Curriculum Vitae – Aaron D. Striegel

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I. PERSONAL DATA

Dept. of Computer Science and Engineering
211B Cushing Hall
University of Notre Dame
Notre Dame, IN 46556

Telephone: (574) 631-6896
Fax: (574) 631-9260
E-Mail: striegel@nd.edu
aaron.striegel@gmail.com

Website: https://sites.nd.edu/aaron-striegel
https://www.linkedin.com/pub/aaron-striegel/5/9bb/370
https://scholar.google.com/citations?user=w88NouMAAAAJ

II. EDUCATION

- Ph.D., Computer Engineering, Iowa State University Dec. 2002
  Major Professor: Dr. Manimaran Govindarasu
- B.S. Computer Engineering, Iowa State University Dec 1998

III. ACADEMIC EXPERIENCE

- Professor, University of Notre Dame - May 2018 to present
  Program Director, Bachelor of Arts in Computer Science – March 2020 to June 2025
- Associate Professor, University of Notre Dame – May 2009 to May 2018
  Associate Chair - May 2012 to Summer 2018
  Assistant Professor, University of Notre Dame – Jan 2003 to May 2009
  Department of Computer Science and Engineering
- Research Exchange, Université de Technologie de Compiègne – Jan 2002 – May 2002
- Graduate Student, Iowa State University – 1999 - 2002
  Department of Electrical and Computer Engineering

IV. HONORS AND AWARDS

2020 Honorable Mention – Apple Best Paper Award @ WristSense 2020

2014-2016 Leadership Award - ICCCN Service

2013 Best Paper Award - ACM HotPlanet Workshop @ SIGCOMM

2012 National Academy of Engineering Indo-American Frontiers of Engineering Symposium (IAFOE)

Selected Participant, National Academies Keck Futures Initiative (NAFKI), "The Informed Brain in the Digital World"

2011	Best Paper Award - IEEE Healthcom
	National Academy of Engineering Frontiers of Engineering Education Symposium, One of 65 individuals selected nation-wide
2010	Iowa State ECpE Early Career Impact Award
2009	Adviser to 2nd place team – National Security Innovation Competition
2008	Best Paper Award – Large Installation System Administration (LISA) 2008
2006	Notre Dame Computer Science & Engineering Teacher Faculty Award
2003	NSF CAREER Award, 1st Attempt
2002	Iowa State University Research Excellence Award
2001	Faculty Member Nomination (2 students) - Student Scholars and Leaders Recognition Ceremony Participant – NSF Engineering Educators & Scholars Workshop (August 2001) New Faculty Fellow Grant – Frontiers in Education (FIE'2001)
2000	Iowa State University Teaching Excellence Award NSF Graduate Research Fellowship – Honorable Mention
1999	Iowa State University EE/Cpr E Fellowship
Summary:	3x Best Paper Awards 1x Runner Up – Best Presentation Award 2x NAE Symposium (Selected Participant)

V. PROFESSIONAL MEMBERSHIPS

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

Senior Member (2017+), Full Member since 2002, Student Member 98-02

ASSOCIATION OF COMPUTING MACHINERY (ACM)

Full Member since 2006

AMERICAN SOCIETY FOR ENGINEERING EDUCATION (ASEE)

Full Member since 2011

2001 New Faculty Fellow, Frontiers in Education, October 2001.

Academic Honor Societies

Eta Kappa Nu, Tau Beta Pi

VI. TECHNICAL PUBLICATIONS AND PRESENTATIONS

Most publications are available via IEEE Xplore or the ACM Digital Library.

Major Current Projects

Fast Mobile Network Characterization: The goal of the Fast Mobile Network Characterization (FMNC) work is to explore how cleverly constructed packet probing trains can be created to accurately, rapidly, and efficiently capture the link characteristics for various types of wireless links (WiFi, LTE). Current work includes explorations of active and passive approaches to link characterization, the impact of pre-staging on short video, and mechanisms by which active link probing can be leveraged to time shift content for rich, video ads.

Broadband Characterization: A significant recent focus by the federal government has been on improving broadband access to underserved areas. Unfortunately, the measurement of said broadband performance has been problematic with the accuracy of poor performing broadband being often attributed to challenges on the wireless side of access. The focus of this work is to deploy a broad set of sensing nodes across 50+ homes in the South Bend area to better discern the true bottleneck with respect to broadband performance.

Short Video Optimization: Short video has emerged as a dominant form of social media. Unlike longer form videos that can last on the order of tens of minutes to hours, short videos tend to be on the order of tens of seconds at most. This creates significant challenges to normal adaptation mechanisms as well as creating different expectations with regards to the Quality of Experience (QoE) for users. The focus of this work is to create a better understand of what QoE means in the context of short video as well as improved mechanisms for staging, rate selection, and placement of short videos.

Past Major Projects

Privacy Sensitive Contact Tracing: In conjunction with Prof. Taeho Jung who served as PI, we explored privacy preserving primitives that avoid unnecessary information leakage while providing scalability for the purposes of privacy-centric proximity sharing. Our group's contribution included network modeling and sharing past proximity data from NetSense, NetHealth, and Tesserae.

Tesserae: The focus of this project expands on our prior work with NetSense / NetHealth (see below) to explore how smartphones, wearable devices, social media, and context can be used to capture and model workplace productivity. The work has instrumented seven hundred and fifty working professionals in cognitively demanding professions (information work) and instrumented their day-to-day activities over a period of one year. I served as the lead PI with Notre Dame as the lead institution (approx. $10M in total). Eight contributing institutions were a part of the effort (University of California-Irvine, Georgia Tech, Dartmouth, Carnegie Mellon, University of Colorado-Boulder, Ohio State, University of Texas-Austin, University of Washington). The work began in June 2017 and finished in December 2020. A full set of de-identified data was released via the Open Science Framework.

Future of Work: As a follow-on project to Tesserae, we explored whether the same sensing stack could be utilized to explore effective teams with a specific focus on the impact of COVID and

remote teaming. The work was funded by the National Science Foundation with the goal of creating computationally derived mechanisms that can encourage effective team behaviors. The work was a joint work with the University of California-Irvine (Lead) and the University of Colorado-Boulder.

NetSense Smartphone Study: The NetSense smartphone study has instrumented nearly two hundred incoming freshmen at the University of Notre Dame for the purposes of exploring the interplay between smartphone usage (always-on networking) and social ties (make / keep friends). The study gathered data from August of 2011 through May of 2015. My particular focus for this work is with respect to the instrumentation on the device itself (data backend, data security) as well as exploring network usage patterns / optimization efforts. Our current research efforts are focusing on indoor optimization, WiFi offloading, and streamlined content distribution in ultra-dense environments (ex. stadium, dining hall, classroom).

NetHealth Study: The NetHealth study expanded upon the NetSense study to instrument 500 incoming freshmen in the Fall of 2015 with smartphone agents, health sensors (Fitbit Charge HR), and co-location sensing (shared locations). The focus of the work from a sociological perspective was to explore the underlying network effects with regards to homophily on quantitative metrics such as physical activity levels and sleep. The study instrumented over 700 students with rich sensing capabilities and gathered data for students from their freshmen through senior years.

WeHab: The WeHab study explores how low-cost motion-based gaming peripherals (ex. Nintendo Wii Balance Board, Microsoft Kinect) can be used to deliver enhanced balance rehabilitation with applications for post-TBI (stroke, concussion) and orthopedic physical therapy. Our current research efforts are focusing on robust framework development (open source instrumentation platform), audio feedback mechanisms, and predictive modeling for mapping in-therapy results to existing evaluation mechanisms (Berg Balance, FIM).

Lockdown: The Lockdown project focused on visualization of changes in network patterns for the purposes of network security, namely network flows with augmentation of gathered data to include Host, Users, and Applications. Through a novel interface that we dubbed HUA (Host, User, Applications), system administrators could easily add and remove context / edges from network graphs and easily visualize network changes across a variety of views and metrics including graph edit distance, clustering via tools such as walktrap, and various other mechanisms.

Research Summary / Impact

39 peer-reviewed journal papers
100+ peer-reviewed conference / workshop papers
10 invited papers
17 graduated PhD students, 8 completed Masters theses
3 Best Paper Awards
1 Honorable Mention / Runner-Up – Best Paper Award
1 Patent
7 Technology Disclosures

Google Scholar 4890+ citations, h-index 39, i-10 index 102

Journal Publications (Peer-Reviewed)

Students / staff advised / supervised directly by myself are noted in **bold**. The legend for inclusion is as follows: (*) Undergraduates, (@) for Graduate Students, and (+) for Post-doctoral Appointees or past students at a different institution.

1. **@A. B. Puttaswamy**, S. Zhu and A. Striegel, "Quality of Experience in Short Video Systems: Models, Mechanisms, and Trade-Offs," in *IEEE Access*, vol. 14, pp. 95454-95467, 2026, doi: 10.1109/ACCESS.2026.3706069.
2. R. Hernandez, S. Schneider, H. J. de Vries, J. Fanning, D. Ehrmann, H. Jin, R. C. Moore, S. Juengst, A. Striegel, J. P. Ginsberg, N. Hermanns, A. A. Stone, "Resting Heart Rate Variability Measured by Consumer Wearables and Its Associations with Diverse Health Domains in Five Longitudinal Studies," *Sensors* 2025, *25*, 7147. https://doi.org/10.3390/s25237147
3. J. David Creswell, Michael J. Tummini, Stephen Price , Yasaman Sefidgar, Sheldon Cohen , Yiyi Ren, Jennifer Brown, Anind K. Dey, Janine M. Dutcher , Daniella Villalba, Jennifer Mankoff, Xuhai Xu, Kasey Creswell, Afsaneh Doryab, **+Stephen Mattingly**, Aaron Striegel, David Hachen, **@Gonzalo Martinez**, and Marsha C. Lovett, "Nightly sleep duration predicts grade point average in the first year of college," *Proceedings of the National Academy of Sciences of the United States of America,* Feb, 2023, 120(8), e2209123120. https://doi.org/10.1073/pnas.2209123120.
4. M. Hydari, I. Adjerid, A. D. Striegel, "Health Wearables, Gamification, and Healthful Activity," *Management Science*, Dec. 2022, https://doi.org/10.1287/mnsc.2022.4581
5. **@G. J. Martinez**, T. Grover, **+S.M. Mattingly**, G. Mark, S. D'Mello, T. Aledavood, F. Akbar, P. Robles-Granda A. Striegel, "Alignment Between Heart Rate Variability From Fitness Trackers and Perceived Stress: Perspectives From a Large-Scale In Situ Longitudinal Study of Information Workers," *JMIR Hum Factors* 2022; 9(3):e33754 doi: 10.2196/33754
6. **+S. M. Mattingly**, **@G. Martinez**, J. Young, M. K. Cain, A. Striegel, "Snoozing: an examination of a common method of waking," *Sleep*, Volume 45, Issue 10, October 2022, zsac184, https://doi.org/10.1093/sleep/zsac184
7. **@G. Martinez**, **+S. Mattingly**, P. Robles-Granda, K. Saha, A. Sirigiri, J. Young, N. Chawla, M. De Choudhury, S. D'Mello, G. Mark, A. Striegel, "Predicting Participant Compliance With Fitness Tracker Wearing and Ecological Momentary Assessment Protocols in Information Workers: Observational Study," *JMIR mHealth and uHealth*, vol. 9, no. 11, November 2021. DOI: 10.2196/22218
8. S. Mirjafari, H. Bagherinezhad, S. Nepal, **@G. J. Martinez**, K. Saha, M. Obuchi, P. G. Audia, N. V. Chawla, A. K. Dey, A. Striegel, A. T. Campbell, "Predicting Job Performance Using Mobile Sensing," *IEEE Pervasive Computing*, October 2021, doi: 10.1109/MPRV.2021.3118570
9. S. Nepal, **@G. J. Martinez**, S. Mirjafari, **+S. Mattingly**, V. Das Swain, A. Striegel, P. Audia, A. T. Campbell, "Assessing the Impact of Commuting on Workplace Performance Using Mobile Sensing," *IEEE Pervasive Computing*, October 2021, doi: 10.1109/MPRV.2021.3112399.
10. I. Adjerid, G. Loewenstein, **@R. Purta**, and A. Striegel, "Gain-Loss Incentives and Physical Activity: The Role of Choice and Wearable Health Tools," *Management Science,* May 2021. https://doi.org/10.1287/mnsc.2021.4004
11. **+S. Mattingly**, T. Grover, **@G. Martinez**, T. Aledavood, P. Robles-Granda, K. Nies, A. Striegel, G. Mark, "The Effects of Seasons and Weather on Sleep Patterns Measured through Longitudinal Multimodal Sensing," *Nature Digital Medicine*, 4, 76 (2021). https://doi.org/10.1038/s41746-021-00435-2
12. P. Robles-Granda, S. Lin, X. Wu, **@G. J. Martinez**, **+S. M. Mattingly**, E. Moskal, A. Striegel, N. V. Chawla, S. D'Mello, J. Gregg, K. Nies, G. Mark, T. Grover, A. T. Campbell, S. Mirjafari, K. Saha, M. De Choudhury, A. D. Dey, "Jointly Predicting Job Performance, Personality, Cognitive Ability, Affect, and Well-Being," *IEEE Computational Intelligence Magazine*, vol. 16, no. 2, April 2021.
13. L. Song, A. Striegel, **@A. Mohammed**, "Sniffing Only Control Packets: A Lightweight Client-Side WiFi Traffic Characterization Solution," *IEEE Internet of Things Journal*, 2021.

14. S. Liu, F. Vahedian, D. Hachen, O. Lizardo, C. Poellabauer, A. Striegel, T. Milenkovic, "Heterogeneous network approach to predict individuals' mental health," *ACM Transactions on Knowledge Discovery from Data (TKDD)*, 2021.
15. Z. Li, +**Q. Liao**, A. D. Striegel, "A Game-theoretic Analysis on the Economic Viability of Mobile Content Pre-Staging," *Wireless Networks,* 26, 667–683 (2020).
16. S. Liu, D. Hachen, O. Lizardo, C. Poellabauer, A. Striegel, T. Milenkovic, "Network analysis of the NetHealth data: Exploring co-evolution of individuals' social network positions and physical activities," *Applied Network Science*, Dec 2018. DOI: 10.1007/s41109-018-0103-2
17. **@L. Meng**, A. Striegel, T. Milenkovic, "Local versus Global Biological Network Alignment," *Bioinformatics*, vol.32, no. 20, October 2016. DOI: 10.1093/bioinformatics/btw348
18. **@L. Meng**, Y. Hulovatyy, T. Milenkovic, A. Striegel, "On the Interplay Between Individuals' Evolving Interaction Patters and Traits in Dynamic Multiplex Social Networks," *IEEE Transactions on Network Science and Engineering (TNSE)*, vol. 3, no. 1, pp. 32-43, Jan 2016. DOI: 10.1109/TNSE.2016.2523798
19. **@L. Meng, @S. Liu**, A. Striegel, "Analyzing the longitudinal impact of proximity, location, and personality on smartphone usage," *Computational Social Networks*, 1:6, Dec 2014.
20. M. Kazjer, J. D'Arcy, C. R. Crowell, A. Striegel, **@D. Van Bruggen**, "An exploratory investigation of message-person congruence in information security awareness campaigns," *Computers & Security*, vol. 43, pp. 64-76, June 2014.
21. M. Kennedy, C. Crowell, A. Striegel, M. Villano, J. Schmiedeler, "Relative efficacy of various strategies for visual feedback in standing balance activities," *Experimental Brain Research*, vol. 230, no. 1, pp. 117-125, Sep 2013.
22. **@S. Liu**, +**Y. Jiang**, A. Striegel, "Face-to-Face Proximity Estimation Using Bluetooth On Smartphones," *IEEE Transactions on Mobile Computing*, vol. 13, no. 4, pp. 811-823, April 2014.
23. **@Q. Liao**, A. Striegel, Z. Li, "Could Firewall Rules Be Public -- A Game Theoretical Perspective", in *Security and Communications*, vol. 5, no. 2, pp. 197-210, Feb. 2012. DOI: 10.1002/sec.307
24. **@Q. Liao, @A. Blaich, @D. VanBruggen**, A. Striegel, "Managing Networks through Context: Graph Visualization and Exploration," *Computer Networks*, vol. 54, no. 16, pp. 2809-2824, Nov. 2010.
25. **@Q. Liao**, Z. Li, @**A. Blaich,** A. Striegel, "Fighting Botnets with Economic Uncertainty," *Security and Communication Networks*, vol 4, no. 10, pp. 1104-1113, October 2011.
26. **@A. Blaich**, A. Striegel, D. Thain, "Reflections on The Virtues of Modularity: A Case Study in Linux Security Modules," *Software: Practices and Experience*, vol. 39, no. 15, pp. 1235-1251, Oct. 2009.
27. **@Y. Jiang,** A. Striegel, "An Analysis of the Effects of State Granularity Through (m,k) Real-Time Streams," *IEEE Transactions on Computers*, vol. 58, no. 6, pp. 784-798, June 2009.
28. P. Brenner, @**J. M. Wozniak**, D. Thain, A. Striegel, J. W. Peng, J. A. Izaguirre, "Biomolecular Committor Probability Calculation Enabled by Processing in Network Storage," *Parallel Computing*, vol. 34, no. 11, pp. 652-680, Nov 2008.
29. **@Q. Liao, @D. Cieslak**, A. Striegel, N. Chawla, "Using Selective, Short-Term Memory to Improve Resilience Against DDoS Exhaustion Attacks," *Security and Communication Networks,* vol. 1, no. 4, pp. 287-299, Jul/Aug 2008.
30. **@C. Mano, @A. Blaich, @Q. Liao, @Y. Jiang, @D. Cieslak, @D. Salyers**, A. Striegel, "RIPPS: Rogue Identifying Packet Payload Slicer Detecting Unauthorized Wireless Hosts Through Network Traffic Conditioning," *ACM Transactions on Information and System Security (TISSEC),* vol. 11, no. 2, pp. 1-23, March 2008.

31. **@J. M. Wozniak**, P. Brenner, D. Thain, A. Striegel, J. A. Izaguirre, “Making the Best of a Bad Situation: Prioritized Storage Management in GEMS,” *Future Generation Computer Systems,* vol. 24, no. 1, pp. 10-16, January 2008.
32. **@D. Salyers, @Y. Jiang**, A. Striegel, C. Poellabauer, "JumboGen: Dynamic Jumbo Frame Generation for Network Performance Scalability," *ACM Computer Communications Review (CCR)*, vol. 37, no. 5, pp. 53-64, October 2007.
33. **@X. Li**, A. Striegel, "A Case for Passive Application Layer Multicast," *Computer Networks*, vol. 51, no. 11, pp. 3157-3171, Aug 2007.
34. **@C. D. Mano, *J. Smith, *W. Bordogna, *A. Matta, *D. Dugovic**, A. Striegel, "CLog: Low Cost Gigabit Full Packet Logging," *Journal of Communications*, vol. 1, no. 7, pp. 17-23, Nov/Dec 2006
35. **@Y. Jiang**, A. Striegel, “A Distributed Traffic Control Scheme based on Edge-Centric Resource Management,” *ACM Computer Communications Review (CCR)*, vol. 36, no. 2, pp. 5-16, April 2006.
36. A. Striegel, G. Manimaran, “DSMCast: A Scalable Approach for DiffServ Multicasting,” *Computer Networks,* vol. 44, no. 6, pp. 713-735, April 2004.
37. A. Striegel, G. Manimaran, “Dynamic Class-Based Queue Management for Scalable Media Servers,” *Journal of Systems and Software (JSS),* vol. 66, no. 2, pp. 119-128, June 2003.
38. A. Striegel and G. Manimaran, "A survey of QoS multicasting issues," in *IEEE Communications Magazine*, vol. 40, no. 6, pp. 82-87, June 2002, doi: 10.1109/MCOM.2002.1007412.
39. A. Striegel, G. Manimaran, “Packet Scheduling with Delay and Loss Differentiation,” *Computer Communications,* vol.25, no.1, pp.21-31, Jan. 2002.
40. A. Striegel, G. Manimaran “Best-effort Scheduling of (m,k)-firm Real-time Streams in Multihop Networks,” *Computer Communications,* vol.23, no.13, pp.1292-1300, July 2000.

Submissions: 4x - Team / Emotional Contagion, Short Video Survey, Women's Health App Security, Sustainability and AI

Conference / Workshop Publications

1. S. Mehrdad, A. Mohammed, A. Striegel, "Leveraging Wi-Fi Signals for Monitoring Seasonal Changes," in *Proc. of ICCCN*, Honolulu, Hawaii, July 2026.
2. **@S. Mehrdad**, **@F. Gatsi**, M. Rochman, A. Striegel. M. Ghosh, "Breaking the Link: Head-Motion Effects on VR Wi-Fi Connectivity Across 5 GHz and 6 GHz," in *Proc. of IEEE ICC*, Glasgow, Scotland, May 2026.
3. Subigya Nepal, Gonzalo J. Martinez, Arvind Pillai, Koustuv Saha, Shayan Mirjafari, Vedant Das Swain, Xuhai Xu, Pino G. Audia, Munmun De Choudhury, Anind K. Dey, Aaron Striegel, Andrew T. Campbell, "A Survey of Passive Sensing in the Workplace," in *Proc. of HCI International (HCII) 2025*, Gothenberg, Sweden, June 2025.
4. T. Breideband, R. G. Moulder, **@G. J. Martinez**, M. Caruso, G. Mark, A. D. Striegel, S. D’Mello. 2023. “Location, Location, Location: An Exploration of Different Workplace Contexts in Remote Teamwork during the COVID-19 Pandemic,” in *Proc. ACM Human Computer Interaction* 7, CSCW1, Article 71 (April 2023), 22 pages. https://doi.org/10.1145/3579504
5. **@A. Mohammed**, T. Karagioules, E. Halepovic, **@S. Zhu**, A. Striegel, “rePurpose: A Case for Versatile Network Measurement,” in *Proc. Of IEEE ICC*, May 2023.
6. T. Breideband, **@G. J. Martinez**, **@P. Talkad Sukumar**, M. Caruso, S. D'Mello, A. D. Striegel, G. Mark. “Sleep Patterns and Sleep Alignment in Remote Teams during COVID-19,” in *ACM Human Computer Interaction 6*, CSCW2, Article 326 (November 2022) https://doi.org/10.1145/3555217

7. **@S. Zhu**, T. Karagioules, E. Halepovic, **@A. Mohammed**, A. Striegel, "Swipe Along: A Measurement Study of Short Video Services," in *Proc. of ACM MMSys*, June 2022.
8. **@P. T. Sukumar**, A. Dey, G. Mark, R. Metoyer, A. Striegel, "Triggers and Barriers to Insight Generation in Personal Visualizations," in *Proc. of Graphics Interface*, May 2022.
9. T. Briedeband, **@P. T. Sukumar**, G. Mark, M. Caruso, S. D'Mello, A. Striegel, "Home-Life and Work Rhythm Diversity in Distributed Teamwork: A Study with Information Workers during the COVID-19 Pandemic," in *Proc. of ACM CSCW*, 2022.
10. R. Karl, J. Takeshita, **@A. Mohammed**, A. Striegel, and T. Jung "Provably Secure Contact Tracing with Conditional Private Set Intersection" in *Proc. of 17th EAI International Conference on Security and Privacy in Communication Networks (SecureComm)*, 2021
11. R. Karl, J. Takeshita, **@A. Mohammed**, A. Striegel, and T. Jung "Cryptonomial: A Framework for Private Time-Series Polynomial Calculations" in *Proc. of 17th EAI International Conference on Security and Privacy in Communication Networks (SecureComm)*, 2021.
12. R. Karl, J. Takeshita, **@A. Mohammed**, A. Striegel, T. Jung, "CryptoGram: Fast Private Calculations of Histograms over Multiple Users' Inputs," in *Proc. of DCOSS*, 2021.
13. L. Song, E. Halepovic, **@A. Mohammed**, A. Striegel, "CUP: Cellular Ultra-light Probe-based Available Bandwidth Estimation," in *Proc. of IWQoS*, June 2021.
14. K. Saha, T. Grover, **+S. Mattingly**, V. Das Swain, P. Gupta, **@G. Martinez**, P. Robles-Granda, G. Mark, A. Striegel, M. DeChoudhury, "Person-Centered Predictions of Psychological Constructs with Social Media Contextualized by Multimodal Sensing," in *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*, March 2021.
15. **@P. Talkad Sukumar**, T. Briedband, **@G. Martinez**, M. Caruso, S. Rose, C. Steputis, S. D'Mello, G. Mark, A. Striegel, "Designing an Interactive Visualization for Monitoring Participant Compliance in a Large-Scale, Longitudinal Study," in *Proc. of CHI Case Studies*, 2021.
16. V. D. Swain, K. Saha, H. Rajvanshy, A. Sirigiri, J. M. Gregg, S. Lin, **@G. J. Martinez**, **+S. M. Mattingly**, S. Mirjafari, R. Mulukutla, S. Nepal, K. A. Nies, M. D. Reddy, P. Robles-Granda, A. T. Campbell, N. V. Chawla, S. D'Mello, A. K. Dey, K. Jiang, Q. Liu, G. Mark, **E. Moskal**, **A.** Striegel, L. Tay, G. D. Abowd, and M. De Choudhury, "A Multisensor Person-Centered Approach to Understand the Role of Daily Activities in Job Performance with Organizational Personas," in *Proc. of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*, September 2020.
17. **+L. Song**, **@A. Mohammed**, A. Striegel, "A Passive Client Side Control Packet-based WiFi Traffic Characterization Mechanism," in *Proc. of IEEE ICC 2020*, June 2020.
18. **@P. Talkad Sukumar**, **@G. Martinez**, T. Grover, G. Mark, S. D'Mello, N. Chawla, **+S. Mattingly**, and A. Striegel, "Characterizing Exploratory Behaviors on a Personal Visualization Interface Using Interaction Logs," in *Proc. of EuroViz,* May 2020.
19. **@G. J. Martinez**, **+S. Mattingly**, J. Young, L. Faust, A. Dey, A. Campbell, M. DeChoudhury, S. Mirjafari, S. Nepal, P. Robles-Granda, K. Saha, A. Striegel, "Improved Sleep Detection Through the Fusion of Phone Agent and Wearable Data Streams," in *Workshop on Sensing Systems and Applications Using Wrist Worn Smart Devices (WristSense)*, March 2020. Honorable Mention – Best Paper Presentation Award
20. **@G. J. Martinez, +S. Mattingly**, S. Mirjafari, S. Nepal, A. Campbell, A. Dey, A. Striegel, "On the Quality of Real-world Wearable Data in a Longitudinal Study of Information Workers," in *Proc. of Workshop on Sensing Systems and Applications Using Wrist Worn Smart Devices (WristSense)*, March 2020.
21. S. Liu, D. Hachen, O. Lizardo, C. Poellabauer, A. Striegel, and T. Milenkovic "The power of dynamic social networks to predict individuals' mental health," in *Proc. of Pacific Symposium on Biocomputing (PSB) 2020*, Big Island, Hawaii, Jan 2020.

22. S. Mirjafari, K. Masaba, T. Grover, Wang, W., Audia, P., Campbell, A. T., Chawla, N. V., Das Swain, V., De Choudhury, M., Dey, A. K., D'Mello, S.K., Gao G., Gregg, J.M., Jagannath, K., Jiang, K., Lin, S., Liu, Q., Mark, G., **@G. Martinez**, **+S. M. Mattingly**, Moskal, E., Mulukutla, R., Nepal, S., Nies, K.A., Reddy, M. D., Robles-Granda, P., Saha, K., Sirigiri, A., Striegel, A. "Differentiating High and Low Job Performers in the Workplace using Mobile Sensing," to appear in *Proc. of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*[1], 2019.
23. K. Saha, M. D. Reddy, V. Das Swain, J. M. Gregg, T. Grover, S. Lin, **@G. J. Martinez**, **+S. M. Mattingly**, S. Mirjafari, R. Mulukutla, K. Nies, P. Robles-Granda, A. Sirigiri, D. W. Yoo, P. Audia, A. T. Campbell, N. V. Chawla, S. K. D'Mello, A. K. Dey, K. Jiang, Q. Liu, G. Mark, **E. Moskal**, A. Striegel, and M. De Choudhury, "Imputing Missing Social Media Data Streams in Multisensor Studies of Human Behavior," to appear in *Proc. of the 8th International Conference on Affective Computing and Intelligent Interaction (ACII)*, 2019.
24. K. Saha, A. E. Bayraktaroglu, A. T. Campbell, N. V. Chawla, M. De Choudhury, S. K. D'Mello, A. K. Dey, G. Gao, J. M. Gregg, K. Jagannath, G. Mark, **@G. J. Martinez**, **+S. M. Mattingly**, **E. Moskal**, A. Sirigiri, A. Striegel, D. W. Yoo, "Social Media as a Passive Sensor in Longitudinal Studies of Human Behavior and Wellbeing," in *Proc. of CHI Case Studies*, Glasgow, Scotland, May 2019.
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[1] IMWUT is nominally the venue for ACM Ubicomp and as such is listed in the Conference / Workshop section. Although structured as a journal, papers follow nominally a conference review process with an opportunity for revisions similar to shepherding.

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82. **@C. Mano**, A. Striegel, "Resolving WPA Limitations in SOHO and Open Public Wireless Networks," in *Proc. of IEEE Wireless Communications and Networking Conference (WCNC)*, Las Vegas, NV, pp. 617-622, April 2006.
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85. D. Thain, S. Klous, @**J. Wozniak**, P. Brenner, A. Striegel, and J. Izaguirre, "Separating Abstractions from Resources in a Tactical Storage System," in *Proc. of the International Conference for High Performance Computing and Communications (Supercomputing)*, Nov 2005.
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87. **@C. Mano**, A. Striegel, “Introducing Security Concepts Through An Electronic Voting Project,” in *Proc. Of Frontiers In Education (FIE)*, Indianapolis, IN, Oct 2005.
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Book Chapters

1. T. J. Neal, D. Woodard, A. D. Striegel, "Mobile device usage data as behavioral biometrics," in Chapter 7 in *Mobile Biometrics*.
2. **@M. Chapple**, A. Striegel, C. Crowell, "Firewall Security Maintenance," in *CT Ethics and Security in the 21st Century: New Developments and Applications*, IGI Global.
3. **@J. M. Wozniak**, A. Striegel, "Investigating Deadline-Driven Scheduling Policy via Simulation with East," to appear as a chapter in *Quantitative Quality of Service for Grid Computing: Applications for Heterogeneity, Large-Scale Distribution and Dynamic Environments*, IGI Global.

Invited Conference Papers

1. @S. Zhu, @A. Mohammed, A. Striegel, T. Karagioules, E. Halepovic, "KBL: Kettle-style Buffer Loading Algorithm for Short Videos," in *Proc. of ICCCN*, August 2025.
2. **@A. Mohammed**, T. Karagioules, E. Halepovic, **@S. Zhu**, A. Striegel, "On The Harmful Effects of Active Network Probing," in *Proc. of ICCCN*, July 2023.
3. **@G. J. Martinez**, G. Dubrovskiy, **@S. Zhu**, **@A. Mohammed**, H. Lin, J. N. Laneman, A. D. Striegel, R. V. Pragada, D. R. Castor, "An Open, Real-World Dataset of Cellular UAV Communication Properties," in *Proc. of ICCCN*, August 2021.
4. **@S. Zhu, @A. Mohammed**, A. Striegel, "A Frame-Aggregation-Based Approach for Link Congestion Prediction in WiFi Video Streaming," in *Proc. of ICCCN*, August 2020.
5. **@R. Purta**, A. Striegel, "Predicting Friendship Pairs from BLE Beacons Using Dining Hall Visits," in *Proc. of ICCCN*, Valencia, Spain, August 2019.
6. **@L. Song**, A. Striegel, "A Lightweight Scheme for Rapid and Accurate WiFi Path Characterization," in *Proc. of ICCCN*, Hangzhou, China, August 2018.
7. **@X. Hu**, A. Striegel, "PASS: Content Pre-staging through Provider Accessible Storage Service," in *Proc. of ICCCN*, Vancouver, Canada, August 2017.
8. A. Striegel, @**S. Liu, @X. Hu**, "LTE and WiFi: Experiences with Quality and Consumption," in *Proc. of MobiSPC*, August 2014.
9. **@L. Meng, @S. Liu**, A. Striegel, "Characterizing the Utility of Smartphone Background Traffic," in *Proc. of WiMAN*, Shanghai, China, July 2014.
10. **@S. Liu**, A. Striegel, "Accurate Extraction of Face-to-Face Proximity Using Smartphones and Bluetooth," in *Proc. of Fifth International Workshop in Wireless Mesh and Ad Hoc Networks (WiMAN)*, Maui, HI, July 2011.
11. **@C. D. Mano, @D. C. Salyers, @Q. Liao, @A. Blaich**, A. Striegel, "SAABCOT: Secure Application-Agnostic Bandwidth COnservation Techniques", in *Proc. of IEEE BroadNets*, September 2007 (Invited Paper).

arXiv Papers (Non-Refereed)

1. N. Kleber, J. Chisum, A. Striegel, B. Hochwald, A. Termos, J. Laneman, @**Z. Fu**, J. Merritt, " RadioHound: A Pervasive Sensing Network for Sub-6 GHz Dynamic Spectrum Monitoring," posted Oct 2016, https://arxiv.org/abs/1610.06212
2. **@X. Hu**, A. Striegel, "Redundancy Elimination Might Be Overrated: A Quantitative Study on Real-World Wireless Traffic," posted May 2016, http://arxiv.org/abs/1605.04021
3. **@L. Meng**, T. Milenkovic, A. Striegel, "IGLOO: Integrating global and local biological network alignment," posted April 2016, http://arxiv.org/abs/1604.06111
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Non-Refereed Conference / Poster Publications

1. **@P. Talkad Sukumar**, D. Reinholz, A. Striegel, "Visualizing Participatory Inequities in Classroom Data," in the VIS 2020 Posters.
2. M. Zia Hydari, I. Adjerid, A. Striegel, "Effect of Gamification on Healthful Activity: The Case of Fitbit Leaderboards," presented at WISE (Workshop on Information System Economics), San Francisco, California, December 2018.
3. M. Zia Hydari, I. Adjerid, A. Striegel, "Effect of Gamification on Healthful Activity: The Case of Fitbit Leaderboards," presented at CHITA (Conference on Health IT and Analytics), Oct. 19-20, 2018, Washington, D.C.

4. N. Kleber, A. Termos, **@G. Martinez**, J. Merritt, B. Hochwald, J. Chisum, A. Striegel, J. Laneman, "RadioHound: A Pervasive Sensing Platform for Sub-6 GHz Dynamic Spectrum Monitoring," demo at *IEEE DySpan 2017*.
5. Yang Yang and Omar Lizardo and Dong Wang and Yuxiao Dong and Aaron D. Striegel and David Hachen and Nitesh V. Chawla, "Gender Differences in Communication Behaviors, Spatial Proximity Patterns, and Mobility Habits," arXiV, https://arxiv.org/abs/1607.06740, 2016.
6. M. Kazjer, C. Crowell, A. Ferreira, J. D'Arcy, @**D. Van Bruggen**, A. Striegel, "Poster: Memorability of Computer Security Posters as Affected by Message Type," at *SOUPS (Symposium on Usable Privacy and Security)*, July 2013.
7. **@M. Chapple**, A. Striegel, J. D'Arcy, "An Analysis of Firewall Rulebase (Mis)Management Practices," *Information Systems and Security Journal*, Jan 2009.
8. **@A. Blaich, Q. Liao**, A. Striegel, D. Thain, "Simplifying Network Management with Lockdown," at *Workshop on Usable IT Security Management (USM '08) – Symposium on Usable Privacy and Security (SOUPS)*, July 2008.
9. **@C. Mano**, A. Striegel, "Demo: Rogue Identifying Packet Payload Slicing via RIPPS," demonstration at *INFOCOM 2008*.
10. A. Striegel, @**D. Salyers, @Y. Jiang, @A. Blaich,** "Improving Medium-Sized Media Clip Distribution Through Transparent Tail Synchronization," extended abstract/poster in *Proc. Of IEEE BroadNets*, Sept. 2007.
11. **A. Blaich, Q. Liao, B. Sullivan, G. Allan**, A. Striegel, D. Thain, "Lockdown: Distributed Policy Analysis and Enforcement within the Enterprise Network," poster at *USENIX Security*, August 2007.
12. **@J. Wozniak**, P. Brenner, D. Thain, A. Striegel, J. A. Izaguirre, "Applying Feedback Control to a Replica Management System," in *Proc. of Southeastern Symposium on System Theory (SSST)*, pp. 472-476, March 2006.
13. **@D. Salyers, @X. Li**, A. Striegel, S. Chandra, "Wireless Stealth Multicast: Bandwidth Conservation for Last-Mile Wireless Clients," poster at *IEEE INFOCOM*, Miami, FL, March 2005.
14. **J. M. Wozniak**, A. Striegel, D. Salyers, J. A. Izaguirre, "Overview of the GIPSE Architecture," poster at *GlobusWorld*, Boston, MA, Feb. 2005.
15. A. Striegel, J. A. Izaguirre, ***M. Shorts, @D. Salyers, *K. McCusker, *B. Bien, *G. Shewakramani**, "Taming the grid management beast with GRIM," poster at GlobusWorld, San Francisco, CA, Jan. 2004.
16. A. Striegel, "Security Issues in a Differentiated Services Internet," *Trusted Internet Workshop - HiPC*, Bangalore, India, Dec. 2002.
17. A. Striegel, C. Reynolds, G. Manimaran, "An integrated heuristic for best effort scheduling of (m,k)-firm streams in point-to-point networks," *FTCS-29 Fast Abstracts,* Madison, WI, USA, June 1999.

Editor - Journals or Books

1. K. Sha, A. Striegel, M. Song, "Advances in Computer Communications: From Green, Mobile, Pervasive Networking, to Big Data Computing," *River Publishers Series* in Communications, 2017. (Selected papers from ICCCN 2015)
2. K. Sha, A. Striegel, M. Song, "Security, Privacy, and Reliability in Computer Communications and Networking," *River Publishers Series in Communications*, 2017. (Selected papers from ICCCN 2015).
3. S. Mao, H. Wang, A. Striegel, K. Sha, "Guest Editorial: Special Issue on Cognitive, Cellular and Mobile Networks," Special Issue in *EAI Endorsed Transactions on Wireless Spectrum*, vol. 2, no. 7, January 2016. (http://eudl.eu/issue/ws/2/7)

Books or Chapters of Books

- Proofreader – “Resource Management in Real-Time Systems and Networks”, G. Manimaran, C. Siva Ram Murthy, MIT Press, Apr. 2001

Provisional Patents / Disclosures

- A. Striegel, S. Xu, A. Mohammed, E. Halepovic, T. Karogioules, "KBL: Kettle-style Buffer Loading Algorithm for Short Videos," disclosed in January 2026.
- **@C. Mano**, A. Striegel, “RIPPS: Rogue Identifying Packet Payload Slicing,” provisional patent #60/752,945.
- A. Striegel, @**L. Song**, "Rapid End-to-End Path Characterization involving Wireless Network Hops," disclosure on April 19, 2016.
- **@L. Song**, A. Striegel, "Simplified Mechanism for Conveying Residual Capacity at a Wireless Access Point," disclosure on April 19, 2016.
- A. Striegel, @**D. Salyers**, @**C. Mano**, @**X. Li**, @,+**Y. Jiang**, "TWiCE: Transparent Wireless Capacity Enhancement," Provisional Patent, #61/628,883, Nov. 2011.
- 2x disclosures on cryptography with Prof. Taeho Jung at Notre Dame on secure contract tracing / computation
- 1x disclosure + filing on short video scheduling with AT&T
    - Title: KBL: Kettle-style Buffer Loading Algorithm for Short Videos
    - Application Number 19/563,898 (Filed 3/11/2026)

Patents

- **@L. Song**, A. Striegel, "Systems and Methods for Rapidly Estimating Available Bandwidth in a WiFi link," Patent #10,383,002, awarded May 2019.
    - https://patents.google.com/patent/US10383002B2/en

Software Artifacts

- *Colocation*: Simplified toolset for detecting co-location (proximity) between multiple individuals for longitudinal interaction monitoring between individuals
- *FMNC:* Fast Mobile Network Characterization
- *MBP-M*: Motion-Based Peripheral Management for open source logging / instrumentation of low-cost gaming peripherals such as the Nintendo Wii and Microsoft Kinect
- *PhoneMonitor*: Agent for monitoring critical phone / digital communications on Android for the NetSense study
- *Scalebox:* Unified framework for bandwidth efficiency and network emulation
- *Lockdown:* Network flow visualization for security
- *PyBluez:* Python toolkit for Bluetooth operations
- *CheapLogger*: Tool for logging full packet payloads at near Gigabit speeds
- *EEOD:* Linux kernel / Apache modifications for TCP explicit end of data as well as underlying packet caching software
- *RIPPS*: Tool for identifying rogue wireless access points (RWAPs)
    - Integrated as part of ScaleBox code base
- *GEMS*: Reliable storage mechanism for storing molecular simulations on the grid of inexpensive host storage devices (hosted on SourceForge)
- *PALM*: C-based implementation of Passive Application Layer Multicast
- *GIPSE*: Toolkit for managing parameter sweep jobs on the grid
- *Libpcap tutorial*: Extensive libpcap tutorial for packet capture / creation

- *East*: Grid resource simulator
- *GenMcast*: Generic framework for multicast simulation in ns-2
- *Tesserae:* Software suite in support of the Tesserae effort including
    - Android, iOS phone agents
    - Automated data ingestion for Qualtrics, Garmin Health API, Gimbal Bluetooth LE beacons
    - User-facing portal and issue management
    - Numerous back-end tools for data integrity management
    - Machine learning toolkits for data analysis
- *Wiilab*: Toolkit for interfacing MATLAB with the Nintendo Wiimote via C# / Bluetooth
- *WiiDoRF*: Toolkit for designing educational modules with Java and the Nintendo Wiimote
- *WeHab*: Stroke / balance rehabilitation
    - Website being migrated to new host

Public Datasets

- Dataset for IMC 2015 paper on WiFi probe requests
    - Posted: October 2015
    - 6x home football game probe request captures - gates + bowl
    - DeBartolo 101
        - https://drive.google.com/folderview?id=0B8WDgYSa7Pe6X1dFd2pCcFRBTU0&usp=sharing
- Dataset for INFOCOM 2016 paper on WiFi scanning (client-side)
    - Posted: March 2016
    - Scans from SUNY-Buffalo and Notre Dame
    - Posted to CRAWDAD
        - http://crawdad.org/buffalo/phonelab-wifi/20160309/
- Tesserae Social Media Corpus
    - Posted: May 2019
    - Available upon request, see https://tesserae.nd.edu/
- Tesserae De-Identified Dataset
    - Posted: January 2021
    - 757 participants, information workers, wearable, phone agent, beacon data from an entire year along with accompanying ground truth
    - Available via request via OSF, see https://tesserae.nd.edu/
- DroneSounder Dataset
    - Posted: May 2021
    - Available via Google Drive – see paper

Popular Press

- Time, "Hitting the Snooze Button May Not Be as Bad as You Think," by Jamie Ducharme, October 31, 2023
    - https://time.com/6329920/snooze-button-sleep-health/
- USA Today, “Fact check: No, cell data used to arrest Idaho suspect doesn't prove '2000 Mules' correct,” by Chris Mueller – January 20, 2023
    - https://www.usatoday.com/story/news/factcheck/2023/01/20/fact-check-post-wrongly-links-idaho-death-investigation-2000-mules/11066693002/
- Politifact, “No, cellphone data used to arrest suspected Idaho killer doesn’t give ‘2,000 Mules’ credibility,” by Tom Kertscher – January 12, 2023
    - https://www.politifact.com/factchecks/2023/jan/12/john-rich/no-cellphone-data-used-to-arrest-suspected-idaho-k/

- Notre Dame Observer: "'We should be sympathetic toward snoozers': Study finds unexpected effect of snoozing an alarm" – September 6, 2022
    - https://ndsmcobserver.com/2022/09/we-should-be-sympathetic-toward-snoozers-study-finds-unexpected-effect-of-snoozing-an-alarm/
- Factcheck.org: Evidence Gaps in '2000 Mules' – Posted June 10, 2022
    - Discussions on the accuracy of geolocation / cellular stie location information
    - https://www.factcheck.org/2022/06/evidence-gaps-in-2000-mules/
- AP News: FACT FOCUS: Gaping holes in the claim of 2K ballot 'mules' – Posted May 3, 2022
    - Discussions on the accuracy of geolocation / cellular site location information
    - https://apnews.com/article/2022-midterm-elections-covid-technology-health-arizona-e1b49d2311bf900f44fa5c6dac406762
- Interview with ABC57 (local ABC affiliate) – Aired October 12, 2020
    - Experts warning consumers of 'scams' ahead of Amazon Prime Day
    - https://abc57.com/news/experts-warning-consumers-of-phishing-schemes-ahead-of-amazon-prime-day
- Podcast on Sciencious Soundwaves – Streamed originally September 2021
    - Discussions on Tesserae, wearables, workplace performance
    - https://open.spotify.com/episode/0Q8TmB8zCL1LWet6ooHhJd
- Interview with WSBT (local CBS affiliated) - Aired February 19th, 2018
    - Overview of Tesserae
    - http://wsbt.com/news/local/notre-dame-studies-how-wearable-trackers-can-make-workers-happier-more-productive
    - Picked up by 9 and 10 in Michigan
        - http://www.9and10news.com/2018/02/20/notre-dame-studies-workplace-satisfaction-participants-activity-trackers/
- Interview with ABC57 on Tesserae
- Interview with WVPE (local NPR affiliate) - February 14, 2018
    - Overview of Tesserae
    - http://wvpe.org/post/notre-dame-researchers-use-wearable-tech-study-workplace-success
- ND Press Release on Tesserae, February 12, 2018
    - https://news.nd.edu/news/researchers-use-wearables-mobile-devices-to-study-workplace-performance/
- Interview with ABC 57 on Alexa / Smart Home Devices - TBA - February 2018
- Engineer for the Soul interview:
    - https://engineerforthesoul.weebly.com/interviews/aaron-striegel
- "Cybersecurity Experts Warn Companies Against Hackers" on WSBT News by Niko Burton, August 10, 2017
- "Special Report: Your attachment to your smartphone could be hurting your family" on WSBT News by Catlin Connin (first appeared on 6 PM news), February 6, 2017
- Internet Radio Show, Global Business on Steroids: The DT Revolution Is Real, hosted by Bonnie D. Graham, http://www.voiceamerica.com/episode/92056/global-business-on-steroids-the-dt-revolution-is-real, May 5th, 2016
- "New technology to provide insights into the health of students," ND Newswire http://news.nd.edu/news/63538-new-technology-to-provide-insights-into-the-health-of-students/
- "Here's the truth about the frightening hacking scenario in Cisco's ads," quoted in Business Insider article by Danielle Muoio, December 3rd, 2015.
- "Student computers face virus threat", The Observer (ND Student Newspaper) http://ndsmcobserver.com/2008/10/student-computers-face-virus-threats/

- Featured Alumni in Iowa State University ECpE Connections on Wii Game Work, Spring 2013 (http://www.ece.iastate.edu/news/alumni-newsletter/)
- Commentary on Anonymous hack of Berrien County Website, WSBT, March 30, 2013 (evening news program via phone interview)
- "Striegel to participate in Frontiers of Engineering Education symposium," ND Newswire, November 2011 http://newsinfo.nd.edu/news/27320-striegel-to-participate-in-frontiers-of-engineering-education-symposium/
- "Wehab: Wii Homework For Stroke Victims," Fast Company, August 2011, http://www.fastcompany.com/1773118/wehab-wii-homework-helps-stroke-victims-heal
- WeHab, Just Before 6 Segment, WNDU, http://www.youtube.com/watch?v=TFjXJ8xPmz0
- "Much more than a game," Notre Dame Newswire, February 2011, http://newsinfo.nd.edu/news/18407/
- "Course innovates with the Wii", The Observer, February 18, 2011, http://www.ndsmcobserver.com/news/course-innovates-with-wii-1.2004571
- "Notre Dame students tie Wii to stroke patient rehab," WSBT, March 4, 2011, http://articles.wsbt.com/2011-03-04/wiihab_28654533

VII. GRANTS AND CONTRACTS

Funded Grants (Active)

- (PI) M. Ghosh, (Sr Personnel) A. Striegel, "Collaborative Research: CIRC: New: Spectrum Sharing Sandbox (S3) - A CBRS and 6 GHz Data Platform for Advancing Spectrum Coexistence," National Science Foundation, $1,771,296, 01/01/24 - 12/31/26.

Funded Grants (Completed)

- (PI) M. Ghosh, (Co-PI) A. Striegel, New Techniques to Monitor Broadband Performance, Schmidt Foundation, August 2023 - May 2025.
- (Co-PI) A. Striegel, "Collaborative Research: FW-HTF-RM: Intelligent Facilitation for Teams of the Future via Longitudinal Sensing in Context," NSF, $1.2M ($600k ND share), Sep 2019 – Sep 2023. (PI @ ND, joint w/UCI, UC-Boulder)
- (PI) A. Striegel, "NeTS: Small: Lightweight, Accurate Network Estimation at the Wireless Edge," NSF, $500k, Aug 2017 - July 2022.
    - Gift from AT&T for $20k - Fall 2022
- (Co-PI) A. Striegel, "RAPID: Longitudinal Modeling of Teams and Teamwork during the COVID-19 Crisis," NSF, $197,667, June 2020 – May 2021 (Lead PI – S. D'Mello at UC-Boulder).
- (Co-PI) T. Jung, A. Striegel, "BLE-based Contact Tracing with Provable Security and Verifiability," IARPA, $200k, Sep 2020 – Aug 2021.
- (PI) A. Striegel (ND), C. Angst (ND), I. Adjerid (VT), T. Milenkovic (ND), R. Metoyer (ND), T. Jung (ND), "NDistance: A Unified Risk Score to Capture Susceptibility Infectiousness and Propensity to COVID," $1M, April 2020 – March 2021.
- (PI) A. Striegel, "Opportunistic Content Pushing from the Network Edge," NSF, $110k, Oct 2017 - Jan 2021.
- (PI) A. Striegel, N. Chawla (ND), S. D'Mello (CU-Boulder), G. Mark (UC-Irvine), M. DeChoudhury (GTech), A. Campbell (Dartmouth), A. Dey (Univ. Washington / CMU), "A Comprehensive Approach to Modeling Job Performance via Unobtrusive,

Continuous, Multimodal Sensing," IARPA, approx. $10M (Phase 1, Phase 1 Extension, Phase 2), 6/23/17 - 12/31/20.

- (Site PI) Sub-contract under N. Fox (Maryland) for NIH grant on longitudinal monitoring of at-risk individuals. ND portion was roughly $10k / year for 4 years.
- (Co-PI) J. Laneman, A. Striegel, B. Hochwald, T. Pratt, A. Striegel, "NSF IU/CRC Grant", National Science Foundation, Aug 2014-2019.
    - 2014[2]: $65k NSF, $160k industry, $40k industry (in-kind)
    - 2015: $65k NSF, $120k industry
    - 2016: $65k NSF, $130k industry
- (Co-I) O. Lizardo, D. Hachen, A. Striegel, C. Poellabauer, N. Chawla, "NetHealth: Modeling the Co-Evolution of Social Networks and Health Behaviors," National Institute of Health (NIH) R01, $2.9M, Sep 2014-Aug 2019
- (PI) A. Striegel, J. Laneman, "Stadium Video Pilot," Oct 2015-Sept 2016, IBM, $30k.
    - Spring 2017: Additional $30k
- (PI) A. Striegel, "EAGER: NeTS: Pilot Studies on Proximity for Taming the Wireless Data Tsunami," National Science Foundation, Jan 2015 – August 2015, $49,467.
- (Co-PI) D. Hachen, A. Striegel, J. Liew, "Exploring Passive Voice Monitoring for Emotionality in Social Interactions via Smart Devices," National Academies / Keck Futures Initiative (NAKFI), $100k, May 2013 - April 2015.
- (PI) A. Striegel, C. Poellabauer, D. Hachen, O. Lizardo, "SoCS: Explorations on the Effects of Pervasive Networking on Social Relationships and Resource Planning," National Science Foundation, August 2010 – July 2012, $748,825. Cost-sharing ND ($105k), Industrial Support ($300k - Sprint (Aug 2011), $300k - Sprint (Aug 2013))
- (Co-PI) J. Schmiedeler, A. Striegel, C. Crowell, M. Villano, "SHI: Low-Cost Rehabilitation via Gaming Peripherals," National Science Foundation, Sept. 2011 – Aug. 2014 (+1 year No-Cost), $499,000.
- J. Laneman, B. Hochwald, M. Haenggi, A. Striegel, "NSF IU/CRC Planning Grant", National Science Foundation, $15k, April 2013-March 2014.
- (PI) A. Striegel, T. Milenkovic, Google Faculty Research Grant, $35k, March 2013 - February 2014.
- A. Striegel, "Collaborative Data Analysis - NetSense Study," Alcatel-Lucent, $30k, July 2012- June 2013.
- C. Poellabauer, A. Striegel, "REU Site: Experimental Research on Wireless Networking," *National Science Foundation*, $354,628, Jan 2011 – Dec 2013, CNS-1062743.
- A. Striegel, C. Crowell, J. D'Arcy, "TC:Small: A Formal Inter-Disciplinary Study of the Impact of Security Awareness Efforts on User Behavior," NSF, $477,783, Sep 2009 – Aug 2012.
- A. Striegel, A. Chaudhury, C. Crowell, M. Villano, "Curriculum and Laboratory Development Through 3-D Interfacing via the Nintendo Wiimote," NSF, $170,000, Dec 2009 – Dec 2012.
- A. Striegel, Visualization of PCMD / CDR Data, Sprint, July 2011-January 2012, $75k.
- A. Striegel, "Use of a visual feedback with the Nintendo Wii system in rehabilitation of balance among acute stroke patients," Notre Dame Pilot Development, $15,733, Jan 2010 – Dec 2010.
- C. Poellabauer, A. Striegel, "REU Site: Wireless Network Research," May 2008 – Aug 2010, $300k.

[2] Award amounts for the IU/CRC Site are based on company memberships at $40k / each.

- C. Poellabauer, A. Striegel, N. Laneman, "Wireless Mesh Network at Notre Dame," ONR DURIP (Defense University Research Instrumentation Program), equipment grant, $259.874.
- A. Striegel, "CAREER: Transparent Techniques for Bandwidth Conservation," NSF CAREER grant (ANIR) - $435,440, March 2004 – February 2009 (Award No. 0347392)
  REU Supplement: Summer 2005 ($12k), Summer 2006 ($12k), Summer 2007 ($12k), Summer 2008 ($12k)
- C. Poellabauer, A. Striegel, "Mobile WiFi-based Content Sharing," Motorola Labs, $20k, May 2008.
- J. Izaguirre, A. Striegel, J. Peng, "Grid-enabled Integration of Experimental Data for Simulations of Flexible Protein Docking," NSF, $831,884, March 2005 – Feb 2007 plus one year no-cost extension.
  REU Supplement: Summer 2005 ($22k), Summer 2007 ($12k)
- A. Striegel, "SGER: GRIM Core Framework Development," NSF Shared Cyber Infrastructure (SCI), $49,182, June 2004 – May 2005.
  REU Supplement: Summer 2004 ($12k)
- A. Striegel, "TCP/IP Control Plane Enhancements," DARPA, $150,000, sub-contract under Architecture Technology Corporation, Feb 2005 – Jul 2006.
  - Successfully passed performance review – Phase I
- C. Poellabauer, A. Striegel, "IXP Development of Wireless Stealth Multicast," Intel Corporation, $25,000, May 2005.
- A. Striegel, "Trust Inference," Notre Dame Grant, $9.8k, Jan 2007-Dec 2007.

Cumulative Funding: > $17.2M

Project Proposals (pending / under preparation)

- 1x Sony
- 1x Cisco
- 3x National Science Foundation
- 1x ARPA-H

Equipment / Software Grants

- A. Striegel, D. Thain, Sun Equipment Grant (AEG) – Thin Clients for Security Validation, $40k
- A. Striegel, D. Thain, "Academic Equipment Grant," Sun Microsystems, $58k.
- A. Striegel, "Itanium2 Initiative at Notre Dame", Hewlett-Packard Itanium2 Initiative - $120k – May 2003
- A. Striegel, "Academic Equipment Grant", Sun Microsystems - $50k – July 2003
- A. Striegel, LANDecoder32 licenses, Architecture Technology Corporation, $6k – Feb 2003.

VIII. TECHNICAL PRESENTATIONS

Keynote Addresses

- Keynote – UEMCON 2022
  - Network Measurement: Great or Good Enough?
- Keynote - 2nd International Workshop on Smart, Personalized and Age-Friendly Working Environments - SmartWork 2021

Panelist / Presenter

- Data-driven IoT Systems: Emerging Verticals, Challenges, and Opportunities, Panel at IEEE MASS 2025, Chicago, IL
- DoD Wearables Summit – August 2020
- INFOCOM 2018 - Machine Learning in Network / Smart Networking
- USENIX CSET 2015 - Experimental Testbeds for Mobile Devices and Large-scale Testing on Mobile Devices
- HotData – Workshop @ ICCCN 2014 – Wireless Big Data
- IEEE CCW 2013 - Panel Organizer - Smartphone Experimentation
- IEEE BroadNets – IP vs. Ethernet in the MAN and WAN

Tutorials

- Tutorial – Mobile IP – Architecture Technology Corporation – August 2000
- A. Striegel, "Security Issues in a DiffServ Internet," tutorial at *CERT'2001*, Omaha, Nebraska, USA.

Invited Talks

- April 2026: Tesserae University of Houston
- March 2026: Tesserae Iowa State University
- January 2019: Tesserae University of Iowa
- April 2016
    - Industry / University Projects
        - SAP Day @ Notre Dame
- Nov 2015
    - Remote, Accessible Testbeds for Cyber-Physical Systems
        - NSF Workshop - Presented work on NetSense / NetHealth study logistics
- May 2015
    - The Neurodevelopment of Stress Regulation, Social Buffering and Fear Learning Integration and Crosstalk
        - NSF Workshop – Presenting work on Co-Location / Proximity Detection
- Fall 2012
    - "How Computer Gaming Brings Social Justice to Rehabilitation", Hope College
    - "Network Analytics," Sprint Developer Conference (panel w/Sprint, Guavus)
- Summer 2012
    - "How Computer Gaming Brings Social Justice to Rehabilitation", St Pius X University Lecture Series
- Spring 2012: Stroke Rehab Notre Dame Thinks Big
- Summer 2010: Lockdown IBM Research (Beijing)
- Spring 2010: Lockdown Iowa State University
- Fall 2009: Lockdown Hope College
- Spring 2008: ScaleBox Boston Univ., Univ. Kentucky
- Spring 2008: RIPPS Univ. Connecticut, MIT
- Fall 2007: ScaleBox, North Carolina State
- Fall 2004: Stealth Multicast, Michigan State
- Spring 2004: Stealth Multicast, Purdue
- Fall 2003: Stealth Multicast, UIUC

IX. GRADUATE STUDENTS DIRECTED

Doctoral Dissertations Completed

1. Chad Mano: Graduated with Ph.D in summer 2006
   Assistant Professor – Utah State University – Dept. of Computer Science
2. Justin Wozniak, Graduated with Ph. D in spring 2008
   Research Staff – Argonne National Labs – Chicago, IL
3. Dave Salyers, Graduated with Ph. D in summer 2008
   Oracle, Seattle, WA
4. Mike Chapple: Graduated with Ph. D. in summer 2009
   Mendoza College of Business, Notre Dame
5. Yingxin Jiang: Defended Ph. D in spring of 2010
   Engineer at Google
6. Andrew Blaich: Defended Ph.D. in fall 2010
   Researcher at Facebook
7. Qi Liao: Defended Ph. D. in spring of 2011
   Associate Professor – Central Michigan University
8. Shu Liu: Defended Ph. D. in spring of 2014
   Winner of CSE Grad Student Research Award
   Data Engineer at SalesForce
9. Dirk Van Bruggen: Defended Ph.D in spring of 2014
   Scientist at the Department of Defense
10. Lei Meng: Defended PhD in spring of 2016 (co-advised with T. Milenkovic)
    Engineer at Google
11. Xueheng Hu (started Fall 2011)
    Amazon Lab 126
    PhD Proposal - June 2015
    PhD Defense - Defended in July 2017, Graduated in January 2018
12. Lixing Song (started Fall 2014)
    Assistant Professor, Computer Science, Rose Hulman Institute of Technology
    PhD Proposal – May 2017
    PhD Defense – Summer 2018
13. Rachael Purta (started Fall 2013)
    Masters - Nov 2015
    PhD Proposal - August 2016
    PhD Defense – Spring 2019
14. Poorna Talkad Sukumar (started Fall 2019 with my group)
    Post-Doc, New York University
    Co-Advised with R. Metoyer
    PhD Defense – August 2021
15. Gonzalo Martinez (started Fall 2016)
    John Deere Credit
    PhD Proposal - Summer 2019
    PhD Defense – Spring 2022
16. Shangyue Zhu (started Fall 2018)
    Central Washington University
    PhD Proposal - May 2021
    PhD Defense - August 2023
17. Alamin Mohammed (started Fall 2018)
    Palo Alto Networks
    PhD Proposal – July 2021
    PhD Defense - October 2023

Masters Theses Completed

1. Xialong Li: Graduated with Masters in summer 2006
   Completed Ph. D University California - Irvine
2. Dave Cieslak – (started Fall 2004) – working on Masters/Ph.D.
   Completed Masters (Spring 2006)
   Research assistant at ND Center for Research Computing
3. Dave Salyers – (started Fall 2003) - working on Masters/Ph.D.
   Completed Masters (Fall 05), See above
4. Qi Liao
   Completed Masters (Fall 2007), See above
5. Dirk Van Bruggen
   Completed Masters (Fall 2012), See above
6. Ben Bockstege
   Completed Masters (Fall 2014)
7. Rachael Purta
   Completed Masters (Fall 2015)
8. Zhongying Qiao (started Fall 2017)
   Completed Masters (Fall 2018)
9. Francis Gatsi (started Fall 2021)
   Completed Masters (Fall 2024)
10. Rana Hussain (started Fall 2024)
    Completed Masters (Spring 2026)
    Working at Sentinel Technologies

Current Graduate Students

1. Annapurna Puttaswammy (started July 2022)
   Ph. D proposal in Spring 2026
2. Saeid Mehrdad (started June 2023)
   Slated to do Ph. D proposal in Fall 2026
3. Francis Gatsi (co-advised with M. Ghosh)
4. Samit Muhaimin (co-advised with A. Nagarajan)

Past Post-Doctoral Researchers

1. Yingxin Jiang
2. Stephen Mattingly

Current Post-Doctoral Researchers

None

Current Staff (Supported)

None

Past Staff

1. Rae Hoffman – Study Manager (10/18-6/20)
2. Ed Moskal – Project Manager (6/17-6/19)
3. Peter Mycue – Senior Software Engineer (10/17 – 9/18)
4. Scott Null (supported half time in tandem with the Wireless Institute)
5. Katie Cybulski (part-time through Office of Research)

Undergraduate Researchers

2026: B. Burrell, E. Campos de Abreu Ribeiro, D. Gallagher, S. Stuber
2025: S. Labrador, R. Paillet, H. Slade, E. Hawkson. C. Tan, L. Zimmerman, G. Reyes, H. Butusov, J. Bertram

2024: J. Benitez, B. Egloff, S. Labrador, R. Paillet, E. Beardmore
2023: C. Whitehouse, G. Nield
2022: C. Ferguson, C. Riley, M. Chaboud,
2021: J. Shen, C. Ferguson
2020: None due to COVID
2019: A. Berjanaro
2018: J. A. Leon, C. Pickard, S. Spencer
2017: K. Dingens, A. Flores, T. Franchetti
2016: B. Byrne, N. Klair, D. Mattia, C. Sonderman
2015: M. Nulle, D. Mellitt
2014: C. Barron, M. Nulle
2013: T. Young, M. Streeter, A. Aman, E. Kloswick, R. Tang, M. Nulle, E. Vaughn, J. Hu
2012: K. LaBelle, J. Schnieder, T. Young, M. Maguire
2011: K. LaBelle, S. Suddarth, J. Fetsch
2010: B. Pacione, M. Mooney, T. Walton, S. Ringling, B. Shrewsbury, C. Carmony, S. Chasins, C. Farris, J. Flores, P. Monroe, J. Varner, M. Kaufman, T. Young
2009: O. Holtz, S. Adeyemi, S. Zhang, M. Overholt, N. Carrion, Y. Colon, C. Norman, S. Tucker, X. Zhang
2008: B. Roesch, J. Langley, J. Hof, J. Brindza, J. Szweda
2007: M. Hudson, B. Roesch, J. Hof, P. McGowan, M. Moriarity, P. Strei, G. Allan, N. Kohlmeier, K. O'Brien
2006: N. Schott, D. Dugovic, A. Matta
2005: B. McRoskey, M. Sheehan, J. Smith, B. Jeffrey, W. Bordogna, H. Mooers, R. Pingalore, C. Hancock
2004: M. Shorts, E. Stuntebeck, C. Picardo, K. McCusker, J. Gentile, W. Leimkuhler
2003: M. Shorts, G. Shewakramani, B. Bien, E. Stuntebeck, K. McCusker

X. PROFESSIONAL ACTIVITIES – EXTERNAL SERVICE

1. **Technical Program Committee (TPC)**

IFIP Networking	2005-2008
IEEE GLOBECOM	
Wireless Symposium	2004, 2009+
Control of High Performance Networks	2006
Trusted Internet Workshop (TiW)	2004-2005
Workshop at HIPC	
IEEE AINA	2010
CNS	2021+
CNSR	2007-2009
Computer Network and Services Research	
CNSS	2007
Computer and Network Security Symposium	
AReS	2007-2011
Int'l Conference on Availability, Reliability, and Security	
ICCCN	
Internet Services, Systems, and Applications	2009
IEEE BroadNets	2007
INFOCOM External Reviewer	2008
INFOCOM Session Chair	2008
INFOCOM	2009+
INFOCOM Area Chair	2021-2024,2026+

IWCMC	2007-2008
SECRYPT	2007-2008
WiMAN (workshop at ICDCS)	2008, 2012
IEEE PIMRC	2013
Symposium on Personal, Indoor, Mobile Radio Communications	
IEEE CNS	2014, 2016
ALGOSENSORS	2014
ICNP	2014-15, 21+
ICNP Area Chair	2026
ICC	
Social Networking (SN) Track	2014
PerCom WIP	2014, 2015
SEC (Symposium on Edge Computing)	2020
5G World Forum	2019+

2. **Program Chair / Volunteer Work**

Workshop on Enterprise Network Security – Co-Chair	2006
Workshop at Securecom 2006	
IEEE ICCCN	
Internet Services and Applications (Track Co-Chair)_	2008
Publicity Co-Chair	2009
Multimedia, QoS (Track Co-Chair)	2012
Workshop, General Publicity Co-Chair	2012
Workshop Co-Chair	2013, 2014
Program Chair	2015
General Chair	2016
Workshop on Cooperation in Pervasive Environments	2009
Co-Chair of workshop at Percom 2009	
IEEE BroadNets	
Internet Services and Applications (Co-Chair)	2009
IEEE INFOCOM	
Publication Co-Chair	2011, 2016
TPC Co-Chair	2025
Test of Time Award Committee	2026
IEEE ICNC	
Internet Services and Applications – Co-Chair	2012
Green Computing - Track Co-Chair	2018
IEEE MASS	
General Chair	2026
HotPlanet	
Co-Chair w/Yanyong Zhang	2014
Workshop at IEEE MASS 2014	
Jointly held with MiSeNet	
HotPlanet	2016
Workshop at ACM Ubicomp (Heidelberg, Germany)	
IEEE MASS	
Track Chair	2016
Track Chair	2020
General Chair	2026
IEEE CNS	
General Chair	2027

3. **Reviewing**

Reviewer (Journal): IEEE Trans. Networking, IEEE Network, IEEE Communications, Computer Communications, Computer Networks, IEEE Surveys/Tutorials, IEEE Trans. Computers, IEEE Trans. Parallel and Distributed Systems, Journal of High Speed Networking, Journal of Communications

Reviewing: Distinguished Reviewer - IEEE INFOCOM 2014, 2015, 2019

Area Editor / Associate Editor

2014-15	EURASIP Journal on Wireless Communications and Networking
2018+	IEEE Networking Letters
2018-2023	IEEE Transactions on Mobile Computing
2025+	IEEE Transactions on Networking

4. **NATIONAL SCIENCE FOUNDATION**

Panels: CyberTrust (1), NeTS (7), CSR (1), CHS (1), CRI (1), SWIFT (1), CAREER (1), CIRC (1)

2016 Participant - NSF Future Cities Workshop (Feb 2016)
Participant - NSF US / Japan Workshop on Trustworthy Systems (March 2016)
Participant - NSF Testbed Experiences Workshop (Nov 2016)

2004 NSF CAREER award

2001 Engineering Education Workshop (EES), August 2001.

2000 Graduate Research Fellowship – Honorable Mention

5. **INTERNET ENGINEERING TASK FORCE (IETF)**

2001-2003 DiffServ mailing list administrator (with Dr. Brian Carpenter)
2000-2010 DiffServ-Interest mailing list admin

6. **Government**

2017 Workshop on Technological Gaps and Opportunities for Realizing Open Source based end-to-end Network Architecture @ Mobicom 2017 (NSF PAWR, 5GinFire)

2016 Workshop on Future Cities @ NSF
One of 36 invited participants
Workshop on Large Scale Testbeds @ NSF
One of 30 invited participants

2015 Workshop on Fear and Social Buffering @ NSF
Invite to present on co-location work

Workshop on Accessible Remote Testbeds
Invite to present on NetSense / NetHealth efforts

2010 Cyber Security Grass Roots Effort (Multiple Agencies, led by PNNL)

2007 Dept. of Energy – Cyber Security Needs for Open Science Workshop

2006 DARPA ARO Workshop on BotNets

XI. UNIVERSITY ACTIVITIES – INTERNAL SERVICE

Departmental / College Committees

University of Notre Dame (listed by start of academic year)

2026	University Committee on Sponsored Program & Research
2025	CSE Faculty Search
2024+	CSBA Advisory Committee
2024-25	CSE Seminar Series
2023-24	Dean Review Committee - College of Engineering
2023+	University Committee on Committees
2020	CSE Awards Committee
2020, 21	CSE Faculty Search (Chair)
2020-2025	BACS Program Director
2020-2025	BACS Implementation Committee (chair of CSE side)
2018-2021	Faculty Board of Athletics
2017-2018	Dean Review Committee – College of Engineering
2016-2019	Faculty Senate (CSE Representative)
2016	SAFE Committee (OIT committee on two-step authentication)
2015	Young Leader Notre Dame (YLND) steering committee
2015-2019, 22+	College of Engineering Elections Committee
2013-2018	University Committee on Academic Technology (UCAT)
2012-2018	Associate Chair (Dept. Comp Sci & Engr)
2012+	Wireless Institute (Executive Committee)
2008-2018	Assessment Committee (Chair)
2010+	Wireless Institute (Founding Member)
2019+	Committee on Reappointment, Promotion, and Tenure (CRPT)
2018+	Building Bridges Mentor
2010-2019	Committee on Assessment / Promotion (CAP)
2010-2018	Faculty Search
2009-2012, 2014-2017	College Council (Engineering)
2008	University Security Policy for Research (Engineering Rep)
2007-2011	College of Engineering – College Computing Committee (CCC)
2007-present	College of Engineering Security Facilitator
AY 2007	Infrastructure, Assessment (Chair)
AY 2006	Faculty Search, Assessment
AY 2005	Faculty Search, Curriculum, Facilities
AY 2004	Curriculum, Facilities
AY 2003	Graduate Student, Facilities

Notable Administrative Efforts as Associate Chair

- 2017 - Led Notre Dame ABET accreditation effort (Two programs - CS + CPEG)
- 2015 - Evaluation of offering an on-line Masters in Data Science

- 2013 - Led ND CSE ten-year self-study report creation / data collection
- 2011 - Led Notre Dame ABET accreditation effort - (Two programs - CS + CPEG)
- Mentored junior faculty
    - Through three-year renewal: 5 (L. Riek, T. Milenkovic, C. McMillan, D. Wang, T. Weninger)
    - Through tenure: 4 (S. D'Mello, T. Milenkovic, L. Riek, C. McMillan, T. Weninger)
    - Teaching feedback
- Staff Supervision (3x admins, 1 technician, 1 study manager)

Efforts on Wireless Institute Executive Committee

- Recruitment / retention of industrial partners
    - Sprint, Alcatel-Lucent, Inter-Digital, Cisco, IBM, AT&T, Nokia, ONR, LTS
- Grant development
    - IU/CRC site, MRI submission
- NDXG steering committee for wireless on Campus Crossroads Project
    - October 2015 - Summer 2016
- Offered WiFi for University Relations tent at home football games
    - 2014-2019

Iowa State University

2001-2002 University CAC (Computer Assessment Committee) – Grad student rep
2000-2002 EE/CpE Ambassador

XII. TEACHING

Teaching - Course Experience

The overall course experience is drawn from the composite median score (CIFS, >= Fall 2008) or Q17 (TCE < 2008) which is out of a maximum score of 5.0. In the spring of 2012 and the fall of 2019, I was on sabbatical and did not have any course duties. The overall student rating is the Instructor Effectiveness (or appropriate analog). In the spring of 2013, I was on release time for being Associate Chair and had a course release of one course per year for serving in that role (Fall 2012 through Spring 2018) though occasionally served to cover necessary courses as needed during that time frame.

Course	Title/Content	Dates (Students)	Overall Effectiveness
Notre Dame CSE 40373	**Embedded System Development** Embedded system design, programming, course project	2024 Spring (22)	4.6 / 5.0
Notre Dame CSE 20289	**Systems Programming** Required course for all CSE Shell Scripting, UNIX, Python, C	2023 Fall (26) 2024 Fall (44)	4.5 / 5.0 3.9 / 5.0
Notre Dame CSE 60896	**Advanced Wireless Networking** WiFi, Cellular, IoT	2019 Spring (5)	4.6 / 5.0
Notre Dame CSE 34468	**Internet of Things** Embedded systems, networking, Raspberry Pi, Python Dublin Summer Program (2017) Berlin Summer Program (2024)	2017 Summer (14) 2024 Summer (31)	4.3 / 5.0 Not Gathered

Notre Dame / edX EG240x	**Understanding Wireless** co-taught with Profs. Bellia, Laneman, Keating MOOC focusing on principles of wireless across business, law, and engineering	2015 Summer (11k+ enrolled)	N/A
Notre Dame CSE 30341	**Operating System Principles** Required course for all CSE undergrads, threading, storage, memory management	2013 Spring (50) 2017 Spring[3] (60) 2018 Spring (48) 2021 Spring (83) 2023 Spring (43)	4.6 / 5.0 3.5 / 5.0 4.0 / 5.0 4.6 / 5.0 4.8 / 5.0
Notre Dame CSE 60641	**Graduate Operating Systems** Required course for all CSE graduate students, research aspects of operating systems	2011 Fall (25) 2012 Fall (28) 2013 Fall (27) 2014 Fall (27) 2015 Fall (36) 2021 Fall (22) 2022 Fall (36)	4.2 / 5.0 4.3 / 5.0 4.0 / 5.0 4.4 / 5.0 4.6 / 5.0 4.8 / 5.0 5.0 / 5.0
Notre Dame CSE 30264	**Computer Networks** Undergraduate computer networks	2010 Fall (23) 2011 Fall 2022 Spring (40) 2025 Spring (42) 2025 Fall	4.6 / 5.0 None[5] 3.9 / 5.0 4.4 / 5.0
Notre Dame CSE 40416	**System Interface Design** Human / Computer Interaction	2009 Fall (22) 2010 Fall (16)	4.3 / 5.0 3.8 / 5.0
Notre Dame EG 10111	**Introduction to Engineering** Programming Module	2007 Fall (380) 2008 Fall (420)	On Request[4]
Notre Dame CSE 20211	**Fundamentals of Computing I** C/C++ Programming	2005 Fall (46) 2006 Fall (65)	3.55 / 4 3.40 / 4
Notre Dame CSE 60744	**Graduate Networking** Inter/intra-domain routing, QoS, content distribution, TCP dynamics	2007 Spring (12) 2008 Spring (2) 2020 Fall (6) 2026 Spring (8)	3.64 / 4 3.60 / 4 5.0 / 5.0 5.0 / 5.0
Notre Dame CSE 498U	**Computer Security** Security Fundamentals, Cryptography, Network Security, Database Security, Ethics	2003 Fall (22) 2004 Fall (16)	3.60 / 4 3.58 / 4
Notre Dame CSE 422 CSE 40422	**Computer System Design** VHDL, C, Embedded Programming Labs – Altera FPGA Senior Design Projects (Capstone)	2003 Spring (8) 2004 Spring (14) 2005 Spring (1) 2006 Spring (5) 2008 Spring (10) 2009 Spring (17) 2011 Spring (2)	3.5 / 4 3.69 / 4 None 3.84 / 4.0 3.92 / 4.0 None[5] None
Notre Dame	**Capstone Design**	2015 Spring (10)	4.2 / 5.0

[3] CSE30341 class was simultaneously streamed to Silicon Valley as CSE34341 with 12 remote students.

[4] EG 10111 had scores broken out by section rather than a single score across all sections. The composite median was between 3.4-4.1 / 5.0.

[5] Due to a configuration issue, CIFS were not taken for this section.

CSE 40522	Capstone design project involving mixed hardware + software design		
ISU Cpr E 211 (Instructor)	**Introduction to Microcontrollers** C, Assembly, Emb. Programming Labs – Motorola 68HC11	1999 Summer 2000 Spring 2001 Spring 2001 Summer	4.47 / 5 4.29 / 5 4.44 / 5 4.50 / 5

Course Development

ISU - Cpr E 211 – Introduction to Microcontrollers
Migration from 68HC11 to PowerPC 555, introduction of semester-long final projects
ND – CSE 20211 – Fundamentals of Computing I
Migration from Scheme to C/C++
ND – CSE 60744 – Advanced Networking
New graduate course offering in networking
ND – CSE 40416 – System Interface Design
New course on human / computer interface on the Nintendo Wiimote / Microsoft Surface
edX - EG240x - Understanding Wireless
MOOC on wireless from a legal, economic, and technical perspective
Modules on networking basics, WiFi basics, cellular basics
ND - CSE 34468 - Internet of Things
Summer course for the Dublin and Berlin Summer Programs involving embedded systems, networking, Raspberry Pi, Python, 3D printing / design
ND - CSE 40373 - Embedded System Development
Embedded system fundamentals including design, development, and theoretical foundations in addition to a large course project

Teaching Areas
- Computer Networking, Computer Security
- Programming – C/C++/C#/Java/Assembly
- Real-time Systems, Fault-Tolerant Systems, Multimedia Systems
- Embedded Systems
- Human Computer Interface
- Operating Systems (Undergraduate, Graduate Levels)

XIII. Industrial Experience / Collaborations

Industrial Collaborators: Sprint, Alcatel-Lucent, Google, IBM, InterDigital, AT&T, Assia

Sun Microsystems, Summer 2002
- Work on Sun Network Element (NEON), pre-cursor to Software Defined Networks / Open Flow

Motorola / Universite de Technologie – Compiegne, Spring 2002
- Edge QoS for mobile systems supporting rapid roaming with QoS considerations

Architecture Technology Corporation, Summer 2000
- Ad Hoc Routing Protocol Development – Cluster Gateway blending NAT / MobileIP for ad hoc routing support with asymmetry

Fisher Controls (now Emerson Process) – 1996, 1997, 1998 – internships
- C++ development – multiplexing for HART, LabView – support for Fieldbus, multithreading support for ValveLink software package

Expert Consultation

- Source code review, validity / invalidity analysis, infringement / non-infringement analysis, technical apportionment, secondary considerations, IPR / PTAB, class action certification including significant deposition / testifying experience (listing available upon request) - listing available upon request