Simone Silvestri – Curriculum Vitae

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Employment History

2021 - Present Associate Professor, Director of Graduate Studies
Department of Computer Science
University of Kentucky

2017 - 2021 Assistant Professor
Department of Computer Science
University of Kentucky

2014 - 2017 Assistant Professor
Department of Computer Science
Missouri University of Science and Technology

2012 - 2014 Post-Doctoral Research Associate
Department of Computer Science and Engineering
Pennsylvania State University

2010 - 2012 Post-Doctoral Research Associate
Department of Computer Science
Sapienza University of Rome

Education

2010 Ph.D. in Computer Science
Department of Computer Science
Sapienza University of Rome, Italy

2006 Laurea cum Laude in Computer Science
Department of Computer Science
Sapienza University, Italy

Summary of achievements

- **Publications summary**
  - 30+ publications in international journals, including: IEEE Transactions on Networking, IEEE Transactions on Mobile Computing, and ACM Transactions on Sensor Networks.
  - 50+ publications international conferences, including: IEEE INFOCOM, IEEE ICDCS and IEEE ICNP.
- **Grants summary**
  - More than $5,000,000 in federal grants, with a personal share higher than $2,000,000.
  - Funding sources include NSF, NIFA, NATO and DTRA.
  - NSF CAREER award, 2020

Research Interests

Cyber-Physical-Human Systems, Internet of Things, Smart Grid Security, Terrestrial and Aerial Mobile Networks, Network Management.

Research grants

PI - NSF CPS
"Technical Program of the 2025 Cyber-Physical Systems Principal Investigator Meeting"
Amount awarded: $50,000 (Feb. 2025 - Jan 2026).

Co-PI - NIFA
"Developing future leaders in agriculture: Bridging the Gap between AI and Agrifood Science Education in the United States for URM".
Amount awarded: $241,000 (Feb. 2025 - Feb. 2030).

PI - NSF CISE
"Distributed Edge Intelligence in Support of Next-Generation Applications"
Amount awarded: $100,000 (Oct. 2024 - Sept. 2025).

PI @ UK - National Security Agency (subcontract Univ. of Louisville)
"NCAE-C Cybersecurity Workforce Innovation Coalition
Amount awarded: $24,000 (Apr. 2024 - Jun. 2025).

Co-PI - NIFA Agriculture and Food Research Initiative (AFRI) - Award # 2020-07265
"Sustainable Precision Dairy Farming: Bridging Animal Welfare and Stakeholder Concerns about the use of Precision Dairy Technologies".
Amount awarded: $999,506 (Jan. 2021 - May 2025).

Co-PI - NSF Smart and Connected Communities - Award # 1952045
"Smart Integrated Farm Network for Rural Agricultural Communities (SIRAC)".
Amount awarded: $1,515,830 - including REU supplements for $16,000 (Oct. 2020 - Sept. 2023).

PI - NSF CAREER award - Cyber-Physical Systems (CPS) - Award # 1943035
"Energy Management for Smart Residential Environments through Human-in-the-loop Algorithm Design".
Amount awarded: $560,987 - including REU supplements for $44,000 (Mar. 2020 - Feb. 2025).

PI - NSF Energy, Power, Control, and Networks - Award # 1936131
"Crosslayer Optimization of Energy and Cost through Unified Modeling of User Behavior and Storage in Multiple Buildings".
Amount awarded: $364,340 - including REU supplements for $31,000 (Sept. 2019 - Aug. 2022).

PI - NIFA - as part of NSF Cyber-Physical Systems - Award # 2017-67008-26145
"Integration of Social Behavioral Modeling for Smart Environments to Improve the Energy Efficiency of Smart Cities".
Amount awarded: $802,981 (Feb. 2017 - Feb. 2021).

PI - NSF EPSCoR funded Missouri Transect - Award #1355406
"Autonomous Monitoring of Large Scale Agricultural Plants Through Unmanned Aerial Vehicles".
Amount awarded: $71,055 (Aug. 2015 - Jul. 2019).

Co-PI - NSF Cyber-Physical Systems - Award #1545037
"Securing Smart Grid by Understanding Communications Infrastructure Dependencies".
Amount awarded: $310,476 (Sep. 2015 - Aug. 2020).

Co-Director - NATO Science For Peace and Security - Award # SPS G4936
"Hybrid sensor networks for emergency critical scenarios".
Total amount awarded €400,000 (Sep. 2015 - Aug. 2019).

PI - Defense Threat Reduction Agency (DTRA), subcontract Pennsylvania State University
"Analysis and recovery of large-scale failures in interdependent networks".
Amount awarded: $162,540 (Nov. 2014 - May. 2016).

List of publications

Book Chapters

[1] S. Silvestri, B. Holbert, P. Novotny, T. La Porta, A. Wolf and A. Swami.
Inferring Network Topologies in MANETs: Application to Service Redeployment
in Advances in Computer Communications and Networks - from green, mobile, pervasive networking to big data computing, River Publisher, December 2016, ISBN: 9788793379879.

Journals

[36] A. K. Singh, B. J. BalabayglooBehzad, B. BekeeBarituka, S. W. Blair, S. Fey, F. Fotouhi, A. Gupta, A. Jha, J. C. Martinez-Palomares, K. Menke, A. Prestholt, V. K. Tanwar, X. Tao, A. Vangala, M. E. Carroll, S. K. Das, G. DePaula, P. Kyveryga, S. Sarkar, M. Segovia, S. Silvestri, C. Valdivia.
Smart connected farms and networked farmers to improve crop production, sustainability and profitability
Frontiers in Agronomy, Vol. 6, 2024.

[35] E. Casella, S. Silvestri, D. A. Baker, S. K. Das.
A Human-Centered Power Conservation Framework based on Reverse Auction Theory and Machine Learning
ACM Transactions on Cyber-Physical Systems, (to appear).

[34] X. Tao, D. Monaco, A. Sacco, S. Silvestri, G. Marchetto.
Delay-Aware Routing in Software-Defined Networks via Network Tomography and Reinforcement Learning
IEEE Transactions on Network Science and Engineering, (to appear).

[33] E. Casella, M. Cantor, S. Silvestri, D. Renaud, J. H. C. Costa.
A Machine Learning and Optimization Framework for the Early Diagnosis of Bovine Respiratory Disease
IEEE Access, Vol. 11, 2023.

[32] A. Timilsina, S. Silvestri.
P2P Energy Trading through Prospect Theory, Differential Evolution, and Reinforcement Learning
ACM Transactions on Evolutionary Learning and Optimization
Special Issue on Evolutionary Reinforcement Learning, Vol. 3, Issue 3, 2023.

[31] M. Cantor, E. Casella, S. Silvestri, D. Renaud, J. H. C. Costa.
Using machine learning and behavioral patterns observed by automated feeders and accelerometers for the early indication of clinical Bovine Respiratory Disease status in preweaned dairy calves
Frontiers in Animal Science, July 2022

[30] J. Codispoti, A. R. Khamesi, N. Penn, S. Silvestri, E. Shin.
Learning from Non-Experts: An Interactive and Adaptive Learning Approach for Appliance Recognition in Smart Homes
ACM Transactions on Cyber-Physical Systems, Vol. 6, Issue 2, 2022.

[29] F. B. Sorbelli, C. M. Pinotti, S. Silvestri, S. K. Das.
Measurement Errors in Range-based Localization Algorithms for UAVs: Analysis and Experimentation
IEEE Transactions on Mobile Computing, Vol. 21, Issue 4, 2022.

[28] A. Timilsina, A. R. Khamesi, V. Agate, S. Silvestri.
A Reinforcement Learning Approach for User Preference-aware Energy Sharing Systems
in IEEE Transactions on Green Communications and Networking, Vol. 5, Issue 3, 2021.
Special Issue on Green Internet of Things: Challenges and Future Opportunities.

[27] S. Bhattacharjee, V. P. K. Madhavarapu, S. Silvestri, S. K. Das.
Attack Context Embedded Data Driven Trust Diagnostics in Smart Metering Infrastructure
ACM Transactions on Privacy and Security, Vol. 24, Issue 2, 2021.

[26] K. Hazra, V. K. Shah, M. Bilal, S. Silvestri, S. K. Das, S. Nandi, S. Saha.
Designing Efficient Communication Infrastructure in Post-disaster Situations
with Limited Availability of Network Resources
in Elsevier Computer Communication Journal (COMCOM), Vol. 164, 2020.

[25] E. Casella, A. R. Khamesi, S. Silvestri.
A Framework for the Recognition of Horse Gaits Through Wearable Devices
Esevier Pervasive and Mobile Computing, Special Issue on Mobile and Social Sensing, Vol. 67, 2020

[24] V. K. Shah, S. Silvestri, S. Bhattacharjee, S. K. Das.
A Diverse Band-Aware Dynamic Spectrum Access Network Architecture for
Delay-Tolerant Smart City Applications
IEEE Transactions on Network and Service Management, Vol. 17, Issue 2, 2020.

[23] A. Sturaro, S. Silvestri, M. Conti, Sajal K. Das.
A Realistic Model for Failure Propagation in Interdependent Cyber-Physical Systems
in IEEE Transactions on Network Science and Engineering, Vol. 1, Issue 2, 2020.
Special Issue on Network Science for High -Confidence Cyber-Physical Systems.

[22] A. Khamesi, S. Silvestri, D. Baker, A. De Paola.
Perceived-Value Driven Optimization of Energy Consumption in Smart Homes
in ACM Transactions on Internet of Things, Vol. 1, Issue 2, 2020.

[21] E. Casella, M. Ortolani, S. Silvestri, S. K. Das.
Hierarchical syntactic models for human activity recognition through mobility traces
in Springer Personal and Ubiquitous Computing, 2019.

[20] F. Restuccia, P. Ferrero, S. Silvestri, S. K. Das, G. Lo Re.
IncentMe: Effective Mechanism Design to Stimulate Crowdsensing Participants with Uncertain Mobility
in IEEE Transactions on Mobile Computing, Vol. 18, Issue 7, 2019.

[19] V. K. Shah, S. Bhattacharjee, S. Silvestri, S. K. Das.
Designing Green Communication Systems for Smart & Connected Communities via Dynamic Spectrum Access
in ACM Transactions on Sensor Networks, Vol. 14, Issue 3-4, 2018.

[18] S. Silvestri, R. Urgaonkar, M. Zafer, B. Ko.
A Framework for the Inference of Sensing Measurements based on Correlation
in ACM Transactions on Sensor Networks, Vol. 15, Issue 1, 2018.

[17] F. Restuccia, P. Ferrero, S. Silvestri, S. K. Das, , G. Lo Re.
FIRST: A Framework for Optimizing Information Quality in Mobile Crowdsensing Systems
in ACM Transactions on Sensor Networks, Vol. 15, Issue 1, 2018.

[16] F. B. Sorbelli, S. K. Das, C. M. Pinotti, S. Silvestri$^{(*)}$.
Range based Algorithms for Precise Localization of Terrestrial Objects using a Drone
in Elsevier Pervasive and Mobile Computing, Vol. 48, 2018.

[15] R. Zhang, S. Newman, M. Ortolani, S. Silvestri.
A Network Tomography Approach for Traffic Monitoring in Smart Cities
in IEEE Transactions on Intelligent Transportation Systems, Vol. 19, Issue 7, 2018.
Special issue on Advances in Smart and Green Transportation for Smart Cities

[14] N. Bartolini, S. Ciavarella, S. Silvestri, T. La Porta.
On critical service recovery after massive network failures
in IEEE Transactions on Networking, Vol. 25, Issue 4, 2017.

[13] N. Bartolini, T. Calamoneri, S. Ciavarella, S. Silvestri, T. La Porta.
Autonomous mobile sensor placement in complex environments
in ACM Transactions on Autonomous and Adaptive Systems, Volume 12, Issue 2, 2017.

[12] S. Silvestri, K. Goss.
MobiBar: an autonomous deployment algorithm for barrier coverage with mobile sensors
in Elsevier Ad Hoc Networks, Vol. 54, pp. 111-129, 2017.

[11] M. Lin, S. Silvestri, N. Bartolini, T. La Porta.
Selective Activation in Dense Femtocell Networks
in IEEE Transactions on Wireless Communications, Vol. 15, Issue 10, pp. 7018 - 7029, 2016.

[10] S. Ciavarella, J.-Y. Joo, S. Silvestri.
Managing Contingencies In Smart Grids Via The Internet Of Things
in IEEE Transactions on Smart Grid, Vol. 7, Issue 4, pp. 2134-2141, 2016

[9] N. Bartolini, S. Ciavarella, S. Silvestri, T. La Porta.
On the vulnerabilities of the Voronoi-based approach to mobile sensor deployment
in IEEE Transactions on Mobile Computing, Vol. 15, Issue 12, 2016.

[8] B. Holbert, S. Tati, S. Silvestri, T. La Porta, A. Swami.
Network Topology Inference with Partial Path Information
in IEEE Transactions on Network and Service Management, Vol. 12, Issue 1, 2015.

[7] N. Bartolini, G. Bongiovanni, T. La Porta, S. Silvestri$^{(*)}$.
On the vulnerabilities of the virtual force approach to mobile sensor deployment
in IEEE Transactions on Mobile Computing, Vol. 13, Issue 11, 2014.

[6] N. Bartolini, A. Massini, S. Silvestri$^{(*)}$.
P&P: an Asynchronous and Distributed Protocol for Mobile Sensor Deployment
in Springer Wireless Networks Journal, Vol. 18 Issue 4, page 381, 2012.

[5] N. Bartolini, T. Calamoneri, T. La Porta, C. Petrioli, S. Silvestri$^{(*)}$.
Sensor Activation and Radius Adaptation (SARA) in Heterogeneous Sensor Networks
in ACM Transactions on Sensor Networks, Vol. 8, Issue 3, page 24, 2012.

[4] N.Bartolini, T. Calamoneri, T. La Porta, S. Silvestri$^{(*)}$.
Autonomous deployment of heterogeneous mobile sensors
in IEEE Transactions on Mobile Computing, Vol. 10, no. 6, page 753, 2011.

[3] N. Bartolini, T. Calamoneri, A. Massini, S. Silvestri$^{(*)}$.
On adaptive density deployment to mitigate the sink-hole problem in mobile sensor networks
in Springer Mobile Networks and Applications, Vol. 16, Issue 1, page 134, 2011.

[2] N. Bartolini, T. Calamoneri, E. G. Fusco, A. Massini, S. Silvestri$^{(*)}$.
Push&Pull: autonomous deployment of mobile sensors for a complete coverage
in Springer Wireless Networks Journal, Vol. 16, no. 3, Page 607, 2010.

[1] N. Bartolini, G. Bongiovanni, S. Silvestri$^{(*)}$.
Self-* through self-learning: overload control for distributed web systems
in Elsevier Computer Networks, Vol. 53, no. 5, page 727, 2009.

Proceedings of International Conferences

[61] X. Tao, J. Butcher, S. Silvestri, S. K Das.
iCrop+: An Edge-boosted Crop Disease Detection System via TinyML and LoRa Communication
in the International Conference on Pervasive Computing and Communications (PerCom 2025) - Demo

[60] X. Tao, C. Cumini, S. Silvestri, S. C. Montserrat, G. Marchetto.
FertilizeSmart: Exploiting IoT and Differential Evolution for Optimizing Crop Fertilization
in the IEEE/IFIP Wireless On-Demand Network Systems and Services Conference (WONS 2024)

[59] A. Hamilton, M. Khan, S. Silvestri, C. Scott.
Big-Data Driven Anomaly Detection in Vehicular Social Networks using Graph Auto-encoders
in the IEEE International Symposium on Wireless Personal Multimedia Communications (WPMC 2024)
Best Paper Award

[58] X. Tao, J. Butcher , F. Esposito, S. Silvestri.
iCrop: Enabling High-Precision Crop Disease Detection via LoRa Technology
in the IEEE International Conference on Computer Communications and Networks (ICCCN 2024)

[57] N. Seyedtalebi , S. Silvestri.
Human Activity Recognition Using Spectrograms of Binary Motion Sensor Data
in the International Workshop on Intelligent Systems for the Internet of Things (ISIoT 2024)

[56] X. Tao, E. Damron , S. Silvestri.
High-Precision Crop Monitoring Through UAV-Aided Sensor Data Collection
in the IEEE International Conference on Communications (ICC 2024)

[55] X. Tao, S. Silvestri.
Network Tomography and Reinforcement Learning for Efficient Routing
in the IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS 2023), short paper

[54] A. Timilsina, S. Silvestri.
e-Uber: A Crowdsourcing Platform for Electric Vehicle Ride- and Energy-sharing
in the IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS 2023), short paper

[53] R. Alden, A. Timilsina, S. Silvestri, D. Ionel.
V2G Optimization for Dispatchable Residential Load Operation and Minimal Utility Cost
in the IEEE Transportation Electrification Conference & Expo (ITEC 2023)

[52] A. Timilsina, S. Silvestri.
Prospect Theory-inspired Automated P2P Energy Trading with Q-learning-based Dynamic Pricing
in the IEEE Global Communications Conference (GLOBECOM 2022)

[51] E. Casella, E. Sudduth, S. Silvestri.
Dissecting the Problem of Individual Home Power Consumption Prediction using Machine Learning
in the IEEE International Conference on Smart Computing (SMARTCOMP 2022) - Work in Progress

[50] M. Cantor, E. Casella, S. Silvestri, D. Renaud, J. H. C. Costa.
Using machine learning and precision livestock farming technology for early indication of health status in preweaned dairy calves
in the European Conference on Precision Livestock Farming (ECPLF 2022)

[49] E. Casella, M. C. Cantor, S. Silvestri, D. L. Renaud, J. H. C. Costa.
Cost-aware Inference of Bovine Respiratory Disease in Calves using Precision Livestock Technology
in the IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS 2022)

[48] E. Casella, A. R. Khamesi, S. Silvestri, D. A. Baker, S. K. Das.
HVAC Power Conservation through Reverse Auctions and Machine Learning
in the IEEE International Conference on Pervasive Computing and Communications (PerCom 2022)

[47] A. R. Khamesi, S. Silvestri.
Reverse Auction-based Demand Response Program: A Truthful Mutually Beneficial Mechanism
in the IEEE International Conference on Mobile Ad Hoc and Sensor Systems (MASS 2020)

[46] A. R. Khamesi, R. Musmeci, S. Silvestri, D. A. Baker.
Reproducibility of Survey Results: A New Method to Quantify Similarity of Human Subject Pools
in the IEEE Global Communications Conference (GLOBECOM 2020)

[45] S. M. Saghaian, T. La Porta, S. Silvestri, P. McDaniel.
Improving Robustness of a Popular Probabilistic Clustering Algorithm Against Insider Attacks
in the EAI International Conference on Security and Privacy in Communication Networks (SecureComm 2020)

[44] E. Shin, A. R. Khamesi, Z. Bahr, S. Silvestri, D. A. Baker.
A User-Centered Active Learning Approach for Appliance Recognition
in the IEEE International Conference on Smart Computing (SMARTCOMP 2020)

[43] V. Agate, A. Khamesi, S. Gaglio, S. Silvestri.
Enabling peer-to-peer User-Preference-Aware Energy Sharing Through Reinforcement Learning
in the IEEE International Conference on Communications (ICC 2020)

[42] A. Khamesi, E. Shin, S. Silvestri.
Machine Learning in the Wild: The Case of User-Centered Learning in Cyber Physical Systems
in the IEEE International Conference on COMmunication Systems & NETworkS (COMSNETS 2020)

[41] A. Khalifeh, N. Bartolini, S. Silvestri, G. Bongiovanni, A. Al-Assaf, R. Alwardat, S. Alhaj-Ali.
Hybrid Wireless Sensor Networks: A Prototype
in the IFIP Conference on Human-Computer Interaction (INTERACT 2019)

[40] V. K. Shah, S. Roy, S. Silvestri, S. K. Das.
Bio-DRN: Robust and Energy-efficient Bio-inspired Disaster Response Networks
in the IEEE International Conference on Mobile Ad-hoc and Smart Systems (MASS 2019)

[39] E. Casella, A. R. Khamesi, S. Silvestri.
Smartwatch Application for Horse Gaits Activity Recognition
in the IEEE International Conference on Smart Computing (SMARTCOMP 2019)

[38] V. K. Shah, S. Silvestri, B. Luciano, S. K. Das.
X-CHANT: A Diverse DSA based Architecture for Next-generation Challenged Networks
in IEEE International Conference on Computer Communications (INFOCOM 2019)
Acceptance rate: 19.7%

[37] K. Hazra, V. K. Shah, M. Bilal, S. Silvestri, S. K. Das, S. Nandi, S. Saha.
A Novel Network Architecture for Resource-Constrained Post-Disaster Environments
in the IEEE International Conference on COMmunication Systems & NETworkS (COMSNETS 2019)

[36] V. K. Shah, Satyaki Roy, S. Silvestri, S. K. Das.
A Web Application for the Remote Control of Multiple Unmanned Aerial Vehicles
in the ACM Workshop on Emergency Response Technologies and Services (Emertes 2019)

[35] R. Musmeci, K. Goss, S. Silvestri, G. Lo Re.
A Web Application for the Remote Control of Multiple Unmanned Aerial Vehicles
in the IEEE International Conference on Computing, Networking and Communications (ICNC 2019)

[34] V. K. Shah, S. Bhattacharjee, S. Silvestri, S. K. Das.
An Effective Dynamic Spectrum Access based Network Architecture for Smart Cities
in the IEEE International Smart Cities Conference (ISC2 2018), (invited paper)

[33] V. Dolce, C. Jackson, S. Silvestri, D. Baker, A. De Paola.
Social-Behavioral Aware Optimization of Energy Consumption in Smart Homes
in the IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS 2018)

[32] F. B. Sorbelli, S. K. Das, C. M. Pinotti, S. Silvestri.
On the Accuracy of Localizing Terrestrial Objects Using Drones
in the IEEE International Conference on Communications (ICC 2018)

[31] F. B. Sorbelli, S. K. Das, C. M. Pinotti, S. Silvestri.
Precise Localization in Sparse Sensor Networks using a Drone with Directional Antennas
in the ACM International Conference on Distributed Computing and Networking (ICDCN 2018)

[30] V. K. Shah, S. Bhattacharjee, S. Silvestri, S. K. Das.
Designing Sustainable Smart Connected Communities using Dynamic Spectrum Access via Band Selection
in the ACM International Conference on Systems for Energy-Efficient Built Environments (BuildSys 2017)

[29] K. Goss, R. Musmeci, S. Silvestri.
Realistic Models for Characterizing the Performance of Unmanned Aerial Vehicles
in the IEEE International Conference on Computer Communications and Networks (ICCCN 2017)

[28] S. Silvestri, D. Baker, V. Dolce.
Integration of Social Behavioral Modeling for Energy Optimization in Smart Environments
in the ACM International Workshop on Social Sensing (SocialSense 2017)

[27] V. Shah, S. Roy, S. Silvestri and S. K. Das.
CTR: Cluster based Topological Routing for Disaster Response Network
in the IEEE International Conference on Communications (ICC 2017)

[26] S. Bhattacharjee, A. Thakur, S. Silvestri and S. K. Das.
Statistical Security Incident Forensics against Data Falsification in Smart Grid Advanced Metering Infrastructure
in ACM Conference on Data and Applications Security and Privacy (CODASPY 2017)

[25] N. Bartolini, S. Ciavarella, S. Silvestri, T. La Porta.
Network recovery after massive failures
in IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2016)
Acceptance rate: 20%

[24] S. Silvestri.
Providing Ubiquitous Wireless Connectivity in Smart Cities through Dense Small Cell Deployment
in IEEE Smart Cities Workshop-Kansas City 2016, position paper

[23] A. Sturaro, S. Silvestri, M. Conti, Sajal K. Das.
Towards a realistic model for failure propagation in interdependent networks
in IEEE International Conference on Computing, Networking and Communications (ICNC 2016)

[22] M. Lin, S. Silvestri, N. Bartolini, T. La Porta.
Energy-Efficient Selective Activation in Femtocell Networks
in IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS 2015)
Acceptance rate: 26%

[21] S. Silvestri, B. Holbert, P. Novotny, T. La Porta, A. Wolf and A. Swami.
Inferring Network Topologies in MANETs Applied to Service Redeployment
in IEEE International Conference on Computer Communication and Networks (ICCCN 2015)
Acceptance rate: 25%

[20] S. Silvestri, R. Urgaonkar, M. Zafer, B. Ko.
An online method for minimizing network monitoring overhead
in IEEE International Conference on Distributed Computing Systems (ICDCS 2015)
Acceptance rate: 12.8%

[19] B. Holbert, S. Tati, S. Silvestri, T. La Porta, A. Swami.
Network Topology Inference with Partial Path Information
in IEEE International Conference on Computing, Networking and Communications (ICNC 2015)

[18] S. Tati, S. Silvestri, T. He, T. La Porta.
Robust Network Tomography in the Presence of Failures
in IEEE International Conference on Distributed Computing Systems (ICDCS 2014)
Acceptance rate: 13%

[17] N. Bartolini, G. Bongiovanni, T. La Porta, S. Silvestri, F. Vincenti$^{(*)}$.
Voronoi-based Deployment of Mobile Sensors in the Face of Adversaries
in IEEE International Conference on Communications (ICC 2014)

[16] B. Holber, S. Tati, S. Silvestri, A. Swami, T. La Porta.
Effects of Partial Topology on Fault Diagnosis
in IEEE Military Communications Conference (MILCOM 2013)

[15] N. Bartolini, G. Bongiovanni, T. La Porta, S. Silvestri$^{(*)}$.
On the security vulnerabilities of the virtual force approach to mobile sensor deployment
in IEEE Conference on Computer Communications (INFOCOM 2013)
Acceptance rate: 17.4%

[14] S. Silvestri.
MobiBar: Barrier Coverage with Mobile Sensors
in IEEE Global Communications Conference (GLOBECOM 2011)
Acceptance rate: 36.6%

[13] N. Bartolini, T. Calamoneri, T. La Porta, S. Silvestri(*).
Mobile sensor deployment in unknown fields
in IEEE Conference on Computer Communications (INFOCOM mini-conferece 2011)

[12] L. Benini, D. Brunelli, C. Petrioli, S. Silvestri(*).
GENESI: Green sEnsor NEtworks for Structural monItoring", (Poster)
in IEEE Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON 2010)

[11] N. Bartolini, T. Calamoneri, T. La Porta, A. Massini, S. Silvestri(*).
Autonomous deployment of heterogeneous mobile sensors
in IEEE Conference on Network Protocols (ICNP 2009) - **Best paper award**
Acceptance rate: 18.2%

[10] E. Gelenbe, S. Silvestri(*).
Optimisation of Power Consumption in Wired Packet Networks
in ICST Workshop on Advanced Architectures and Algorithms for Internet
DElivery and Applications (AAA-IDEA 2009)

[9] E. Gelenbe, S. Silvestri(*).
Reducing Power Consumption In Wired Networks
in IEEE Sympoium on Computer and Information Sciences (ISCIS 09)

[8] N. Bartolini, A. Massini, S. Silvestri(*).
P&P protocol: local coordination of mobile sensors for self-deployment
in ACM Conference on Modeling Analysis and Simulation of Wireless and Mobile Systems (MSWIM 2009)
Acceptance rate: 23.5%

[7] N. Bartolini, T. Calamoneri, A. Massini, S. Silvestri(*).
Variable density deployment and topology control for the solution of the sink-hole problem
in ICST Conference on Heterogeneous Networking for Quality, Reliability,
Security and Robustness (QShine 2009)

[6] N. Bartolini, T. Calamoneri, E. G. Fusco, A. Massini, S. Silvestri(*).
Autonomous deployment of self-organizing mobile sensors for a complete coverage
in IEEE Workshop on Self-Organizing Systems (IWSOS 2008)

[5] N. Bartolini, G. Bongiovanni, S. Silvestri(*).
Self-* overload control for distributed web systems
in IEEE Workshop on Quality of Service (IWQoS 2008)
Acceptance rate: 35.6%

[4] N. Bartolini, T. Calamoneri, E. G. Fusco, A. Massini, S. Silvestri(*).
Snap Spread: a self-deployment algorithm for mobile sensor networks", (short paper)
in IEEE Conference on Distributed Computing in Sensor Systems (DCOSS 2008)

[3] N. Bartolini, G. Bongiovanni, S. Silvestri(*).
An autonomic admission control policy for distributed web systems
in IEEE/ACM Symposium on Modeling, Analysis, and Simulation of Computer and
Telecommunication Systems (MASCOTS 2007). Acceptance rate: 33.2%

[2] N. Bartolini, G. Bongiovanni, S. Silvestri(*).
Distributed Server Selection and Admission Control in Replicated Web Systems
in IEEE Symposium on Parallel and Distributed Computing, (ISPDC 2007)

[1] N. Bartolini, G. Bongiovanni, S. Silvestri(*).
An Adaptive Admission Control Policy for Geographically Distributed Web Systems
in ACM Conference on Scalable Information Systems (INFOSCALE 2007)

(*) Authors' names in alphabetical order.

Invited Seminars and Panels

[2024] Keynote talk: Climbing the Doctoral Mountain: Essential Strategies for a Successful PhD
International Conference on Embedded Wireless Systems and Networks (EWSN)
Abu Dhabi, UAE

[2024] "Residential Energy Management with Human-in-the-Loop"
University of North Dakota

[2023] "ChatGPT for Scientific Writing: Navigating Potentials and Challenges"
IARIA International Conference on Future Computational Technologies and Applications
FUTURE COMPUTING 2023, Nice, Saint-Laurent-du-Var, France

[2023] "Challenges and Opportunities for Machine Learning Applied to Smart Residential Energy Systems"
Short Term Training Programme on Machine Learning for IoT Edge Computing
Heritage Institute of Technology, India

[2023] "Writing NSF Proposals for Early Career Faculty"
Proposal Development Office, University of Kentucky

[2022] "Energy Management for Smart Residential Environments through Human-in-the-loop Algorithm Design"
CAREER Panel Member, NSF CPS PI meeting, Alexandria, VA

[2022] "Internet of Agricultural Things: How Computer Science Can Help Next Generation Farming"
IEEE International Workshop on Wireless Sensor, Robot, and UAV Networks, Bologna, Italy

[2021] "NSF CAREER Workshop"
Proposal Development Office, University of Kentucky

[2020] "Cyber-Physical-Human Systems: From Human Perception to Computational Problems"
University of Missouri Science and Technology, Computer Science, Rolla, MO

[2020] "Cyber-Physical-Human Systems: From Human Perception to Computational Problems"
University of Missouri, Electrical and Computer Engineering, Columbia, MO

[2020] "Machine Learning in the Wild: The Case of User-Centered Learning in Cyber Physical Systems"
IEEE/ACM International Conference on COMmunication Systems & NETworkS (COMSNETS), Bengaluru, India

[2019] "Social-Behavioral Modeling and Optimization of Residential Energy Management Systems"
Marquette University, Electrical and Computer Engineering, Milwaukee, WI

[2018] "Advances and Challenges in Agricultural Cyber-Physical Systems"
Panel Member, NSF CPS PI meeting, Alexandria, VA

[2018] "Social-behavioral aware Design and Optimization of Cyber-Physical-Human Systems"
University of Kentucky, Electrical and Computer Engineering, Lexington, KY

[2018] "Social-behavioral aware Design and Optimization of Cyber-Physical-Human Systems"
Colorado School of Mines, Golden, CO

[2018] "Social-Behavioral Aware Optimization of Energy Consumption in Smart Homes"
St. Louis University, St. Louis, MO

[2017] "Social-Behavioral Aware Optimization of Cyber Physical Systems"
University of Louisville - Informs., Louisville, KY

[2017] "Social-Behavioral Aware Optimization of Cyber Physical Systems"
Los Alamos National Laboratory (LANL), Los Alamos, NM

Teaching activity

Spring 2023	CS-371 Intro. to Computer Networks	Undergraduate level
Spring 2022	CS-371 Intro. to Computer Networks	Undergraduate level
Fall 2021	CS-316 Web Programming	Undergraduate level
Spring 2021	CS-371 Intro. to Computer Networks	Undergraduate level
Fall 2020	CS-686 Complex networks	Graduate level
Spring 2020	CS-371 Intro. to Computer Networks	Undergraduate level
Fall 2019	CS-686 Complex networks	Graduate level
Spring 2019	CS-371 Intro. to Computer Networks	Undergraduate level
Fall 2018	CS-686 Complex networks	Graduate level
Spring 2018	CS-371 Intro. to Computer Networks	Undergraduate level
Fall 2017	CS-685 Cognitive Computing	Graduate level
Spring 2017	CS-2500 Algorithms	Undergraduate level
Spring 2016	CS-6001 Complex networked systems	Graduate level
Fall 2015	CS-2500 Algorithms	Undergraduate level
Spring 2015	CS-6001 Complex networked systems	Graduate level
Fall 2014	CS-2500 Algorithms	Undergraduate level

Advised Students

Graduated students

Enrico Casella Ph.D. Graduated Spring 2023
Thesis title :"Machine-Learning-Powered Cyber-Physical Systems"

Ashtuoth Timilsina Ph.D. Graduated Spring 2023
Thesis title :"Peer-to-Peer Energy Trading in Smart Residential Environments with User Behavioral Modeling"

Seifalla Moustafa M.S. Graduated Spring 2020
Report title :"Development of a simulator for a residential energy sharing market"

Vijay Shah Ph.D. Graduated Summer 2019
Thesis title :" A Diverse Band-aware Dynamic Spectrum Access Architecture for Connectivity in Rural Communities"

Joedocei Hill M.S. Graduated Spring 2018
Report title :"Realistic Models For Characterizing The Performance of Unmanned Aerial Vehicles"

Ruoxi Zhang M.S. Graduated Spring 2018
Thesis title :"A Network Tomography Approach for Traffic Monitoring in Smart Cities"

Maria Angelin M.S. Graduated Summer 2017
Thesis title :"Multi Stage Recovery from Large Scale Failures in Interdependent Networks"

Visiting students

Spring 2023	Giovanni Della Negra	Visiting M.S. Student, Polytechnic University of Turin, Italy
Spring 2023	Christian Cumini	Visiting M.S. Student, Polytechnic University of Turin, Italy
Spring 2023	Stefano Bassino	Visiting M.S. Student, Polytechnic University of Turin, Italy
Fall 2018	Vincenzo Agate	Visiting Ph.D. Student, University of Palermo, Italy
Spring 2017	Enrico Casella	Visiting M.S. Student, University of Palermo, Italy
Fall 2016	Valeria Dolce	Visiting M.S. Student, University of Palermo, Italy
Spring 2016	Riccardo Musmeci	Visiting M.S. Student, University of Palermo, Italy
Spring 2015	Stefano Ciavarella	Visiting Ph.D. Student, Sapienza University, Italy
Spring 2015	Agostino Sturaro	Visiting M.S. Student, Padua University, Italy

Professional activities

Society Affiliations

Institute of Electrical and Electronics Engineers (IEEE) Senior Member

Association for Computing Machinery (ACM) Lifetime Member

Proposal review

National Science Foundation panelist

National Institute of Food and Agriculture

Natural Sciences and Engineering Research Council of Canada (NSERC)

Defense Threat Reduction Agency (DTRA)

Russian government program attracting leading scientists to Russian universities

Conference organization

2025	NSF CPS PI Meeting TPC Chair
2025	Demo Co-Chair of IEEE PerCom
2025	Doctoral Symposium Co-Chair ACM ICDCN
2024	Technical Program Committee (TCP) Co-Chair NSF CPS PI Meeting
2024	Workshop Co-Chair of the conference IEEE LCN
2024	Protocols & Emerging Technologies track co-chair IEEE MASS
2023	Work in Progress Co-Chair of the conference IEEE PerCom
2023	Technical Program Committee (TCP) Co-Chair of the conference IEEE DCOSS
2022	Technical Program Committee (TCP) Co-Chair NSF CPS PI Meeting
2022	Technical Program Committee (TCP) Co-Chair of the conference IEEE SECON
2022	General Co-Chair of the conference IEEE ICNP

2022	Technical Program Committee (TCP) Co-Chair of the conference IEEE SMARTCOMP
2022	Workshop Co-Chair of the conference IEEE DCOSS
2022	Program Co-Chair of the workshop ACM Emertes
2021	Short Papers, Posters & Demos Co-Chair of the conference IEEE WiMob
2020	Program Committee NSF CPS PI Meeting
2021	Work in Progress and Demo Co-Chair of the conference IEEE SMARTCOMP
2020	Short Papers, Posters & Demos Co-Chair of the conference IEEE WiMob
2020	Finance Chair of the conference IEEE SECON
2020	Program Co-Chair of the workshop ACM Emertes
2019	Finance Chair of the conference IEEE SECON
2019	Poster Co-Chair of the conference IEEE DCOSS
2019	Publicity Chair of the conference ACM MobiHoc
2019	Program Co-Chair of the workshop ACM Emertes
2016	Program Co-Chair of the IEEE PerCom workshop IQ2S
2009	Publicity Chair of the conference ICST QShine
2009	Publicity Chair of the conference ICST AAA-IDEA

Editorial Boards

2024 - now	Editorial Board of IEEE Transactions on Network Science and Engineering (TNSE)
2023 - now	Editorial Board of Elsevier Computer Networks (COMNET)
2022 - now	Editorial Board of Elsevier Ad Hoc Networks (ADHOC)
2018 - now	Editorial Board of Elsevier Pervasive and Mobile Computing (PMC)

Technical Program Committees (TPC) - partial list

IEEE COMPSAC	2025
IFIP Networking	2024
ACM WWW	2024
IEEE INFOCOM	2025, 2024, 2023, 2022, 2021, 2020, 2018, 2017, 2016
IEEE PerCom	2025, 2024
IEEE ICDCS	2025, 2024, 2022
IEEE DCOSS	2025, 2024, 2022, 2021
IEEE MASS	2023, 2022
ACM EWSN	2023,2022
IEEE ICDCN	2022

IEEE/ACM COMSNETS	2024, 2023, 2022, 2021
IEEE CCNC	2023, 2022, 2021
IEEE GLOBECOM	2023, 2022, 2021, 2020, 2019, 2018, 2017, 2016, 2014, 2013, 2012, 2011, 2010
IEEE ICC	2025, 2024, 2023, 2022, 2021, 2020, 2018, 2017, 2016, 2014, 2013, 2012
IEEE 5G World Forum	2020, 2019, 2018
IEEE LCN	2023,2022, 2021, 2017, 2016, 2015
IEEE BigData	2020
IEEE PIMRC	2020
IEEE SMARTCOMP	2025, 2024, 2020, 2019, 2018, 2017, 2016, 2014
IEEE/ACM IWQoS	2024,2023,2022, 2021, 2020
IEEE ICDCS - PhD symp.	2020
IEEE REFRESH	2020
IEEE/IFIP NOMS	2022, 2020
IEEE 5G World Forum	2019
IEEE WCNC	2023, 2022, 2020, 2019
IEEE NetSoft	2024, 2020, 2019
IEEE WoWMOM	2025, 2024, 2023, 2022, 2021, 2019, 2018
IEEE VTC	2019, 2018
IEEE MILCOM	2017, 2016
IFIP Wireless Days	2018, 2017, 2016
IEEE SECON	2023, 2016
EAI S-Cube	2017,2016, 2015
IEEE ICCCN	2019,2015
IEEE ICNP	2015, 2014
IEEE ICNC	2024, 2023, 2020, 2019, 2018, 2017, 2016, 2014, 2012
MobiSPC	2016, 2015
IEEE WiSARN	2018, 2017, 2014
SENSORCOMM	2014, 2013, 2012, 2011, 2010
ICNS	2013, 2012

Journal reviewer - partial list

ACM Transactions on Sensor Networks

IEEE Transactions on Mobile Computing

Elsevier Journal of Parallel and Distributed Computing

IEEE Transactions on Parallel and Distributed Systems

Elsevier Computer Networks

Elsevier Computer Communications

ACM/Springer Wireless Networks

Oxford Computer Journal

ACM Transactions on Internet Technology

Journal of Sensors

Department and University service

2022 - now	Director of Graduate Studies - University of Kentucky, Computer Engineering
2022 - now	Member of the Executive Committee - University of Kentucky, Computer Science
2022 - now	Member of the Engineering Research Team - University of Kentucky, College of Engineering
2021 - now	Director of Graduate Studies - University of Kentucky, Computer Science
2020 - 2021	Member of the Recruiting Team - University of Kentucky, College of Engineering
2018 - 2021	Chair of the Media & Outreach Committee - University of Kentucky, Computer Science
2017	Faculty Search Committee - University of Kentucky, Electrical and Computer Engineering
2017 - 2018	Media& Outreach Committee - University of Kentucky, Computer Science
2016	Undergraduate Committee - Missouri S&T, Computer Science
2015 - 2016	Colloquia Coordinator - Missouri S&T, Computer Science
2015 - 2016	Peer Teaching Evaluation Committee - Missouri S&T, Computer Science
2015	Faculty Search Committee - Missouri S&T, Computer Science