defensive cyber operations
- Lead efforts to assist in the development of cyber-capabilities with the Kosovo military as part of a state to state partnership

-PluralSight **Remote** **2018 – Present**
Author

- Design and development cyber-security related curriculum in reverse engineering and malware analysis
- Responsible for all stages of production, to include post-production editing and quality assurance

-VDA Labs **Remote** **2016 - 2019**
Trainer & Senior Security Consultant

- Developed industry leading training for conference attendees, government organizations and private sector enterprise
- Training focused on malware analysis, reverse engineering, application security and software development

Curriculum Vitae

Yong Wang

Associate Research Professor
Director of PATRIOT Lab
ABET CAC PEV

Dakota State University
Madison, SD 57042

Tel: 605-256 5690
E-mail: yong.wang@dsu.edu
http://homepages.dsu.edu/ywang25

April 2020

1. Biographical Sketch

Dr. Wang is an Associate Research Professor in the Beacom College of Computer and Cyber Sciences at Dakota State University. He received his Ph.D. degree in Computer Science from the University of Nebraska-Lincoln in 2007, B.S. and M.S.E degrees in Computer Science from Wuhan University (China) in 1995 and 1998, respectively. Before he joined DSU in 2012, he had spent 10 years in telecommunication industry as a senior software engineer and a team leader. His research focuses on network security and privacy issues in Internet of Things, mobile devices, cloud, cyberinfrastructure, and big data. His research interests also include optical networks, wireless networks, and social networks. He has published 60+ peer-reviewed papers in prestigious journals/conferences such as IEEE ICC, BroadNets, and Journal of Security and Communication Networks. He is a co-author of three books. He also serves as Technical Program Committee (TPC) members and reviewers for many international conferences and journals in computer science such as IEEE Globecom, IEEE ICC, and ACM CoNEXT. Dr. Wang has received five National Science Foundation awards since 2012. He received Merrill Hunter Award for Excellence in Research from Dakota State University in 2015. He is the director of the PATRIOT (Protection and Threat Research for the Internet of Things) Lab at DSU.

2. Education

2007 Ph.D. (CS) University of Nebraska, Lincoln, NE.
Dissertation: **Key Management Protocols in Hybrid Wireless Sensor Networks.**
Advisor: Prof. Byrav Ramamurthy.
1998 M.Eng. (CS) Wuhan University, Wuhan, P.R. China.
1995 B.Sc. (CS) Wuhan University, Wuhan, P.R. China.

3. Employment

2017 – Present	Associate Research Professor	Dakota State University, Madison, SD.
2012 – 2017	Assistant Research Professor	Dakota State University, Madison, SD.
2007 – 2011	Senior software engineer/Manger	Calient Networks, Santa Barbara, CA.
2003 – 2007	Teaching assistant	University of Nebraska, Lincoln, NE.
2002 – 2003	Senior software engineer	UTStarcom R&D Center, Shenzhen, China.
1998 – 2000	Senior software engineer	ZTE Corporation, Shenzhen, China.

4. Awards

2015 Merrill Hunter Award for Excellence in Research at Dakota State University.
2007 Outstanding graduate teaching assistant awarded by the Department of Computer Science and Engineering, University of Nebraska-Lincoln.
2003-2007 Full scholarships for doctoral study at University of Nebraska-Lincoln.
1997 Outstanding graduate student scholarship awarded by the Wuhan University.
1994 Outstanding undergraduate research student awarded by the Student Affairs, Wuhan University.
1992 Outstanding undergraduate student scholarship awarded by the Wuhan University.

5. Funding Record (Total: $2,088,171)

1. "Practical Secure Smartphones: Techniques, Tools, and Applications", DSU Doctoral Summer Seed Grant, $10,000, June 2012 – August 2013. **Yong Wang (PI)**.
2. "Acquisition of Equipment to Establish MobiSec Lab for Research and Education at DSU", South Dakota Performance Improvement Fund, $79,950.00, August 2012 – May 2013; **Yong Wang (PI)**.
3. "MRI: Acquisition of an Online Banking System for Information Assurance Research", NSF CNS1123220, $400,000, September 2013 – August 2014. **Yong Wang (PI)**, Dianxiang Xu (Former PI), Joshua Pauli, Manghui Tu.
4. "RET Site in Cyber Security", NSF CNS 1200648, $500,000.00, May 1, 2012 – April 30, 2015. **Yong Wang (PI)**, Dianxiang Xu (Former PI), and Patrick Engebretson.
5. "MRI: Acquisition of Equipment to Establish Mobile Testing Infrastructure for Bring Your Own Device Research and Education", NSF CNS 1337529, $168,076.00, September 1, 2013 – August 31, 2016. **Yong Wang (PI)**.
6. "Privacy Impact Assessment in Social Networks", DSU FRI Grant, $2000.00, September 2013 – May 2014; **Yong Wang (PI)**.
7. "Establish Data Center Technology Lab at DSU for Cloud and Big Data Security", South Dakota Performance Improvement Fund, $90,000.00, Aug 2014 – May 2015; **Yong Wang (PI)**.
8. "Understanding the Relationship between MySanfordChart and the Utilization of Emergency Department and urgent Care Centers", Sanford Data Collaboration, $1,000, September 2016 – August 2017; **Yong Wang (PI)**.
9. "CyberTraining: CIP: North Central Region Cyber Training Center for Cybersecurity at Dakota State University", NSF OAC 1730105, $479,658, September 1, 2017 – August 31, 2020. Wayne Pauli (PI), **Yong Wang (Co-PI)**.
10. "REU Site in IoT Security", NSF CNS 1852145, $377,487, March 1, 2019 – February 28, 2022. **Yong Wang (PI)**, Ashley Podhradsky (Co-PI).

11. "RII Track-2 FEC: Harnessing Big Data to Secure the Internet of Things", NSF, $5,996,993, August 1st, 2020 to July31st, 2024. **Yong Wang (PI)**, Jun Liu, Md Karim, Jason Leigh (Co-PIs). (***pending***)

6. Teaching Record

6.1. Courses

Couse Number	Name	Credit Hours	Class Size	Term
CSC718	Operating Systems and Parallel Programming	3 credits	25	F 2013, F 2014, F 2015, F 2016, F 2017, F 2018
CSC720	Theory of Computation	3 credits	25	S 2014, S 2015, S 2016, S 2017, S 2018, S 2019
CSC773	Mobile Communications and Advanced Network Security	3 credits	25	SU 2019
INFA723	Cryptography and Network Security	3 credits	25	S 2012, S 2013, S 2014, S 2015, S 2016, S 201, S 2018, S 2019
INFA751	Wireless Security	3 credits	25	F 2012, F 2013, F 2014, F 2015, F 2016, F 2017, F 2018
INFA792	Cybersecurity for Advanced Cyberinfrastructure	3 credits	20	SU 2018
INFA792	Special Topics on Cyber Security for South Dakota High School Teachers	3 credits	10	SU 2014

Dr. Wang led the Network and Security Seminar in Fall 2014. The seminar provided a forum for discussions of the latest research work done at DSU and elsewhere in the related areas of communication networks and network security. Participation of the seminar was voluntary. The seminar included six presentations by undergraduate and graduate students at DSU. Each presentation had 10-15 participants including both undergraduate and graduate students from different majors.

6.2. Current Students

Dr. Wang serves dissertation committee chairs for:

Student Name	Topic	Degree
Tareq Allan	Healthcare security	Ph.D. in IS
Melva Ratchford	BYOD security	Ph.D. in IS
Srinivasulu Vuggumudi	Cloud compliance	Ph.D. in IS
Kaushik Muthusamy Ragothaman	Access control	Ph.D. in IS
Robert Cannistra	Security in cyberinfrastructure	Ph.D. in CO
Gerald Chikukwa	IoT security	Ph.D. in CO
Mohammd Nur	Identity relationship management	Ph.D. in CO

6.3. Dissertation/Thesis Supervised

Doctoral Students:

Student Name	Title	Degree	Term
Sandeep Lakkaraju	Dissertation: *Analysis of Healthcare Workflows in Accordance with Access Control Policies* Job: Clinical Informatics Specialist at Union County Health Foundation, Elk Point, South Dakota	D.Sc. (IS)	Fall 2015
Raj Kumar Nepali	Dissertation: *Leveraging Content, Context, and Social Attributes to Detect Malicious Short URLS in Online Social Networks* Job: Security Administrator at Capital Services, Sioux Falls, South Dakota	D.Sc. (IS)	Fall 2016
Jason Nikolai	Dissertation: *Distributed Multi-component Approach and System for Enhanced Security of Public Infrastructure as a Service (IaaS) Cloud Computing Environments* Job: Advisory software Engineer at IBM Analytics, Rochester, Minnesota	D.Sc. (IS)	Fall 2016
Jeremias Eppler	Thesis: *Towards Improving the Security of Mobile Systems using Virtualization and Isolation using XEN and ARM 64-bit*	MSIA	Spring 2017
Keith Jones	Dissertation: *Malgazer: An Automated Malware Classifier with Running Window Entropy and Machine Learning* Job: Threat Researcher and Big Data Software Engineer at Blackberry Cylance	Ph.D. (CO)	Spring 2019
Tareq Nasralah, (co-advisor: Omar El-Gayar)	Dissertation: *Social Media Text Mining Framework for Drug Abuse: An Opioid Crisis Case Analysis* Job: Assistant Professor	Ph.D. (IS)	Spring 2019
Jumani Blango	Dissertation: *Ednem: A Malware Detection Framework Based on Static and Dynamic Analysis*	Ph.D. (CO)	Spring 2020
Tarig Mudawi	Dissertation: IoT-HASS: *A Framework For Protecting Smart Home Environment*		Spring 2020

Master Students:

Student Name	Title	Degree	Term
Jeremias Eppler	Thesis: *Towards Improving the Security of Mobile Systems using Virtualization and Isolation using XEN and ARM 64-bit*	MSIA	Spring 2017

6.4. M.S. Students

The master students I worked with include, but are not limited to,

Jeremias Eppler (MSIA), Kofi Asamoah-Boadu (MSACS), Roqeeb Ozugha (MSIA), Sonell Raman (MSIS), Karthik Vangury (MSIS), Nikolai Penning (MSIA), Michael Hoffman (MSIA), Christen Hahn (MSACS), Kruttika Sutrave (MSACS), Andrew Kramer (MSACS)

6.5. Undergraduate Students

The undergraduate students I worked with include, but are not limited to,

Jackson Ryan, Tyler Johnson, Kyle Cosman, Sebastian Smith, Michael Luke, Elliott Shoup-Owens, Michael Turbes, Jennifer Schulte, Riley Johnson, Michael Dundas, Tri Bui, Khoi Nguyen

7. Publication Record

7.1. Dissertation

Yong Wang, "Key management protocols in hybrid wireless sensor networks" (January 1, 2007). ETD collection for University of Nebraska - Lincoln. Paper AAI3277703. http://digitalcommons.unl.edu/dissertations/AAI3277703

7.2. Book and Book Chapters

B1. Sandeep Kumar Lakkaraju, Dianxiang Xu, and **Yong Wang**, A Contextual Model to Integrate Healthcare Workflows and Access Control Policies (010917-120853), *Book chapter in Handbook of Research on Emerging Perspectives on Healthcare Information Systems and Informatics*, IGI Global, 2018.

B2. **Yong Wang** and Jason Nikolai, Key Management in CPS, *Book chapter in Security and Privacy in Cyber-Physical Systems: Foundations and Applications (Hongbing, Song, Glenn A. Fink, Gilad L. Rosner, Sabina Jeschke)*, published by Wiley Co., November 2017.

B3. **Yong Wang**, Byrav Ramamurthy, and Yuyan Xue, A Key Management Protocol for Wireless Sensor Networks with Multiple Base Stations, *In Handbook on Sensor Networks (Yang Xiao, Hui Chen and Frank H. Li, eds)*, published by World Scientific Publishing Co., 2010.

B4. **Yong Wang**, Garhan Attebury, and Byrav Ramamurthy, Security in Wireless Sensor Networks, *Book chapter in Security in Wireless Mesh Networks* (Yan Zhang, Jun Zheng and Honglin Hu, eds.), published by Auerbach Publications, CRC Press, 2008.

B5. Author: K. S. Siyan, P. Rybaczyk, and P. Kuo Translator: Yudan Wan, **Yong Wang**, and Hansheng Lin, *Internetworking with NetWare TCP/IP*. 1st ed. Tsinghua University Press, Beijing, China, ISBN 7-302-02506-1/TP·1268, 1997.

B6. Xianggang Wang, **Yong Wang**, and Yudan Wan, *Netware 3.X Kernel Internals Depth Analysis: for Server*. 1st ed. Tsinghua University Press, Beijing, China, ISBN 7-302-02516-9/TP·1273, 1996.

B7. Wenping Jiang, Yudan Wan, and **Yong Wang**, *Netware 3.X Kernel Internals Depth Analysis: for Workstation*. 1st ed. Tsinghua University Press, Beijing, China, ISBN 7-302-02464-2/TP·1254, 1996.

7.3. Journal Articles

J8. Jason Nikolai and **Yong Wang**, Cloud-IDMCS: A Distributed Multi-Agent Streaming System for Intrusion Detection, Monitoring, and Classification in Public IaaS Cloud Computing Environments, IEEE Transactions on Cloud Computing. ***(pending for submission)***

J9. Sulabh Bhattarai and **Yong Wang**, End-to-End Trust and Security for Internet of Things Applications, *IEEE Computer*, April 2018.

J10. Sandeep Lakkaraju, Dianxiang Xu, **Yong Wang**, Analysis of Healthcare Workflows in Accordance with Access Control Policies, the *International Journal of Healthcare Information Systems and Informatics (IJHISI)*, 11(1)1-20, 2016.

J11. **Yong Wang**, Kevin Streff, Sonell Raman, Smartphone Security Challenges, *IEEE Computer*, December 2012.

J12. Yuyan Xue, Byrav Ramamurthy, **Yong Wang**, LTRS: A Loss-Tolerant Reliable Event Sensing Protocol for Wireless Sensor Networks, *Journal of Computer Communications*, 2009.

J13. **Yong Wang**, Byrav Ramamurthy, Xukai Zou, and Yuyan Xue, An Efficient Key Revocation Scheme for Wireless Sensor Networks, *Journal of Security and Communication Networks*, December 2008.

J14. **Yong Wang**, Garhan Attebury, and Byrav Ramamurthy, A Survey of Security Issues in Wireless Sensor Networks, *IEEE Communications Surveys and Tutorials*, vol. 8, no. 2, pp. 2-23, 2006.

J15. Jianzhan Yang, **Yong Wang**, and Xing Yi, Generating Strong Primes Study in RSA Cryptosystem, *Journal of Wuhan University (Natural Science Edition)*, vol. 45, no. 3, pp. 303-306, 1999.

J16. **Yong Wang**, Xing Yi, and Jianzhan Yang, RSA Public Key Cryptography Key Generation Study, *Application Research of Computers*, vol. 82, no.2, pp. 229-232, 1998.

J17. Xing Yi, Jianzhan Yang, and **Yong Wang**, How to Integrate a Network Cryptographic System based on the Asymmetric Cryptography. *Computer Engineering*, vol.24, no. 5, pp. 52-55,1998.

J18. **Yong Wang**, Xiaoxing Ruan, and Xing Yi, Memory Management in Windows, *Application Research of Computers*, vol. 82, no.2, 1998.

J19. **Yong Wang** and Jianzhan Yang, The Multi-task Polling Algorithm in Novell NetWare 386 OS, *Computer and Communications*, vol. 16, no.1, pp. 26-29, 1998.

J20. Xianggang Wang, Wenping Jiang, **Yong Wang**, and Yudan Wan, Disk File System Management in Novell NetWare V3.11, *Microcomputer*, vol. 17, no.3, pp. 36-38, 1997.

J21. Xianggang Wang, **Yong Wang**, Wenping Jiang, and Yudan Wan, Process Management in Novell NetWare 386 V3.11, *Microcomputer*, vol. 17, no. 2, pp. 7-9,1997.

7.4. Conference and Workshop Papers

C22. **Yong Wang**, Elliot Kjerstad, and Bailey Belisario, A Dynamic Analysis Security Testing Infrastructure for Internet of Things, *Sixth Conference on Mobile and Secure Services*, Miami, Florida, Feb 22-23, 2020.

C23. Keith Jones and **Yong Wang**, Malgazer: An Automated Malware Classifier With Running Window Entropy and Machine Learning, *Sixth Conference on Mobile and Secure Services*, Miami, Florida, Feb 22-23, 2020.

C24. Tareq Nasralah, Omar El-Gayar, and **Yong Wang**, Understanding the Opioid Users Activities on Social Media: Twitter Data Case Analysis, *AMCIS*, Cancun Mexico, August 15-17, 2019.
C25. Kevin Callies, Cherie Noteboom, Daniel Talley and **Yong Wang**, Employee Acceptance of Employer Control Over Personal Devices, *AMCIS*, Cancun Mexico, August 15-17, 2019.
C26. Kevin Callies, Cherie Noteboom, Daniel Talley and **Yong Wang**, Employee Acceptance of Employer Control Over Personal Devices – Research in Progress, *14th Annual Conference: Midwest Association for Information Systems*, Oshkosh, WI, May 21 and 22, 2019.
C27. Kevin Wafula and **Yong Wang**, CARVE: A Scientific Method-Based Threat Hunting Hypothesis Development Model, *19th Annual IEEE International Conference on Electro Information Technology*, Brookings, South Dakota, USA, May 20-22, 2019.
C28. Melva M. Ratchford and **Yong Wang**, BYOD-Insure: A Security Assessment Model for Enterprise BYOD, *Fifth Conference on Mobile and Secure Services*, Miami, Florida, Mar 2-3, 2019.
C29. Tareq Nasralah, Abdullah Wahbeh, Cherie Noteboom, and **Yong Wang**, Geographic Variations and The Utilization of Health Care Resources, *AMCIS*, August 2018.
C30. **Yong Wang**, CS4A: A New Approach for Cybersecurity Workforce Development, *New Approaches to Cybersecurity Education (NACE) Workshop*, New Orleans, Louisiana, June 9-10, 2018.
C31. Keith Jones and **Yong Wang**, An Optimized Running Window Entropy Algorithm, *the National Cyber Summit*, Huntsville, AL, June 5-7, 2018.
C32. Jeremias Eppler and **Yong Wang**, Towards Improving the Security of Mobile Systems using Virtualization and Isolation, *Fourth Conference on Mobile and Secure Services*, Miami, Florida, February 24-25, 2018.
C33. Tareq Allan and **Yong Wang**, The Demand for Technical Safeguards in the Healthcare Sector: A Historical Perspective Enlightens Deliberations about the Future, *2017 Americas Conference on Information Systems*, Boston, MA, 2017.
C34. Ali Ahmed, Tareq Nasralah, **Yong Wang**, etc., Impact of E-Visits on Emergency Departments and Urgent Care Centers, *2017 Americas Conference on Information Systems*, Boston, MA, 2017.
C35. Jason Nikolai and **Yong Wang**, A System for Detecting Malicious Insider Data Theft in IaaS Cloud Environments, *IEEE Globecom*, Washington, DC, USA, December 4-8, 2016.
C36. **Yong Wang** and Jun Liu, An Attribute-based Statistic Model for Privacy Impact Assessment, *the 2016 International Conference on Collaboration Technologies and Systems (CTS 2016)*, Orlando, Florida, USA, Oct 31-Nov 4, 2016.
C37. Jason Nikolai and **Yong Wang**, A Streaming Intrusion Monitoring and Classification System for IaaS Cloud, *IEEE Cloud*, San Francisco, CA, USA, June 27-July 2, 2016.
C38. **Yong Wang**, Christen Hahn, and Kruttika Sutrave, Mobile Payment Security, Threats, and Challenges, *Second Conference on Mobile and Secure Services*, Gainesville, Florida, February 26-27, 2016.
C39. Raj Kumar Nepali and **Yong Wang**, You Look Suspicious!!: Leveraging visible attributes to classify malicious short URLs on Twitter, *Hawaii International Conference on System Sciences (HICSS-49)*, Kauai, Hawaii, January 5-8, 2016.
C40. Yazan Alshboul, **Yong Wang**, and Raj Kumar Nepali, Big Data Life Cycle: Threats and Security Model, *2015 Americas Conference on Information Systems*, Puerto Rico, 2015.
C41. Raj Kumar Nepali, **Yong Wang**, and Yazan Alshboul, Detecting Malicious Short URLs on Twitter, *2015 Americas Conference on Information Systems*, Puerto Rico, 2015.

C42. **Yong Wang**, and Raj Nepali, Privacy Impact Assessment for Online Social Networks, *the 2015 International Conference on Collaboration Technologies and Systems (CTS 2015)*, Atlanta, Georgia, USA, June 1-5, 2015.

C43. **Yong Wang**, and Raj Nepali, Privacy Threat Modeling Framework for Online Social Networks, *the 2015 International Conference on Collaboration Technologies and Systems (CTS 2015)*, Atlanta, Georgia, USA, June 1-5, 2015.

C44. **Yong Wang** and Yazan Alshboul, Mobile Security Testing Approaches and Challenges, *First Conference on Mobile and Secure Services*, Gainesville, Florida, February 19-21, 2015.

C45. **Yong Wang**, An Automated Virtual Security Testing Platform for Android Mobile Apps, *First Conference on Mobile and Secure Services*, Gainesville, Florida, February 19-21, 2015.

C46. Santiago Gimenez Ocano, Byrav Ramamurthy and **Yong Wang**, Remote Mobile Screen (RMS): An Approach for Secure BYOD Environments, *2015 International Conference on Computing, Networking and Communication (ICNC)*, Anaheim, California, USA, February 16-19, 2015.

C47. Raj Nepali and **Yong Wang**. SocBridge: Bridging the gap between Online Social Networks, *Twentieth Americas Conference on Information Systems*, Savannah, Georgia, 2014.

C48. Jason Nikolai, **Yong Wang**, and Raj Nepali, A Framework for Examining the Human Side of Anti-Forensic Measures, *Twentieth Americas Conference on Information Systems*, Savannah, Georgia, 2014.

C49. **Yong Wang**, Karthik Vangury, and Jason Nikolai, MobileGuardian: A Security Policy Enforcement Framework for Mobile Devices, *the 2014 International Conference on Collaboration Technologies and Systems (CTS 2014)*, Minneapolis, Minnesota, USA, May 19-23, 2014.

C50. Nicholas Penning, Michael Hoffman, Jason Nikolai, and **Yong Wang**, Mobile Malware Security Challenges and Cloud-Based Detection, *the 2014 International Conference on Collaboration Technologies and Systems (CTS 2014)*, Minneapolis, Minnesota, USA, May 19-23, 2014.

C51. Jason Nikola and **Yong Wang**, Hypervisor-based Cloud Intrusion Detection System, *2014 International Conference on Computing, Networking and Communication (ICNC), CNC Workshop*, Honolulu, Hawaii, USA, Feb 3-6, 2014.

C52. **Yong Wang**, Raj K Nepali, and Jason Nikolai, Social Network Privacy Measurement and Simulation, *2014 International Conference on Computing, Networking and Communication (ICNC), CNC Workshop*, Honolulu, Hawaii, USA, Feb 3-6, 2014.

C53. **Yong Wang**, Jinpeng Wei, and Karthik Vangury, Bring Your Own Device Security Issues and Challenges, *The 11th Annual IEEE Consumer Communications & Networking Conference*, Las Vegas, Nevada USA, Jan 10-13, 2014.

C54. **Yong Wang** and Raj Kuman Nepali, Privacy Measurement for Social Network Actor Model, *The 5th ASE/IEEE International Conference on Information Privacy, Security, Risk and Trust*, Washington D.C., USA, Sept 8-14, 2013.

C55. Raj Kumar Nepali and **Yong Wang**, SONET: A Social Network Model for Privacy Monitoring and Ranking, *The 2nd International Workshop on Network Forensics, Security and Privacy*, July 08, 2013.

C56. **Yong Wang**, Byrav Ramamurthy, and Yuyan Xue, A Security Framework for Wireless Sensor Networks Utilizing a Single Key, in *BroadNets'08: Proceedings of Fifth*

International Conference on Broadband Communications, Networks, and Systems, London, UK, September 2008.

C57. **Yong Wang**, Byrav Ramamurthy, and Yuyan Xue, A Key Management Protocol for Wireless Sensor Networks with Multiple Base Stations, in *ICC'08: Proceedings of IEEE International Conference on Communications*, Beijing, China, June 2008.

C58. Yuyan Xue, Byrav Ramamurthy, and **Yong Wang**, Providing Loss Tolerant Reliable Data Transport Services on Wireless Sensor Networks, in *ICC'08: Proceedings of IEEE International Conference on Communications*, Beijing, China, June 2008.

C59. **Yong Wang** and Byrav Ramamurthy, A Key Management Protocol for Hybrid Wireless Sensor Networks, in *BroadNets'07: Proceedings of Fourth International Conference on Broadband Communications, Networks*, and Systems, Raleigh, North Carolina, September 2007.

C60. **Yong Wang** and Byrav Ramamurthy, Layered Clustering Communication Protocol for Wireless Sensor Networks, Proceedings of *ICCCN Workshop on Advanced Networking and Communications*, Honolulu, Hawaii, August 2007.

C61. **Yong Wang** and Byrav Ramamurthy, Centralized Group Rekeying Scheme for Secure Group Communication in Wireless Sensor Networks, in *ICC'07: Proceedings of IEEE International Conference on Communications*, Glasgow, Scotland, June 2007.

C62. **Yong Wang**, Byrav Ramamurthy, and Xukai Zou, KeyRev: An Efficient Key Revocation Scheme for Wireless Sensor Networks, in *ICC'07: Proceedings of IEEE International Conference on Communications*, Glasgow, Scotland, June 2007.

C63. **Yong Wang** and Byrav Ramamurthy, A Centralized Group Rekeying Scheme for Secure Group Communication in Wireless Sensor Networks (poster), *SECURECOMM'06: 2nd International Conference on Security and Privacy in Communication Networks*, Baltimore/MD, August 2006.

C64. **Yong Wang** and Byrav Ramamurthy, The Performance of Elliptic Curve Based Group Diffie-Hellman Protocols for Secure Group Communication over Ad Hoc Networks, *in ICC'06: Proceedings of IEEE International Conference on Communications*, Istanbul, Turkey, May 2006.

C65. **Yong Wang** and Byrav Ramamurthy, CPQ: A Control Packet Queuing Optical Burst Switching Protocol for Supporting QoS, *Proceedings of 3rd International Workshop on Optical Burst Switching (WOBS)*, co-located with BroadNets 2004, San Jose/CA, October 2004.

7.5. Technical Reports

T66. **Yong Wang**, Byrav Ramamurthy, Yuyan Xue, and Xukai Zou. uKeying: A Key Management Framework for Wireless Sensor Networks Utilizing a Unique Session Key, *CSE Technical reports*, TR-UNL-CSE-2007-0019, University of Nebraska Lincoln 2007.

8. Service Record

8.1. University Service

- DSU Institutional Review Board, Fall 2018-Present
- DSU Faculty Award Selection Committee, Spring 2016-Present
- DSU Graduate Council, Fall 2013-Present
- DSU MSIA Graduate Student Application Committee, Fall 2012-Present

- DSU MSACS Graduate Student Application Committee, Fall 2013-Present
- SDBOR System Intellectual property Council, 2015-Present
- DSU Research Committee, Fall 2013-Spring 2019
- DSU Diversity Committee, Fall 2015-Spring 2018
- DSU MSACS Program Coordinator, Fall 2013-Spring 2015
- Member of CSC/Security Search Committee, Spring 2014
- Member of SPO Search Committee, Fall 2014
- Member of COC Dean Search Committee, Fall 2015-Summer 2016
- Member of COC Dean Search Committee, Fall 2016-Spring 2017
- Member of COC Faculty Search Committee, Fall 2016-Spring 2017

8.2. External Service

8.2.1. Program Evaluator

- ABET program evaluator (PEV), since 2018

8.2.2. Technical Program Committee Member and Reviewer

- Technical committee members for many international conferences such as MobiSecServ, ICC, Globecom, MASS, NTMS, etc.
- Reviewers for many conferences and journals such as IEEE Transactions on Industrial Informatics, IEEE Access, IEEE Computer, IJHISI, etc.

8.2.3. Other External Service

- Co-chair, Cybersecurity and big data working group, Middle West Big Data Hub
- Guest editor, special issue on "Trust, Security and Privacy Issues in Body Area Networks for Healthcare Applications" in the Security and Communication Networks Journal (Publish jointly by Wiley and Hindawi).
- Invited speaker, the South Dakota Chapter of HIMSS meeting in Sioux Falls, May 2nd, 2018.
- External examiner for a thesis entitled "Cybersecurity Challenges and Practices: A Case Study of Bhutan" submitted by Pema CHOEJEY for the degree of Doctoral of Information Technology at Murdoch University, Australia, 2018.
- Invited speaker, the 2016 International Conference on Collaboration Technologies and Systems (CTS 2016), Oct 31-Nov 4, Orlando, Florida, USA.
- External examiner for a thesis entitled "A framework for investigating, assessing, understanding and controlling the information security risks in BYOD environments" submitted by Abubakar Garba Bello for the degree of Doctoral of Information Technology at Murdoch University, Australia, 2016.
- Technical support, PlanetLab UNL site, since 2004.
- Judge: ACM North Central North America Regional Programming Contest, 2004.

9. Professional Memberships

- Member, Institute of Electrical and Electronics Engineers (IEEE)
- Member, IEEE Communications Society (IEEE ComSoc)

SHENGJIE XU, PH.D.

Assistant Professor, The Beacom College of Computer and Cyber Sciences, Dakota State University
East Hall 325, 820 N Washington Ave., Madison, SD 57042-1799
Office: +1 (605) 256 - 5718 ⋄ Email: shengjie.xu@dsu.edu ⋄ Website: homepages.dsu.edu/shengjie-xu/

APPOINTMENT

- **Assistant Professor in Computer and Cyber Sciences** 08/2019 – Present
  The Beacom College of Computer and Cyber Sciences
  Dakota State University, Madison, SD, U.S.
  - Director of the Artificial Intelligence (AI) Lab at Madison Cyber Labs (MadLabs)

EDUCATION

- **Ph.D., Computer Engineering** 08/2014 – 08/2019
  Supervisor: Professor **Yi Qian**, Department of Electrical and Computer Engineering
  University of Nebraska-Lincoln, Lincoln, NE, U.S.

- **M.S., Telecommunications** 08/2012 – 04/2014
  Supervisor: Professor **David Tipper**, School of Information Science
  University of Pittsburgh, Pittsburgh, PA, U.S.

- **B.E., Information Security** 09/2008 – 06/2012
  Guilin University of Electronic Technology, Guilin, China

Ph.D. dissertation: Data-driven Network Intelligence for Anomaly Detection and Information Privacy

MS concentration: Security Assured Information Systems (SAIS) and **Network Security** (CNSS 4011-4015), certified by NSA/DHS National Center of Academic Excellence (CAE/CAE-Research) in Information Assurance and Cyber Defense

RESEARCH INTERESTS

My research interests lie in the area of **security and privacy**, and its intersections with **machine learning**, **edge computing**, and **intelligent networking systems**.

- **Security and Privacy**: trustworthy and robust AI, AI adversarial offense attacks and countermeasure
- **Machine Learning**: supervised (& semi/un) learning, federated learning, generative adversarial networks (GANs)
- **Edge Computing**: edge-assisted IoT applications, cooperative and decentralized data computation

HONORS and AWARDS

- **Milton E. Mohr Graduate Fellowship Award** 2017
  College of Engineering, University of Nebraska-Lincoln (Top 2 of ECE Department)
- **Best Poster Award** 2015
  11th International Conference on Design of Reliable Communication Networks, Kansas City, MO, USA
- **Outstanding Graduate Students Scholarship** 2013
  School of Information Science, University of Pittsburgh (Top 5 of Telecommunications Program)
- **National Scholarship of China** 2011
  Ministry of Education of the People's Republic of China (Top 0.2% of all university students)
- **Outstanding Students Scholarship** 2009-2012
  School of Computer Science and Engineering, Guilin University of Electronic Technology

Travel Awards:

- **National Science Foundation (NSF) - Travel Award** 2019
  NSF Networking Technology and Systems Early-Career Investigators (NeTS-ECI) Workshop, Alexandria, VA, USA
- **National Science Foundation - Student Travel Award** 2018
  12th Central Area Networking and Security Workshop, Manhattan, KS, USA
- **Graduate Student Conference Travel Award** 2018
  College of Engineering, University of Nebraska-Lincoln
- **INFORMS Travel Award** 2016
  INFORMS Conference on Business Analytics and Operations Research, Orlando, FL, USA
- **National Science Foundation - Student Travel Award** 2014
  6th Central Area Networking and Security Workshop, Lawrence, KS, USA

PUBLICATIONS

Book:

[B1] **Shengjie Xu**, Yi Qian, and Rose Qingyang Hu, "Data-driven Network Intelligence for Cyber Security," *Wiley* (to appear in 2021)

Journal Articles:

[J6] **Shengjie Xu**, Yi Qian, and Rose Qingyang Hu, "Data-driven Edge Intelligence for Robust Network Anomaly Detection," *IEEE Transactions on Network Science and Engineering* (early access), August 2019.

[J5] **Shengjie Xu**, Yi Qian, and Rose Qingyang Hu, "Edge Intelligence Assisted Gateway Defense in Cyber Security," *IEEE Network*, May 2020.

[J4] **Shengjie Xu**, Yi Qian, and Rose Qingyang Hu, "Data-driven Network Intelligence for Anomaly Detection," *IEEE Network*, vol. 33, no. 3, pp. 88-95, May/June 2019.

[J3] Sohan Gyawali, **Shengjie Xu**, Yi Qian and Rose Qingyang Hu, "Challenges and Solutions for Cellular based V2X Communications," *IEEE Communications Surveys and Tutorials* (Accepted with major revision)

[J2] **Shengjie Xu**, Yi Qian, and Rose Qingyang Hu, "Reliable and Resilient Access Network Design for Advanced Metering Infrastructures in Smart Grid," *IET Smart Grid*, vol. 1, pp. 24-30, April 2018.

[J1] **Shengjie Xu**, Yi Qian, and Rose Qingyang Hu, "On Reliability of Smart Grid Neighborhood Area Networks," *IEEE Access*, vol.3, pp.2352-2365, 2015.

Conference Proceedings Papers:

[C11] Dongfeng Fang, **Shengjie Xu**, and Hamid Sharif, "Security Analysis of Wireless Train Control Systems", *IEEE Global Communications Conference (GLOBECOM) Workshop*, Waikoloa, HI, USA, December 9-13, 2019.

[C10] **Shengjie Xu**, Dongfeng Fang, and Hamid Sharif, "Efficient Network Anomaly Detection for Edge Gateway Defense in 5G", *IEEE Global Communications Conference (GLOBECOM) Workshop*, Waikoloa, HI, USA, December 9-13, 2019.

[C9] **Shengjie Xu**, Yi Qian, and Rose Qingyang Hu, "A Semi-Supervised Learning Approach for Network Anomaly Detection in Fog Computing", *IEEE International Conference on Communications (ICC)*, Shanghai, China, May 20-24, 2019.

[C8] **Shengjie Xu**, Yi Qian, and Rose Qingyang Hu, "Privacy-Preserving Data Preprocessing for Fog Computing in 5G Network Security", *IEEE Global Communications Conference (GLOBECOM)*, Abu Dhabi, UAE, December 9-13, 2018.

[C7] Sohan Gyawali, **Shengjie Xu**, Feng Ye, Rose Qingyang Hu and Yi Qian, "A D2D based Clustering Scheme for Public Safety Communications", *IEEE Vehicular Technology Conference Spring Workshop (VTC Workshop)*, Porto, Portugal, June 3-6, 2018.

[C6] **Shengjie Xu** and Feng Ye, "A Predicate Encryption Scheme for Anomaly Detection in E-Health Communication Networks", *IEEE International Conference on Communications (ICC)*, Kansas City, MO, USA, May 20-24, 2018.

[C5] **Shengjie Xu**, Yi Qian, and Rose Qingyang Hu, "A Study on Communication Network Reliability for Advanced Metering Infrastructure in Smart Grid," *IEEE Cyber Science and Technology Congress (CyberSciTech)*, Orlando, FL, USA, November 6-10, 2017.

[C4] **Shengjie Xu**, Yi Qian, and Rose Qingyang Hu, "A Data-driven Preprocessing Scheme on Anomaly Detection in Big Data Applications," *IEEE Conference on Computer Communications (INFOCOM) - Big Security Workshop*, Atlanta, GA, USA, May 1-4, 2017.

[C3] **Shengjie Xu**, Yi Qian, and Rose Qingyang Hu, "A Secure Data Learning Scheme in Big Data Applications," *The 25rd International Conference on Computer Communications and Networks (ICCCN)*, Waikoloa, HI, USA, August 1-4, 2016.

[C2] **Shengjie Xu** and Yi Qian, "Quantitative Study of Reliable Communication Infrastructure in Smart Grid NAN," *The 11th International Conference on the Design of Reliable Communication Networks (DRCN)*, Kansas City, MS, USA, March 25-27, 2015. (**DRCN 2015 Best Poster Award**)

[C1] **Shengjie Xu**, Xiaochun Lei, Jundong Li and Hua Shi, "USB Storage Device Surveillance System in Intranet," *The 4th International Conference on Information Security and Intelligence Control (ISIC)*, Jilin, China, August 13-15, 2011.

Others:

[O1] **Shengjie Xu** and Yi Qian, "Machine Learning Enabled Data Preprocessing in Cyber Security Applications," *IEEE ComSoc MMTC Communications - Frontiers*, vol. 13, no. 6, pp. 15- 18, November 2018.

RESEARCH EXPERIENCE

1. The Beacom College of Computer and Cyber Sciences, Dakota State University
Assistant Professor in Computer and Cyber Sciences

- Research on **Data-driven Edge Intelligence for Cyber Problems**
  - Study on the system architecture of data-driven edge intelligence
  - Study on Edge AI in a distributed networking environment for network anomaly detection and privacy preservation
  - Worked on proposals for
    - South Dakota Board of Regents (SDBOR) Research & Development Innovation Grant, as the lead PI
    - South Dakota Board of Regents (SDBOR) Competitive Research Grant, as the lead PI

2. Department of Electrical and Computer Engineering, University of Nebraska-Lincoln
Research Assistant, Communication Networks and Security (CNS) Laboratory

- Research on **Cyber Security and Reliability in Smart Grid Communication Systems**, **sponsored by NSF under Grants: CNS-1423408, ECCS-1307580, and EARS-1547330**.
  - Study on cryptographic schemes for secure smart grid communications
  - Study on reliability issues of smart grid communication infrastructures and networks
  - Study on developing analytical models and solutions to evaluate robust access network
  - Study on the prevention, detection, mitigation and recovery mechanisms
  - Assist on the drafting of NSF proposals
- Research on **Data-driven Edge Network Intelligence Systems for Cyber Security**
  - Study on edge computing enabled intelligence systems for anomaly detection
  - Study on machine learning (e.g., semi-supervised learning) for cyber threat detection
  - Study on the comparison between traditional classification methods and one-class classification, for detecting unknown cyber threats
  - Study on computing infrastructures for edge computing
  - Study on data preprocessing scheme for robust anomaly detection in big data applications

- Research on **Efficient and Privacy-preserving Data Processing Framework for Secure Fog Computing**
  - Study on applied cryptography for privacy-preserving schemes
  - Study on online machine learning for continuous model update
  - Study on different levels of privacy protection services satisfying different user demands
  - Study on secure data learning approaches for multi-parties

3. School of Information Science, University of Pittsburgh
Graduate Student Assistant, Graduate Telecommunications and Networking Program

- Research on **Cyber Security and Infrastructure Protections in Smart Grid Communication Networks**
  - Investigated communication architecture of a smart grid communication network
  - Explored the critical security challenged existed in a smart grid communication network
  - Completed a technical report for network reliability in wide area network of smart grid communications

TEACHING EXPERIENCE

1. Assistant Professor Fall 2019 - Present
The Beacom College of Computer and Cyber Sciences, Dakota State University *Madison, SD*

Involved courses:

- Graduate level: CSC 723 Machine Learning for Cyber Security, Spring 2020.
- Graduate level: CSC 786 Cyber Problems, Fall 2019/Spring 2020.
- Graduate level: INFA 751 Wireless Security, Fall 2019.
- Undergrad level: CSC 285 Networking I, Fall 2019.

2. Graduate Teaching Assistant (Courses) Fall 2015 - Spring 2017
Department of Electrical and Computer Engineering, University of Nebraska-Lincoln *Omaha, NE*

Involved courses:

- Undergrad/Graduate level: ECEN 4840 & 8846 Network Security, Fall 2015/Fall 2016.
- Undergrad/Graduate level: ECEN 4880 & 8886 Wireless Security, Spring 2016/Spring 2017.
- Undergrad/Graduate level: ECEN 4910 & 8950 Estimation Theory, Spring 2016.
- Undergrad/Graduate level: ECEN 4760 & 8766 Wireless Communications, Spring 2016.
- Undergraduate level: ECEN 2130 Electrical Circuits I, Fall 2015/Fall 2016.
- Undergraduate level: ECEN 2220 Electronic Circuits I, Spring 2017.

3. Graduate Teaching Assistant (Labs) Fall 2015 - Spring 2017
Department of Electrical and Computer Engineering, University of Nebraska-Lincoln *Omaha, NE*

Involved labs:

- Undergrad/Graduate level: ECEN 4840 - 002 & 8846 - 002 Network Security, Fall 2015/Fall 2016.
- Undergrad/Graduate level: ECEN 4880 - 002 & 8886 -002 Wireless Security, Spring 2016/Spring 2017.
- Undergrad/Graduate level: ECEN 4910 - 002 & 8950 - 002 Estimation Theory, Spring 2016.
- Undergraduate level: ECEN 2184 Electrical Circuit Lab 1, Fall 2015/Fall 2016.

4. Guest Lecturer Spring 2018 - Spring 2019
Department of Electrical and Computer Engineering, University of Nebraska-Lincoln *Omaha, NE*

Involved courses:

- Undergrad/Graduate level: ECEN-4880-001 & 8886-001: Wireless Security, Spring 2019.
  - Security for Vehicle-to-Everything (V2X) communications
- Undergrad/Graduate level: ECEN 4910 & 8950 Advanced Topics in Network Design, Fall 2018.
  - Convex optimization in network design problems
- Undergrad/Graduate level: ECEN 4910 & 8950 Advanced Topics in Cyber Security, Spring 2018/Spring 2019.
  - Security and privacy in smart city applications

5. Course Developer Fall 2015 - Spring 2016
Department of Computing, Hong Kong Polytechnic University *Hong Kong*

Involved courses:

- Ph.D. level: COMP 6835 Systems Modeling and Evaluation, Fall 2015.
- Ph.D. level: COMP 5328 Data Center Fundamentals, Spring 2016.

SUPERVISORY/MENTORSHIP EXPERIENCE

Dakota State University:

1. **Ph.D. student: Spring 2020 - Present**

   1. Mr. Justin Burr, Ph.D. student of The Beacom College of Computer and Cyber Sciences, Dakota State University
      - Served as his Ph.D. advisor and the chair in his Ph.D. dissertation committee
      - Research topic: privacy-preserving artificial intelligence for 5G access networks

   2. Matt Bradley, Ph.D. student of The Beacom College of Computer and Cyber Sciences, Dakota State University
      - Served as his Ph.D. advisor and the chair in his Ph.D. dissertation committee
      - Research topic: trustworthy AI applications and adversarial machine learning

2. **Ph.D. dissertation committee: Spring 2020 - Present**

   1. Mr. Mohammad Muntasir Nur, Ph.D. student of The Beacom College of Computer and Cyber Sciences, Dakota State University
      - Served as a member in his Ph.D. dissertation committee
      - Dissertation title: "Identity Relationship Management for Internet of Things"

   2. Mr. Jude Ejiobi, Ph.D. student of The Beacom College of Computer and Cyber Sciences, Dakota State University
      - Served as a member in his Ph.D. dissertation committee
      - Dissertation title: "Cyber Resilience: Aligning Recovery Expectations with Organization Goals and Objectives"

   3. Mr. Howard Goodman, Ph.D. student of The Beacom College of Computer and Cyber Sciences, Dakota State University
      - Served as a member in his Ph.D. dissertation committee
      - Dissertation title: "Data Privacy Compliance - A False Sense of Data Storage Security"

3. **M.S. students: Spring 2020 - Present**

   1. Mr. Collin Rumpca, Mr. Brendan Hansen, Mr. Blake Nedved, and Mr. Jarod Keene, M.S. students of The Beacom College of Computer and Cyber Sciences, Dakota State University

- Supervised them on Generative Adversarial Networks (GAN) for security research
- They are hired students in my Artificial Intelligence (AI) lab at Madison Cyber Labs (MadLabs)

2. Mr. Hans Verhoeven and Mr. Ryan Styles, M.S. students of The Beacom College of Computer and Cyber Sciences, Dakota State University

- Supervised them on Federated Learning for security and privacy research
- They are hired students in my Artificial Intelligence (AI) lab at Madison Cyber Labs (MadLabs)

3. Miss Sujita Chaudhary, M.S. students of The Beacom College of Computer and Cyber Sciences, Dakota State University

- Served as a member in her M.S. Thesis committee

University of Nebraska-Lincoln:

1. **2016-2019**: Mr. Sohan Gyawali, Ph.D. student of Department of ECE, University of Nebraska-Lincoln
   - Mentoring his research work on public safety communication networks and cellular network based vehicular communications
   - Outcomes: We co-authored two research papers.
     - a journal paper in the area of Vehicle-to-Everything (C-V2X) in 4G and 5G cellular networks
     - a conference paper in the area of public safety communications
2. **2018-2019**: Mr. Jose Matamoros-Vargas, graduate student of Department of ECE, University of Nebraska-Lincoln
   - Mentoring on research work on public safety communications
   - Outcome: Mentoring him on finalizing his own Master Thesis
3. **2017-2018**: Mr. Liang Di, graduate student at Nanjing University
   - Mentoring on research work on wireless sensor networks and algorithm design
   - Outcome: Mentoring him on finalizing his own Master Thesis
4. **2015-2017**: Miss Katherine Schwarz, Mr. Cameron Entzminger, Mr. Riley Hester, Mr. Brian Felderman, undergraduate students of Department of ECE, University of Nebraska-Lincoln
   - Mentoring on testbed development with cognitive radios for NSF REU project
   - Providing comments and suggestions on their REU technical reports

PROFESSIONAL CERTIFICATES

- **CNSS 4011 - 4015 Certifications on Information Security** Earned in 2014
  NSA/DHS National Center of Academic Excellence in Information Assurance and Cyber Defense certification
- **Cisco Certified Network Associate (CCNA) in Security** Earned in 2013
  CCNA Security - Cisco Systems, Inc
- **Cisco Certified Network Associate (CCNA) in Routing and Switching** Earned in 2012
  CCNA Routing and Switching - Cisco Systems, Inc

INVITED TALKS AND PRESENTATIONS

Keynote Talk & Invited Talks

- "Edge Computing Enabled Artificial Intelligence for Security and Privacy: Opportunities and Challenges," *DSU MadLabs Cybersecurity Workshop*, Madison, SD, USA, March 2020. [Keynote Talk] [canceled due to COVID-19]
- "Data-driven Edge Intelligence for Network Anomaly Detection," *IEEE Computer Society - Siouxland Section*, Brookings, SD, USA, December 2019. [News]

Presentations of Symposium Papers and Research Activities

- "Efficient Network Anomaly Detection for Edge Gateway Defense in 5G", *IEEE Global Communications Conference (GLOBECOM) Workshop*, Waikoloa, HI, USA, December 2019.
- "Data-driven Network Intelligence for Cyber Security," *12th Central Area Networking and Security Workshop*, Manhattan, KS, USA, October 2018.
- "Data-driven Network Intelligence for Cyber Security", 3rd Academic Research Colloquium (ARC), School of Engineering, University of Dayton, Dayton, Ohio, USA, October 2018.
- "A Predicate Encryption Scheme for Anomaly Detection in E-Health Communication Networks", *IEEE International Conference on Communications (ICC)*, Kansas City, MO, USA, May 2018.
- "Vehicle Routing Applications for Emergency Planning and Disaster Relief in Public Safety Communications for Rural Communities," *University of Nebraska-Lincoln Spring 2018 Research Fair*, Lincoln, NE, USA, April 2018. [UNL News]
- "A Study on Communication Network Reliability for Advanced Metering Infrastructure in Smart Grid," *IEEE Cyber Science and Technology Congress (CyberSciTech)*, Orlando, FL, USA, November 2017.
- "A Data-driven Preprocessing Scheme on Anomaly Detection in Big Data Applications," *IEEE Conference on Computer Communications (INFOCOM) - Big Security Workshop*, Atlanta, GA, USA, May 2017.
- "On Reliability of Smart Grid Neighborhood Area Networks," *University of Nebraska-Lincoln Spring 2017 Research Fair*, Lincoln, NE, USA, April 2017.
- "Quantitative Study of Reliable Communication Infrastructure in Smart Grid NAN," *11th International Conference on the Design of Reliable Communication Networks*, Kansas City, MO, USA, March 2015. **(Best Poster Award)**
- "Network Security Research in Smart Grid Communication Systems," *6th Central Area Networking and Security Workshop*, Lawrence, KS, USA, October 2014.

Presentations for Department Services

- "Welcoming Speech - Introduction to Communication Networks and Security Lab," *Explore Innovation with the UNL College of Engineering*, Omaha, NE, USA, October 2017/ October 2016.

ACADEMIC SERVICES

1. Membership

- Member – IEEE, IEEE Communications Society, IEEE Computer Society, ACM
- IEEE ComSoc Technical Committee on Communications & Information Security (TCCIS)
- IEEE ComSoc Technical Committee on Big Data (TCBD)
- IEEE ComSoc Technical Committee on Green Communications and Computing (TCGCC)

2. Technical Program Committee (TPC) Member

- IEEE Vehicular Technology Conference (VTC)
  - Track: Wireless Networks: Protocols, Security, and Services, IEEE VTC-Fall, 2017
  - Track: Green Communications and Networks, IEEE VTC-Fall, 2017
  - Track: Mobile Network Applications and Services, IEEE VTC-Spring, 2017
  - Track: Wireless Networks and Security, IEEE VTC-Spring, 2017
  - Track: International Workshop on Connecting All Things for Enabling Smart Cities (CONTEST), IEEE VTC-Spring, 2016
  - Track: Wireless Network: Protocols, Security, and Services, IEEE VTC-Fall, 2016
  - Track: Wireless Network: Protocols, Security, and Services, IEEE VTC-Spring, 2016
- 2nd Conference on Blockchain Research & Applications for Innovative Networks and Services (BRAINS 2020)
- IEEE/CIC ICCC 2019 (2019 IEEE/CIC International Conference on Communications in China (ICCC)
- 2018/2019 International Workshop on Big Data and Edge Computing for Smart City

- IEEE International Conference on Smart Grid Communications (SmartGridComm)
  - TPC member, 2018
  - Symposium 1: Communications and Networks to Enable the Smart Grid, IEEE SmartGirdComm, 2017
- International Conference on Computer Communications and Networks (ICCCN)
  - Track: Green and Sustainable Computing, ICCCN, 2015

3. Reviewer of Journals and Conferences

- IEEE Transactions on Vehicular Technology (served as a reviewer for 63 times)
- IEEE Transactions on Cognitive Communications and Networking (served as a reviewer for 6 times)
- IEEE Transactions on Mobile Computing (served as a reviewer for 1 time)
- IEEE Communications Surveys and Tutorials (served as a reviewer for 3 times)
- IEEE Communications Magazine (served as a reviewer for 5 times)
- IEEE Wireless Communications Magazine (served as a reviewer for 13 times)
- IEEE Internet of Things Journal (served as a reviewer for 16 times)
- IEEE Access (served as a reviewer for 12 times)
- Wiley's Security and Communication Networks (served as a reviewer for 13 times)
- Hindawi's Wireless Communications and Mobile Computing (served as a reviewer for 1 time)
- Wiley's International Journal of Communication Systems (served as a reviewer for 4 times)
- SAGE's International Journal of Distributed Sensor Networks (served as a reviewer for 9 times)
- Springer's Journal of Network and Systems Management (served as a reviewer for 12 times)
- China Communications (served as a reviewer for 12 times)
- KSII Transactions on Internet and Information Systems (served as a reviewer for 2 times)
- Peer-to-Peer Networking and Applications (served as a reviewer for 1 time)
- International Conference on Wireless Communications and Signal Processing (WCSP) 2017
- IEEE International Conference on Communications (ICC) 2017, 2018, 2019
- IEEE Global Communications Conference (Globecom) 2016, 2018, 2019
- IEEE International Conference on Computer Communications (Infocom) BigSecurity 2016
- IEEE International Conference on Smart Grid Communications (SmartGridComm) 2016
- International Conferences on Signal Processing and Communication Systems (ICSPCS) 2015, 2016, 2017, 2019
- Military Communications Conference (Milcom) 2015, 2016, 2017
- International Conference on Design of Reliable Communication Networks (DRCN) 2015
- IEEE/CIC International Conference on Communications in China (CIC ICCC 2019)

4. Session Chair

- IEEE International Conference on Communications (ICC), 2018
  - Track: Selected Areas in Communications - Edge and distributed Internet of Things (IoT) computing

REFERENCES

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