

## BIPLAB SIKDAR

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### EMPLOYMENT

<b>Associate Professor</b> , National University of Singapore, Singapore	07/2013 - present
<b>Associate Professor</b> , Rensselaer Polytechnic Institute, Troy, NY, USA	07/2007 - 06/2013
<b>Assistant Professor</b> , Rensselaer Polytechnic Institute, Troy, NY, USA	08/2001 - 06/2007

### EDUCATION

<b>Ph.D</b> , Rensselaer Polytechnic Institute, Troy, NY, USA	August 2001
<b>M. Tech</b> , Indian Institute of Technology, Kanpur, India	May 1998
<b>B. Tech</b> , North Eastern Hill University, Shillong, India	May 1996

### WORK EXPERIENCE

<b>Associate Professor</b> , National University of Singapore, Singapore	7/2013 - Present
<b>Associate Professor</b> , Rensselaer Polytechnic Institute, Troy, NY, USA	7/2007 - 06/2013
<b>Assistant Professor</b> , Rensselaer Polytechnic Institute, Troy, NY, USA	8/2001 - 6/2007

### VISITING APPOINTMENTS

<b>Leiv Eiriksson Fellow</b> , Simula Research Laboratories, Oslo, Norway	6/2011 - 8/2011
<b>Visiting Professor</b> , Massachusetts Institute of Technology, Boston, MA, USA	3/2011 - 5/2011
<b>International Visiting Research Fellow</b> , University of Sydney, Sydney, Australia	12/2010 - 2/2011
<b>JSPS Fellow</b> , Kansai University, Osaka, Japan	10/2010 - 11/2010
<b>Visiting Professor</b> , KTH Royal Institute of Technology, Stockholm, Sweden	8/2010 - 9/2010
<b>Visiting Professor</b> , Indian Institute of Technology, Bombay, India	6/2010 - 7/2010
<b>Tan Chin Tuan Fellow</b> , Nanyang Technological University, Singapore	7/2005 - 9/2005
<b>Étudiant Visitant (Visiting Student)</b> , INRIA, Rocquencourt, France	5/2000 - 8/2000

### RESEARCH INTERESTS

Computer networks: Protocols and performance  
Cyber-security for Internet-of-Things and cyber-physical systems

### RESEARCH GRANTS

- Title:** *Scalable Methodologies for Risk Assessment and Resilience of Critical Infrastructure During Pandemics*, **Agency:** Ministry of Education, Singapore, **Funds:** SG\$ 500,000 (US\$ 375,000), **Duration:** 2021-2024, **Role:** PI, **Share of funds:** 50%, SG\$ 250,000 (US\$ 188,000).
- Title:** *Electronic Health Records (EHR) Driven Privacy Preservation Techniques*, **Agency:** Ministry of Education, Singapore, **Funds:** SG\$ 150,000 (US\$ 111,000), **Duration:** 2019-2022, **Role:** PI, **Share of funds:** 100%, SG\$ 150,000 (US\$ 111,000).

3. **Title:** *Privacy and Security of Location Data for Use in Urban and Transport Planning*, **Agency:** Ministry of Education, Singapore, **Funds:** SG\$ 150,000 (US\$ 110,000), **Duration:** 2019-2022, **Role:** PI, **Share of funds:** 100%, SG\$ 150,000 (US\$ 111,000).
4. **Title:** *SOCURE: Assuring Hardware Security by Design in Systems on Chip*, **Agency:** National Research Foundation, Singapore, **Funds:** SG\$11,600,000 (US\$ 8,584,000), **Duration:** 2019-2024, **Role:** co-PI, **Share of funds:** 6%, SG\$ 678,760 (US\$ 502,000).
5. **Title:** *N-CRIPT: NUS Centre for Research in Privacy Technologies*, **Agency:** National Research Foundation, Singapore, **Funds:** SG\$ 12,000,000 (US\$ 8,880,000), **Duration:** 2018-2023, **Role:** co-PI, **Share of funds:** 4%, SG\$ 487,000 (US\$ 360,000).
6. **Title:** *Securing Cyber Infrastructure and Cyber-Physical Systems*, **Agency:** Ministry of Education, Singapore, **Funds:** SG\$ 110,000 (US\$ 81,000), **Duration:** 2018-2021, **Role:** PI, **Share of funds:** 33% SG\$ 37,000, (US\$ 27,000).
7. **Title:** *Industrial Internet of Things*, **Agency:** Agency for Science, Technology, and Research, Singapore, **Funds:** SG\$ 439,200 (US\$ 325,000) (NUS share of funds), **Duration:** 2017-2020, **Role:** co-PI (only PI from NUS), **Share of funds:** 100%, SG\$ 439,200 (US\$ 325,000).
8. **Title:** *SCENE: Ubiquitous Security from Chip End to Network End in Internet of Things*, **Agency:** Ministry of Education, Singapore, **Funds:** SG\$ 660,337 (US\$ 488,000), **Duration:** 2017-2020, **Role:** co-PI, **Share of funds:** 40%, SG\$ 264,000 (US\$ 195,000).
9. **Title:** *Malware Analysis of Pirated Software in South Asia*, **Agency:** Microsoft Corporation, Singapore, **Funds:** SG\$ 217,028 (US\$ 160,000), **Duration:** 2016-2017, **Role:** PI, **Share of funds:** 100%, SG\$ 217,028 (US\$ 160,000).
10. **Title:** *Toward an Open Secure Internet-of-Things Reference Platform*, **Agency:** NUS-Berkeley-Cambridge Global Alliance, **Funds:** SG\$ 124,075 (US\$ 90,000), **Duration:** 2016-2018, **Role:** PI, **Share of funds:** 60%, SG\$ 75,000 (US\$ 54,000).
11. **Title:** *Internet of Things and Industrial Control Systems Security*, **Agency:** National Research Foundation and Singtel, Singapore, **Funds:** SG\$ 3,204,712 (US\$ 2,372,000), **Duration:** 2016-2021, **Role:** Theme Leader (IoT and ICS security) NUS-Singtel corporate research laboratory, **Share of funds:** 48%, SG\$ 1,541,717 (US\$ 1,141,000).
12. **Title:** *Network Resilience for Secure Data Collection and Delivery in ITS*, **Agency:** Ministry of Education, Singapore, **Funds:** SG\$ 154,000 (US\$ 115,000), **Duration:** 2016-2019, **Role:** PI, **Share of funds:** 67%, SG\$ 103,000 (US\$ 76,000).
13. **Title:** *Piracy and Malware in Computer Hardware from Unsecured Supply Chains*, **Agency:** Microsoft Corporation, Singapore, **Funds:** SG\$ 262,567 (US\$ 207,000), **Duration:** 2013-2014, **Role:** PI, **Share of funds:** 100%, SG\$ 262,567 (US\$ 207,000).
14. **Title:** *Towards Green Networks: Solutions for Wireless Access*, **Agency:** Ministry of Education, Singapore, **Funds:** SG\$ 180,000 (US\$ 142,000), **Duration:** 2013-2016, **Role:** PI, **Share of funds:** 100%, SG\$ 180,000 (US\$ 142,000).
15. **Title:** *CURRENT: Center for Ultra-wide-area Resilient Electric Energy Transmission Networks*, **Agency:** National Science Foundation, USA, **Funds:** US\$ 2,000,000 (SG\$ 2,580,000), **Duration:** 2011-2016, **Role:** co-PI, **Share of funds:** 20%, US\$ 400,000 (SG\$ 516,000).
16. **Title:** *New York State Phasor Measurement Network*, **Agency:** New York State Energy Research and Development Agency, USA, **Funds:** US\$ 250,000 (SG\$ 340,000), **Duration:** 2010-2012, **Role:** co-PI, **Share of funds:** 50%, US\$ 125,000 (SG\$ 170,000).
17. **Title:** *Green Solutions for Wireless Network Access*, **Agency:** Research Council of Norway, **Funds:** US\$ 30,000 (SG\$ 39,000), **Duration:** 2011-2011, **Role:** PI, **Share of funds:** 100%, US\$ 30,000 (SG\$ 39,000).

18. **Title:** *WiMAX Application Performance and System Simulation*, **Agency:** WiMAX Forum, USA, **Funds:** US\$ 227,000 (SG\$ 361,000), **Duration:** 2006-2009, **Role:** PI, **Share of funds:** 100% US\$ 227,000 (SG\$ 361,000).
19. **Title:** *Biologically Motivated Models for Spatio-Temporal Behavior of Computer Networks: Performance, Growth and Pathological Behavior*, **Agency:** National Science Foundation, USA, **Funds:** US\$ 402,000 (SG\$ 671,000), **Duration:** 2004-2010, **Role:** PI, **Share of funds:** 100%, US\$ 402,000 (SG\$ 671,000) (**NSF CAREER Award**).
20. **Title:** *Community Wireless Networks for Last-Mile Broadband Interconnectivity: An Experimental Research Program*, **Agency:** National Science Foundation, USA, **Funds:** US\$ 350,000 (SG\$ 585,000), **Duration:** 2004-2008, **Role:** co-PI, **Share of funds:** 50%, US\$ 175,000 (SG\$ 292,000).
21. **Title:** *Infrastructure Mesh Wireless Networks*, **Agency:** Intel Corporation, USA, **Funds:** US\$ 205,000 (SG\$ 342,000), **Duration:** 2004-2006, **Role:** co-PI, **Share of funds:** 50%, US\$ 102,500 (SG\$ 171,000).
22. **Title:** *High Performance Robust Network Management: Theoretical Foundations and Practical Design Tools*, **Agency:** RPI, USA, **Funds:** US\$ 50,000 (SG\$ 85,000), **Duration:** 2002-2002, **Role:** co-PI, **Share of funds:** 17%, US\$ 8,000 (SG\$ 14,000).
23. **Title:** *Scalable Online Network Modeling and Simulation*, **Agency:** Defense Advanced Research Project Agency (DARPA), USA, **Funds:** US\$ 950,000 (SG\$ 1,691,000), **Duration:** 2001-2004, **Role:** co-PI, **Share of funds:** 25%, US\$ 237,500 (SG\$ 423,000).

## TEACHING AND CURRICULUM DEVELOPMENT

### 1. National University of Singapore

#### (a) Programs Developed:

- i. Graduate Certificate: Internet of Things
- ii. Undergraduate Specialization: Internet of Things
- iii. Undergraduate Minor: Data Engineering

#### (b) Courses Taught:

- i. Computer Communication Networks II

#### (c) Courses Developed and Taught:

- i. Network Protocols and Applications
- ii. Data Science for the Internet of Things
- iii. Communication Networking Fundamentals (Graduate)
- iv. Cellular and Mobile Communications (Graduate)
- v. Cyber Security for Internet of Things (Graduate)

### 2. Rensselaer Polytechnic Institute

#### (a) Courses Taught:

- i. Broadband and Optical Networking (Graduate)
- ii. Computer Architecture, Networks and Operating Systems
- iii. Computer Communication Networks
- iv. Introduction to Engineering Design
- v. Probability for Engineering Applications

#### (b) Courses Developed and Taught:

- i. Modeling and Analysis of Computer Networks (Graduate)
- ii. Experimental Networking

## STUDENTS

### 1. PhD Graduated:

- (1) **Jun Peng:** 2004, First Employment: Assistant Professor, University of Texas, Rio Grande Valley.
- (2) **Fengji Ye:** 2005, First Employment: Cisco systems, San Jose, CA.
- (3) **Hua Yang:** 2005, First Employment: Intel Research Laboratories, Shanghai, China.
- (4) **Shivani Deshpande:** 2007, First Employment: Packeteer Inc., San Jose, CA.
- (5) **Rajagopal Iyengar:** 2007, First Employment: Posdata-USA, San Jose, CA.
- (6) **Krishna Ramachandran:** 2007, First Employment: General Motors Research Laboratory, Bangalore, India.
- (7) **Haiming Yang:** 2008, First Employment: Cisco systems, San Jose, CA.
- (8) **Xiaobo Long:** 2008, First Employment: Goldman Sachs, New York, NY.
- (9) **Huijiang Li:** 2012, First Employment: Oracle Corporation, San Jose, CA.
- (10) **Muhammad Aman:** 2012, First Employment: Assistant Professor, National University of Computer and Emerging Sciences, Peshawar, Pakistan.
- (11) **Onkar Bhardwaj:** (co-advised with E. Anshelevich) 2015, First Employment: IBM T. J. Watson Research Center, Yorktown Heights, NY.
- (12) **Jie Chen:** 2015, First Employment: Post Doctoral Researcher, Hamad bin Khalifa University, Qatar.
- (13) **Seemita Pal:** 2016, First Employment: Pacific Northwest National Labs, Richland, WA.
- (14) **Vinay Chamola:** 2016, First Employment: Assistant Professor, Birla Institute of Technology, Pilani, India.
- (15) **Ajinkya Rajandekar:** 2017, First Employment: WhizSpace, Singapore.
- (16) **Vignesh Sivaraman:** 2021, First Employment: Post Doctoral Researcher, National University of Singapore.
- (17) **Abhishek Nalam:** (main supervisor, co-advised with T. J. Lim) 2021, First Employment: Post Doctoral Researcher, National University of Singapore.

### 2. Masters (with thesis) Graduated: 10

### 3. PhD Current: 15

- (1) **James Ranjith Kumar:** Expected graduation 2021.
- (2) **Uzair Javaid:** Expected graduation 2021.
- (3) **Xiao Wei:** Expected graduation 2021.
- (4) **Bikalpa Upadhaya:** (co-advised with S. Sun) Expected graduation 2021.
- (5) **Tianyi Feng:** (main supervisor, co-advised with S. Sun and L. Wong) Expected graduation 2021.
- (6) **Fang Qiang:** (co-advised with M. Alioto) Expected graduation 2022.
- (7) **Xenia Santos:** (main supervisor, co-advised with K. Sivanand) Expected graduation 2022.
- (8) **Xudong Hu:** Expected graduation 2023.
- (9) **Abhijit Singh:** Expected graduation 2023.
- (10) **Guihai Zhang:** Expected graduation 2024.
- (11) **Zhixiang Zhang:** (main supervisor, co-advised with L. Wong) Expected graduation 2024.
- (12) **Gaurang Bansal:** Expected graduation 2024.
- (13) **Rohini Poolat:** Expected graduation 2024.
- (14) **Takrit Tanasnitikul:** Expected graduation 2024.
- (15) **Vivek Rathore:** Expected graduation 2025.

### 4. MS (with thesis) Current: 0

## HONORS AND AWARDS

1. Distinguished Lecturer, IEEE, 2021.
2. Best Paper Award, IEEE Consumer Electronics Magazine, 2020.
3. Distinguished Speaker, ACM, 2019.
4. Teaching Commendation List, NUS Faculty of Engineering, 2019.
5. Fellow, Institution of Engineers, Singapore, 2017.
6. Leiv Eiriksson Fellowship, Norway, 2011.
7. JSPS Fellowship, Japan, 2010.
8. Best Paper Award, IEEE GLOBECOM, New Orleans, LA, 2008.
9. Individual Contribution Award, WiMAX Forum, San Jose, CA, USA, 2008.
10. Teaching Excellence Award, School of Engineering, RPI, Troy, NY 2006.
11. Tan Chin Tuan Fellowship, Singapore, 2005.
12. National Science Foundation (NSF) CAREER Award, 2004.
13. Charles M. Close Doctoral Prize, RPI, Troy, NY
14. ECSE Departmental Service Award, RPI, Troy, NY
15. Founder's Award of Excellence, RPI, Troy, NY
16. Master Teaching Assistant, RPI, Troy, NY
17. Verifone Fellowship, IIT, Kanpur, India
18. State Scholarship, NEHU, Shillong, India
19. Eta Kappa Nu
20. Tau Beta Pi

## PROFESSIONAL ACTIVITIES

### Associate Editor:

- IEEE Transactions on Mobile Computing (2014-2017).
- IEEE Transactions on Communications (2008-2012).
- IEEE Open Journal of Vehicular Technology (2019-present).

### General Co-Chair:

- IEEE LANMAN 2020.

### TPC Co-Chair:

- IEEE LANMAN 2019.
- ACM SOICT, 2018.
- IEEE ICCS, Networks Track, 2014, 2016.
- IEEE GLOBECOM, Communications Software and Services Symposium, 2009.
- IEEE BROADNETS, Wireless Track, 2009.

**Panelist:** National Science Foundation.

**External Reviewer:** National Research Council of Canada, Austrian Science Fund, Czech Science Foundation, Netherlands Organisation for Scientific Research, National Institute of Information and Communication Technology (Japan), Israel Science Foundation, Christian Doppler Forschungsgesellschaft (Christian Doppler Research Association, Austria).

**TPC member:** IEEE INFOCOM (2003, 2004, 2008-2021), IEEE GLOBECOM (2002, 2005, 2007, 2008, 2009, 2017, 2018, 2019, 2020), IEEE VTC (2007), IEEE ICC (2005, 2007, 2008, 2009, 2010, 2012, 2013, 2016, 2017, 2018, 2019, 2020), ICMU (2004-2017), IEEE SmartGrid-Comm (2012, 2013, 2017, 2018, 2019) IEEE WCNC (2005, 2006, 2010, 2011, 2014, 2015).

**Journal Reviews:** IEEE Transactions on Computers, IEEE/ACM Transactions on Networking, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Wireless Communications, IEEE Transactions on Communications, IEEE Transactions on Mobile Computing, IEEE Transactions on Signal Processing, IEEE Transactions on Vehicular Technology, IEEE Transactions on Multimedia, IEEE Transactions on Automatic Control, IEEE Transactions on Intelligent Transportation Systems, IEEE Transactions on Smart Grid, IEEE Transactions on Network Science and Engineering, ACM Transactions on Sensor Networks, Computer Networks, Performance Evaluation, IEEE Communications Magazine, IEEE Communication Letters

**Conference Reviews:** IEEE INFOCOM, IEEE ICC, IEEE GLOBECOM, IEEE/IFIP MMNS, SPECTS, ICON, TRIDENTCOM, IEEE VTC, IEEE WSN, IEEE ISCC, ACM MSWIM, WiOpt

## KEYNOTES, PANELS AND TUTORIALS

### Keynotes

1. *Security and Privacy for the Internet of Things*, Keynote at International Conference on Electrical Engineering, Computer Science and Informatics, Yogyakarta, Indonesia, September 2020.
2. *Privacy Issues in Smart Grid Communications*, Keynote at IEEE CCNC workshop on Cyber Physical Networking, Las Vegas, USA. January 2020.
3. *Securing Smart Grids: Attacks, Countermeasures and Defense Strategies*, Keynote at IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy, Cochin, India. January 2020.
4. *Cyber Security Challenges and Solutions for the Internet of Things*, Keynote at International Conference on Networking, Systems and Security and Khan-Bose Lecture (BUET), Dhaka, Bangladesh, December 2019.
5. *Secure Networking for the Internet of Things*, Keynote at IEEE ICC Workshop SecSDN: Secure and Dependable Software Defined Networking for Sustainable Smart Communities, Shanghai, China, May 2019.
6. *Cyber Security Challenges and Solutions for the Internet of Things*, Keynote at IEEE Malaysia International Conference on Communications, Johor Bahru, Malaysia, November 2017.
7. *Cyber-security for the IoT and Cyber-physical Systems: Challenges and Some Solutions*, Keynote at IEEE workshop on IoT and TV White Spaces, Pune, India, January 2017.
8. *Network Evolution for the Internet of Things*, Keynote at IEEE IACC, Bangalore, India, June 2015.
9. *Security for Sensor Networks*, Plenary talk at International Conference on Computational Intelligence, Cyber Security and Computational Models, Coimbatore, India, December 2013.

### Invited Talks

1. *Cyber Security Challenges and Solutions for the Internet of Things*, Invited talk at ACM Future Worlds Symposium, Sacramento, CA, October 2020.
2. *Consumer Privacy in Smart Meter Data*, Invited talk at ACM SIGMETRICS Critical Infrastructure Network Security Workshop, Irvine, CA, June 2018.
3. *Consumer Privacy in Smart Grids*, Invited talk at IEEE ISGT Asia, Singapore, May 2018.
4. *Security Solutions for the Internet of Things*, Invited talk at IEEE IoT World Forum, Singapore, February 2018.

5. *Smart Grid Security through Synchrophasor Data: Real-time Detection of Attacks on AC State Estimation*, Invited talk at INFORMS Annual Meeting, Houston, TX, USA, October 2017.
6. *Solar-Powered Cellular Networks: Mathematical models for Design and Operation*, Invited talk at MADEV (Conference Internationale en Afrique sur les Mathematiques appliquees au developpement), Rabat, Morocco, October 2017.

### Panels

1. *Anomaly Detection in Cyber-Physical Systems: The Physical Law Approach*, Panelist, SUTD Secure Cyber-Physical Systems Week, Singapore, June 2017.
2. *Security for Synchrophasor Data*, Panelist, NSF Smart Grid Workshop, College Station, TX, USA, April 2017.

### Tutorials

1. *Network Infrastructure for the Internet of Things and M2M Communications*, Tutorial at IEEE BlackSeaCom, Constanta, Romania, May 2015.
2. *Network Infrastructure for the Internet of Things and M2M Communications*, Tutorial at National Conference on Communications, IIT Bombay, India, February 2015.

### PATENTS

1. **Network management and control using on-line collaborative simulations**, US Patent No. 7,363,285, April 2008, (with S. Kalyanaraman et al.).

### PUBLICATIONS

#### Book Chapters

8. U. Javaid, M. Aman and B. Sikdar, "Hardware Primitive based Blockchain for IoT in Fog and Edge Computing," *Blockchain-enabled Fog and Edge Computing: Concepts, Architectures and Applications*, Taylor and Francis, 2020.
7. F. Jameel, U. Javaid, B. Sikdar, I. Khan, G. Mastorakis and C. X. Mavromoustakis, "Optimizing Blockchain Networks with Artificial Intelligence: Towards Efficient and Reliable IoT Applications," *Convergence of Artificial Intelligence and the Internet of Things*, Springer, 2020.
6. M. Aman, K. C. Chua and B. Sikdar, "Hardware Primitives-Based Security Protocols for the Internet of Things," *Cryptographic Security Solutions for the Internet of Things*, IGI Global, 2019.
5. X. Long and B. Sikdar, "Detection of Session Hijacks Using Received Signal Strength in Wireless Networks," *Security Engineering Techniques and Solutions for Information Systems: Management and Implementation*, IGI Global, 2013.
4. H. Li, N. Jaggi and B. Sikdar, "Cooperative Relay Scheduling in Energy Harvesting Sensor Networks," *GreenIT: Technologies and Applications*, Springer-Verlag, 2011.
3. X. Long and B. Sikdar, "MAC and Routing Protocols for Vehicle to Vehicle Networks," *Automotive Informatics and Communicative Systems: Principals in Vehicular Networks and Data Exchange*, IGI Global, 2009.
2. R. Iyengar, K. Kar, B. Sikdar and X. Luo, "Scheduling Algorithms for OFDMA based WiMAX Systems with QoS Constraints," *WiMAX: Technologies, Performance Analysis and QoS, Part I: Technologies*, CRC Press, 2007.

1. S. Kalyanaraman and B. Sikdar, "Protocol Design Concepts, TCP/IP, and the Network Layer," *IP over WDM: Building the Next-Generation Optical Internet*, Sudhir Dixit (Editor), Wiley, April 2003.

#### **Journals (accepted and published)**

88. U. Javaid and B. Sikdar, "A Secure and Scalable Framework for Blockchain based Edge Computation Offloading in Social Internet of Vehicles," accepted for publication in *IEEE Transactions on Vehicular Technology*.
87. V. Sivaraman and B. Sikdar, "A Game Theoretic Approach for Enhancing Data Privacy in SDN-based Smart Grids," accepted for publication in *IEEE Internet of Things Journal*.
86. A. Padhy, S. Joshi, S. Bitragunta, V. Chamola and B. Sikdar, "A Survey of Energy and Spectrum Harvesting Technologies and Protocols for Next Generation Wireless Networks," accepted for publication in *IEEE Access*.
85. V. Chamola, V. Hassija, S. Gupta, A. Goyal, M. Guizani and B. Sikdar, "Disaster and Pandemic Management Using Machine Learning: A Survey," accepted for publication in *IEEE Internet of Things Journal*.
84. A. De Souza, P. Rego, T. Carneiro, J. Rodrigues, P. Reboucas Filho, J. De Souza, V. Chamola, V. De Albuquerque and B. Sikdar, "Computation Offloading for Vehicular Environments: A Survey," accepted for publication in *IEEE Access*.
83. U. Javaid and B. Sikdar, "A Checkpoint Enabled Scalable Blockchain Architecture for Industrial Internet of Things," accepted for publication in *IEEE Transactions on Industrial Informatics*.
82. P. Gope and B. Sikdar, "An Efficient Privacy-Preserving Authenticated Key Agreement Scheme for Edge-Assisted Internet of Drones," accepted for publication in *IEEE Transactions on Vehicular Technology*.
81. S. Chakrabarty and B. Sikdar, "Detection of Malicious Command Injection Attacks on Phase Shifter Control in Power Systems," *IEEE Transactions on Power Systems*, vol. 36, no. 1, pp. 271-280, January 2021.
80. M. Aman, U. Javaid and B. Sikdar, "A Privacy-Preserving and Scalable Authentication Protocol for the Internet of Vehicles," *IEEE Internet of Things Journal*, vol. 8, no. 2, pp. 1123-1139, January 2021.
79. M. Aman, U. Javaid and B. Sikdar, "A Scalable Protocol for Driving Trust Management in Internet of Vehicles with Blockchain," *IEEE Internet of Things Journal*, vol. 7, no. 12, pp. 11815-11829, December 2020.
78. R. Singh and B. Sikdar, "A Receiver Initiated Low Delay MAC Protocol for Wake-up Radio Enabled Wireless Sensor Networks," accepted for publication in *IEEE Sensors Journal*.
77. M. Aman, H. Basheer and B. Sikdar, "A Light Weight Protocol for Secure Data Provenance in the Internet of Things using Wireless Fingerprints," accepted for publication in *IEEE Systems Journal*.
76. Y. Gheraibia, S. Kabir, P. Gope and B. Sikdar, "A Secure IoT-based Modern Healthcare System with Fault-tolerant Decision Making Process," accepted for publication in *IEEE Journal of Biomedical and Health Informatics*.
75. R. Lella and B. Sikdar, "Differentiated Service Support in Wireless Networks with Multibeam Antennas," accepted for publication in *IEEE Transactions on Communications*.
74. R. Lella and B. Sikdar, "Blockage Aware Fair Scheduling with Differentiated Service Support in mmWave WPANs/WLANs," *IEEE Transactions on Mobile Computing*, vol. 19, no. 11, pp. 2562-2580, November 2020.



73. V. Sivaraman, D. Guha and B. Sikdar, "Optimal Pending Interest Table Size for ICN with Mobile Producers," *IEEE/ACM Transactions on Networking*, vol. 28, no. 4, pp. 1615-1628, August 2020.
72. M. Aman, M. Basheer, S. Siddhant, J. W. Wong, J. Xu, H. W. Lim and B. Sikdar, "HAtt: Hybrid Remote Attestation for the Internet of Things with High Availability," *IEEE Internet of Things Journal*, vol. 7, no. 8, pp. 7220-7233, August 2020.
71. G. Bansal, Naren, V. Chamola, B. Sikdar, N. Kumar, M. Guizani, "Lightweight Mutual Authentication Protocol for V2G Using Physical Unclonable Function," *IEEE Transactions on Vehicular Technology*, vol. 69, no. 7, pp. 7234-7246, July 2020.
70. S. Chakrabarty and B. Sikdar, "Detection of Hidden Transformer Tap Change Command Attacks in Transmission Networks," *IEEE Transactions on Smart Grids*, vol. 11, no. 6, pp. 5161-5173, June 2020.
69. A. Nalam, A. Tandon, T. J. Lim and B. Sikdar, "A GLRT Based Mechanism for Detecting Relay Misbehavior in Clustered IoT Networks," *IEEE Transactions on Information Forensics and Security*, vol. 15, pp. 435-446, 2020.
68. V. Chamola, V. Hassija, B. Sikdar, N. Kumar and N. Ansari, "Energy and Latency Aware Resource Management for Solar Powered Cellular Networks," *IEEE Network*, vol. 34, no.2, pp. 246-253, March/April 2020.
67. P. Gope and B. Sikdar, "An Efficient Privacy-Friendly Hop-by-Hop Data Aggregation Scheme for Smart Grids," *IEEE Systems Journal*, vol. 14, no. 1, pp. 343-352, March 2020.
66. T. Alladi, V. Chamola, B. Sikdar and K.-K. Choo, "Consumer IoT: Security Vulnerability Case Studies and Solutions," *IEEE Consumer Electronics Magazine*, vol. 9, no. 2, pp. 17-25, March 2020.
65. M. Aman, H. Basheer and B. Sikdar, "Data Provenance for IoT with Light Weight Authentication and Privacy Preservation," *IEEE Internet of Things Journal*, vol. 6, no. 6, pp. 10441-10457, December 2019.
64. G. S. S. Chalapathi, V. Chamola, S. Gurunarayanan and B. Sikdar, "E-SATS: An Efficient and Simple Time Synchronization Protocol for Cluster-based Wireless Sensor Networks," *IEEE Sensors Journal*, vol. 19, no. 21, pp. 10144-10156, November 2019.
63. P. Gope and B. Sikdar, "An Efficient Privacy-preserving Authentication Scheme for Energy Internet-based Vehicle-to-Grid Communication," *IEEE Transactions on Smart Grids*, vol. 10, no. 6, pp. 6607-6618, November 2019.
62. V. Hassija, V. Chamola, V. Saxena, D. Jain, P. Goyal and B. Sikdar, "A Survey on IoT Security: Application Areas, Security Threats, and Solution Architectures," *IEEE Access*, vol. 7, pp. 82721-82743, June 2019.
61. P. Gope and B. Sikdar, "Lightweight and Privacy-Friendly Spatial Data Aggregation for Secure Power Supply and Demand Management in Smart-Grids," *IEEE Transactions on Information Forensics and Security*, vol. 14, no. 6, pp. 1554-1566, June 2019.
60. M. Aman, H. Basheer and B. Sikdar, "Two-Factor Authentication for IoT with Location Information," *IEEE Internet of Things Journal*, vol. 6, no. 2, pp. 3335-3351, April 2019.
59. M. Aman, S. Taneja, B. Sikdar, K. C. Chua and M. Alioto, "Token-Based Security for the Internet of Things With Dynamic Energy-Quality Tradeoff," *IEEE Internet of Things Journal*, vol. 6, no. 2, pp. 2843-2859, April 2019.
58. P. Gope and B. Sikdar, "Privacy-Aware Authenticated Key Agreement Scheme for Secure Smart Grid Communication," *IEEE Transactions on Smart Grid*, vol. 10, no. 4, pp. 3953-3962, April 2019.

57. P. Gope and B. Sikdar, "Lightweight and Privacy-Preserving Two-Factor Authentication Scheme for IoT Devices," *IEEE Internet of Things Journal*, vol. 6, no. 1, pp. 580-589, January 2019.
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