Kevin F. Streff, Ph.D. 820 N. Washington Madison, South Dakota 57042 (605) 256-5259 kevin.streff@dsu.edu

| (i) | Professional Preparation Capella University | | Ph.D. in Electronic Business 8/04 |
|-------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Temple University | | Master of Business Administration 8/95 |
| | Informatio College | on Resource Management | 4011 Information Security Certification 12/03 |
| | Dakota St | ate University | Bachelor of Business Administration, 5/88 Bachelor of Science in Information Systems |
| (ii) | Training an 07/15 08/05 07/05 02/05 07/04 12/03 12/00 | d Certifications Harvard University Hotskills, Inc. UCLA British Standards Institute Naval Postgraduate School National Defense University George Washington University | Monterey, CA, Workshop on Education in Computer Security Washington, DC, Information Security Certification |
| (iii) | Appointments 07/16 - Professor Present | | Dakota State University – College of Computing |
| | 07/15 - 06/16 | Department Chair | Dakota State University – College of Computing Serving as Department Chair for the Cyber Security and Cyber Operations Groups |
| | 05/13 - Present | Associate Professor | Dakota State University - College of Business and Information Systems. Lead, teach, and conduct research in the Center for Information Assurance at Dakota State University, a National Center of Academic Excellence in Information Assurance Education. |
| | 01/09 - 05/13 | Research Director | Dakota State University - Created and led the National Center for the Protection of the Financial Infrastructure. |
| | 2010- 2012 | MSIA Coordinator | Dakota State University – Served as Program Coordinator for the Master of Science in Information Assurance program. |
| | 05/08 - 01/09 | Associate Professor | Dakota State University - College of Business and Information Systems. Lead, teach, and conduct research in the Center for Information Assurance, a National Center of Academic Excellence in Information Assurance Education. |
| | 8/04 - 4/08 | Director & Assistant Professor & Coordinator | Dakota State University - College of Business and Information Systems. Started and led the Information Assurance program at Dakota State University to become a National Center of Academic Excellence in Information Assurance Education and Research. |
| | 1/02 - 8/04 | Instructor | Dakota State University - College of Business and Information Systems. Responsibilities included: leading the development of the information assurance program, teaching graduate and |

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undergraduate information assurance courses, student advising, and various committees.

(iv) Publications & Presentations

- Streff, K., Panelist, South Dakota Public Broadcasting, Fraud Protection, December, 2016.
- Streff, K. Keynote speaker at South Carolina Security Forum, November, 2016.
- ✓ Streff, K., Keynote speaker at Iowa Bankers Technology Conference, September, 2016.
- ✓ Streff, K. Keynote speaker at Iowa Bankers Cybersecurity Showcase, July, 2016.
- ✓ Bakker, T & Streff, K. Accuracy of Self Disclosed Cybersecurity Risks of Large U.S. Banks, HICB 2015, Hawaii International Conference on Business 2015, October 14, 2015.
- ✓ Streff, K. Keynote speaker at Earthbend Security Showcase, September, 2015.
- ✓ Streff, K. Confronting the Challenge of Cybersecurity. United States Congressional Testimony, U.S. Senate Committee on Commerce, Science, and Transportation, September, 2015.
- ✓ Alshboul, Y, & Streff, K. Analyzing an Information Security Model for Small-Medium Sized Businesses, AMCIS 2015 21st Americas Conference on Information Systems. Manuscript ID is AMCIS-0305-2015.
- ✓ Streff, K. F., Shrestha, S., Delzer, C. (2014). Risk Assessment & Management in Merchant Capture Systems: A Threat Analysis Perspective. *Journal of Information Systems Applied Research*, 7(4) pp 50-65. http://jisar.org/2014-7/ ISSN: 1946-1836.
- ✓ Streff, K. F., Shrestha. (2014). Managing Information Systems Risk in Merchant Capture Solutions. Hawaii International Conference on Business, May 22-25, 2014.
- ✓ Governor's Office of Economic Development 2014 Commercialization Conference Served on a panel entitled "University Based Entrepreneurs".
- ✓ Streff, K. Keynote speaker for 2013 Texas Bankers Association Technology Conference, April, 2013.
- ✓ Streff, K., Shrestha, S., and Delzer, C. *Risk Assessment & Management in Merchant Capture Systems:*A Threat Analysis Perspective, 2013 Proceedings of the Conference for Information Systems Applied Research, ISSN: 2167- 1508, San Antonio, Texas, USA v6 n2814 ©2013 EDSIG (Education Special Interest Group of the AITP).
- ✓ Streff, K. Speaker for educational events through the following associations: Pennsylvania Association for Community Banks, Community Bankers of Wisconsin, South Dakota Bankers Association, North Dakota Bankers Association, Community Banks of Iowa, Nebraska Bankers Association, Maryland Bankers Association, Virginia Association of Community Banks, and Minnesota Bankers Association in 2009 2015.
- ✓ Streff, K. Enterprise Risk Management in Banking, Minnesota Bankers Association, Chief Financial Officer Conference, November 16 2011.
- ✓ Streff, K. Cybercrime and Data Protection: Perspectives from the National Center for the Protection of the Financial Infrastructure, Federal Reserve Bank, August 2011.
- ✓ Streff, K. Cybersecurity and Data Protection in the Financial Sector. United States Congressional Testimony, U.S. Senate Committee on Banking, Housing and Urban Affairs, June 2011.
- ✓ Streff, K. Commercializing Technology Research. Drexel University, April 18 2011.
- ✓ Streff, K., and Pohdradsky, A. A Restructured Information Technology Risk Assessment Model for Small and Medium-Sized Financial Institutions. 2011 Hawaii International Conference on Systems Sciences (HICSS'11), May 2011.
- ✓ Beck, K., and Streff, K. Analyzing Tweets to Identify Malicious Messages. 2011 IEEE International Conference on Electro/Information Technology (EIT 2011), May 2011.
- ✓ Pohdradsky, A., and Streff, K. Testing Data Sanitization Practices of Retired Drives with the Digital Forensics Data Recovery Project, Journal of Information Privacy and Security, October 2011.
- ✓ Pohdradsky, A., and Streff, K. Re-Visiting Data Sanitization Issues With the Digital Forensics Data Recovery Project. 2011 Hawaii International Conference on Systems Sciences (HICSS'11), May 2011.
- ✓ Streff, K. Conducted webinars to thousands of registrants from community banks and credit unions through 30 state banking associations and 29 credit union leagues in 2011 2015.
- ✓ Streff, K. An Overview of Mobile Banking Threats. The Macro Effects of Mobile Money in Mobile Transactions and Electronic Payments, Columbia University, April 2 2010.
- ✓ Streff, K. Keynote speaker for 2010 Kansas Technology Conference, Hot Technologies in Community Banking, February 2010.
- ✓ Streff, K. An Information Security Management System Model for Small and Medium-Sized Financial Institutions, *International Association for Computer Information Systems 2009*. Pittsburgh, PA, September 2009.

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- ✓ Streff, K. Keynote lecture for international critical infrastructure protection conference (IFIP09) held at Dartmouth College on March 24, 2009. Topic: Protecting the Financial Infrastructure through Effective Third Party Risk Management.
- ✓ Streff, K and Haar, J. An Examination of Information Security in Mobile Banking Architectures. *Journal of Information Systems Applied Research*, 2 (6). ISSN: 1946-1836, June 2009.
- ✓ Streff, K., A. Podhadsky, and P. Lovaas. "Building an Effective Information Risk Management Program for Small and Medium-Size Organizations of the Financial Services Sector". HIBC 2009. June, 2009, Honolulu, HI.
- ✓ Streff, K., and Pullman, N. Curriculum Development for Fraud, Identity Theft and Identity Management Content in Graduate Level Information Assurance Programs, *Proceedings of the Information Systems Education Conference 2008*. Phoenix, AZ, November 2008.
- ✓ Streff, K. and Pullman, N. Security Education, Training and Awareness. In: Handbook of Research on Social and Organizational Liabilities in Information Security (1st Ed.) Idea Group Inc. Hershey, PA. (2008), ISBN: 978-1-60566-132-2. Book Chapter.
- ✓ P. Engebretson, J. Pauli and K. Streff. "Abstracting Parent Mitigations from the CAPEC Attack Pattern Dictionary". Proc. of the 2008 International Conference on Security and Management (SAM'08). July 2008, Las Vegas, NV, USA
- ✓ J. Pauli, P. Engebretson, and K. Streff. "An Ethical Network Hacking Contest for Undergraduate Student Recruitment". Proc. of the 2008 International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS'08). July 2008, Las Vegas, NV, USA
- ✓ Streff, K. Mini-Track Chair, *International Conference on Information Warfare (ICIW 2008)*, April 2008, Omaha, NE.
- ✓ Streff, K. "Information Security in Banking" In: *Managing Information Assurance in Financial Services* Idea Group Inc. Hershey, PA. (2007), ISBN: 978-1-59904-171-1. Book Chapter.
- ✓ S. Malladi, O. El-Gayar and K. Streff. Experiences and lessons learned in the design and implementation of an Information Assurance curriculum. *Proceedings of the 2007 IEEE Workshop on Information Assurance*, United States Military Academy, 20-22 June 2007, West Point, NY.
- Streff, K. and P. Lovaas. The Development of an Information Assurance Awareness Assessment Instrument, Midwest United States Association for Information Systems (MWAIS07) – May, 2007 Springfield, IL.
- ✓ Streff, K. and P. Lovaas, A Case Study of Information Security Awareness in the Food Industry, Hawaii International Conference on Business (HICSS07) May, 2007 Honolulu, Hawaii.
- ✓ Xinwen Fu, Wei Yu, Xukai Zou, K. Streff, and Steve Graham, On Recognizing Virtual Honeypots and
- ✓ Countermeasures, Journal of Autonomic and Trusted Computing (JoATC), 2007.
- ✓ Streff, K. Information Security in Banking. In: *Managing Information Assurance in Financial Services* (1st Ed.) Idea Group Inc. Hershey, PA. (2007), ISBN: 978-1-59904-171-1. Book Chapter.
- ✓ Pullman, N. and Streff, K. Identity Management and Access. In: Managing Information Assurance in Financial Services (1st Ed.) Idea Group Inc. Hershey, PA. (2007), ISBN: 978-1-59904-171-1. Book Chapter.
- ✓ Xinwen Fu, W.Yu, D. Cheng, X. Tan, K. Streff, and S. Graham, On Recognizing Virtual Honeypots and Countermeasures, in *Proceedings of the IEEE International Symposium on Dependable, Autonomic and Secure Computing (DASC)*, Sep. 29-Oct. 1, 2006.
- ✓ Streff, K., A. Rajagopalan, and Xinwen Fu, ABC: Adaptive Bank-Transaction Camouflaging Systems, in Proceedings of the International Conference on i-Warfare and Security (ICIW), University of Maryland Eastern Shore, USA, March 15-16 2006.
- ✓ Streff, K. and Z. Zhou. "Developing and Enhancing a Computer and Network Security Curriculum" in the 2006 *Journal of Computing Sciences in Colleges*. Volume 21, Number 3, February 2006.
- ✓ T. Dennis, O. El-Gayar, and K. Streff. A Model Program in Information Assurance and Computer Security. IACIS International Association for Computer Information Systems 2004, *Issues in Information Systems* (Volume IV No 2 Pages 97-102, 2004).
- ✓ T. Dennis, K. Streff and M. Moran. Applying to become a Center of Academic Excellence in Information Assurance Education, workshop to be delivered at the ISECON convention in November 2003.

(v) Synergistic Activities

Partnering with a software development company in Minneapolis to commercialize my cyber research. Examples include: TRAC™ (Total Risk Assessment Calculator), CA-TRAC™ (Corporate Account Total Risk Assessment Calculator) and VA-TRAC™ (Vendor Assessment Total Risk Assessment Calculator).

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- ✓ In 2016, created partnership with the Graduate School of Banking (GSB) at the Louisiana State University (LSU). GSB-LSU is endorsed in 12 of the 50 states as a premier provider of continuing education in banking for Midwestern states. Replicated much of the GSB-UW model at GSB-LSU.
- ✓ Served as Department Chair Network Security and Cyber Operations (2015). Leading this group as a group for the first time in the university's history. Establishing interdisciplinary relationships with other groups across the DSU campus and beyond the campus.
- Created partnership with the Graduate School of Banking (GSB) at the University of Wisconsin (UW). GSB UW is endorsed in 19 of the 50 states as a premier provider of continuing education in banking for southern states. In 2010, I led the development of the Technology School at GSB and was honored when they approached me as the recognized technology expert in the field to lead the development of the program. The program has been tremendously successful, doubling original estimates and boasting satisfaction scores that all the other GSB schools are trying to mimic. In 2014 I led the development and launch of the Security School at GSB. Formalized a revenue sharing arrangement with GSB which generated approximately \$10,000 annually 2014-2016.
- ✓ Worked with South Dakota School of Mines & Technology, University of South Dakota and South Dakota State University to form the Center for Secure Technologies, requesting \$24,000,000 from NSF and SD EPSCoR to fund the operation for six years (2014 2020).
- ✓ PI D. Xu, MRI: Acquisition of an Online Banking System for Information Assurance Research, NSF CNS 1123220, \$400,000 (Streff Sr. Personnel)
- ✓ PI D. Xu, REU Site: Information Assurance and Security, NSF CNS 1004843, 328,427 (Streff Sr. Personnel)
- ✓ Co-PI on \$1,514,913 National Science Foundation Scholarship for Service (NSF-SFS) grant titled "Dakota Defenders Information Assurance Scholarship Program". [awarded NSF award DUE-1026114]
- ✓ Co-PI on \$93,000 National Science Foundation MRI grant titled "Online Banking Systems Security Research". [awarded NSF award DUE-1153336]
- ✓ PI K. Streff, Acquisition of Equipment to Establish Information Assurance Infrastructure for Research and Education, NSF MRI, \$210,450 [awarded NSF award CNS-1123220]
- ✓ PI K. Streff, National Center for the Protection of the Financial Infrastructure, South Dakota Governor's Office of Economic Development, \$1,995,582.
- ✓ PI K. Streff, Center for Information Technology Excellence-An Industry Partnership, South Dakota Performance Improvement Fund, \$80,000.
- ✓ PI Awarded \$50,000 grant from Department of Homeland Security (January, 2010) to create a consortium of academic, industry and government partners to focus on the information risk issues in the financial sector.
- ✓ Was the invited keynote lecture for international critical infrastructure protection conference (IFIP09) held at Dartmouth College on March 24, 2009. Topic: Protecting the Financial Infrastructure through Effective Third Party Risk Management.
- ✓ Directed efforts to gain National Security Agency (NSA) and Department of Homeland Security (DHS) designation as a Center of Academic Excellence in Information Assurance Research (CAE-R). Became a NSA and DHS CAE-R in 20xx.
- ✓ Directed efforts to gain National Security Agency (NSA) and Department of Homeland Security (DHS) designation as a Center of Academic Excellence in Information Assurance (CAE). Became a NSA CAE in 2004, DHS CAE in 2005 and redesignated NSA and DHS CAE in 2007 and 2012 (five year term for each re-designation).
- ✓ Led the creation of The Center of IA Education and Research in Banking and Finance at DSU to provide a vehicle for faculty and students to conduct important IA education and research to identify security solutions relevant to the banking and finance sector.
- Created the Information Assurance Advisory Board that provided strategic direction to the IA program. Other representatives on the board included Citibank, Wells Fargo Bank, Federal Reserve Bank, Office of the Comptroller of the Currency, Federal Deposit Insurance Corporation, and Target Corporation.
- ✓ Led a team of DSU faculty and support staff to plan and establish a hacker lab in 2003 where students learn to defend against the tools that hackers use to penetrate and cause havoc.
- ✓ Served as Director Center for Information Assurance and Academic Coordinator for MSIA program.
- ✓ Coordinated Information Assurance Symposiums from 2003-2008 each attended by over 200 people.
- Conducted online seminars on a variety of bank security topics for the Graduate School of Banking through the University of Wisconsin, Madison.
- Conducted over 100 information security training sessions, workshops and webinars for state banking associations in 24 states.

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- Keynote speaker at two national security conferences and published in both America's Banker and Community Banker.
- ✓ Founder and President of InfraGard South Dakota, an FBI outreach program to promote the protection of critical infrastructure in SD, ND and MN.
- ✓ Founder and Managing Partner of a start-up information security company Secure Banking Solutions, LLC. Started in 2004, the business now boasts 90 employees and over 800 bank and credit union customers in 45 states.
- ✓ Awarded \$2.0 million from state of South Dakota to establish the National Center for the Protection of the Financial Infrastructure (Streff-PI).
- ✓ Awarded \$300,000 from NSF for Upper Midwest Information Assurance Faculty Development Project (Streff–PI). Awarded \$100,000 South Dakota Future Fund grant in 2007 to establish a National Center for the Protection of the Financial Infrastructure.
- Awarded \$120,557 2007 Major Research Instrumentation Program NSF Grant (MRI) working with PI Dr. Fu, and fellow Co-PIs Dr. Halverson and Dr. Graham to establish a network infrastructure for information assurance research.
- ✓ Awarded \$28,854 grant through the 2007 Governor's 2010 Individual Research SEED Grant Program.
- ✓ Awarded \$32,000 grant in 2007 from Department of Defense (National Security Agency) to continue to develop digital forensics capabilities on campus. Worked with Dr. William Figg (Streff-PI).
- Awarded \$80,000 grant from Department of Defense to enhance digital forensics capabilities. Worked with Dr. William Figg (Streff-PI).
- ✓ Awarded \$125,000 grant from The Great Plains Education Foundation for biometrics research (Streff-PI).
- ✓ Awarded \$248,000 grant through the Department of Education to further augment the Center for Information Assurance (Streff-PI).
- ✓ Awarded a \$1,000 faculty research award in the Dakota State University Faculty Research Initiative Project.
- ✓ Awarded a \$7,000 summer grant in 2004 to create two new information assurance courses: INFA711 Security Policy and Procedures and INFA713 Managing Information Security Risks.
- ✓ Awarded a \$1,000 summer grant in 2003 to expand the curriculum in two information assurance courses to meet the requirements of the NSTISSI 4011 and 4013 national standards.
- ✓ Awarded a \$3,500 grant in 2003 to assess the teaching effectiveness of current assessment instruments in a software development class.

(vi) Collaborators and Other Affiliations

(a) Collaborators

- Fu, Xinwen (University of Massachusetts, Lowell)
- Henkle, Joey (Wells Fargo, Inc.)
- Pullman, Nick (Citigroup, Inc.)
- Rajagopalan, Andrew (Cisco Systems)
- Zhuo, Zehai (University of Houston)
- Davidson, Kirby (University of Wisconsin)
- Larson, Don (Louisiana State University)

(b) Advisors

• Ph.D. Advisor: Butler, Cliff (Capella University)

(c) Advisees

- Bakker, Troy (Dakota State University and Wells Fargo)
- Engebretson, Pat (Dakota State University)
- Lovaas, Petter (University of Buffalo)
- Podhradsky, Ashley (Dakota State University)
- Delzer, Cody (Dakota State University current)
- Todd Wittaker (Dakota State University current)
- Alshboul, Yazan (Dakota State University current)
- Nzailu, Arnold (Dakota State University current)

(vii) Industry Experience

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Secure Banking Solutions, LLC - Madison, SD (May 2005 to Present)

Owner and Chief Strategist

Majority owner and strategist of SBS Cybersecurity (renamed for Secure Banking Solutions). Relinquished Managing Partner role after hiring Aaron Gamewell as President and COO.

Founder and Managing Partner

Founder of an information risk management start-up company focused on cyber security risk mitigation strategies for small and medium-sized financial institutions. SBS has over 800 accounts in 45 states with sales of nearly \$6.5 million.

HELIX Security, LLC – Madison, SD (May 2012 to Present)

Founder and Managing Partner

Founder of an information risk management start-up company focused on cyber security risk mitigation strategies for organizations outside of the financial sector. HELIX Security has 30 accounts in 5 states with sales of \$.5 million.

The Hartford - Minneapolis, MN (November 1998 to November 2001)

Director - Individual Life Operations

Directed the efforts of 200+ staff in multiple geographic locations that were responsible for servicing the individual life insurance business. Primary responsibilities included processing all new life insurance applications, supporting the needs of the producers and supporting the end-customers through a call center.

Overall, led the group to improved turn-around times, unit costs and customer satisfaction. Named to a merger and acquisitions team in 2000 that led to the \$1.1 billion purchase of Fortis Financial Services, and assumed additional responsibility for New Business and Producer Support activities for all Fortis business.

Director - Project Management Organization

Created and led a project management organization to service the needs of the business. Primary responsibilities included recruiting, hiring and training a project management staff, creating a project management methodology, creating a project management certification program, developing a mentoring program, creating a project request and prioritization process and delivering all medium and large sized projects on time and on budget. Served as the Program Director for a series of large projects. The \$35 million effort was delivered on time, within five percent of budget and won the organization's Chairman's Award. Also received a Leadership Excellence Award for role in directing the project.

SmithKline Beecham – Philadelphia, PA (August 1992 to November 1998) Diversified Pharmaceutical Services – Bloomington, MN

Assistant Director - Operations and Technical Support

Managed a technical environment that was outsourced to EDS. Responsibilities included providing direction to 10 staff and 75 EDS personnel to support all mainframe and distributed computing environments. Directed several groups responsible for supporting all development and production systems, including a 24x7 point-of-sale claims processing application and a 24x7 call center application with 400 customer service representatives.

Manager - Technical Support

Managed a group responsible for distributed computing architecture, infrastructure and support. The group was staffed with senior technical individuals who were experts in their fields and could build infrastructure to benefit the entire organization. Developed a strategic plan for the client/server, and partnered with key line managers to leverage technology into cutting-edge products for competitive advantage.

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Manager - Application Development

Built and directed a new application development group responsible for building client-reporting solutions. Recruited and managed a group of 20 staff and 10 contractors who built data warehouses and on-line reporting tools to meet the needs of our customer base. Created Diversified's first internet-enabled application. Partnered with Born Information Systems to evaluate Internet technology and conduct a pilot project. After a successful pilot, built a web-based on-line eligibility system that was the first of its kind.

SmithKline Beecham - North American Pharmaceuticals - Philadelphia, PA

Project Manager - Application Development

Managed several teams of staff and contractors to develop mainframe and client/server financial systems to support the National Accounts business. Participated in several industry groups to simplify the communication between HealthCare organizations.

Accenture - Minneapolis, MN (June 1990 to August 1992)

Systems Consultant, Systems Resource Group

Hired into a resource group staffed with experienced technical professionals who could go on assignment and mentor less experienced staff. Developed and implemented information systems used by consumer product companies. Specific engagements included:

- Fingerhut Supervised several teams to create a new warehousing and inventory system that enabled Fingerhut to open a second warehouse located in Johnson City, TN.
- 3M Supervised several teams in creating a new customer service system.

American Management Systems - Chicago, IL (May 1988 to June 1990)

Staff Consultant, Credit Management Systems Group

Developed, implemented and supported information systems used by financial institutions to manage their portfolios. Specific engagements included:

- Signet Bank Led the customization, implementation and support of a Loan Application Processing system.
- Sovran Financial Corporation Customized a Loan Application Processing system.
- Deere Credit Services Customized a Loan Application Processing system.
- Chrysler Financial Corporation Customized a Credit/Collection system.