

NEI KATO, PhD

Professor, Director,

Fellow of The Engineering Academy of Japan

Fellow of IEEE, Fellow of IEICE

Editor-in-Chief, IEEE Transactions on Vehicular Technology (2017-)

Editor-in-Chief, IEEE Network Magazine (2015-2017)



Date of Birth: 1962.05.09

Graduate School of Information Sciences
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ACADEMIC BACKGROUND

1986 Bachelor degree, Polytechnic University, Japan
1988 Master degree, Tohoku University, Japan
1991 Doctor degree, Tohoku University, Japan

WORKING EXPERIENCE

1991 Assistant Professor, Computer Center, Tohoku University
1996 Associate Professor, Graduate School of Information Sciences, Tohoku University
2003 Professor, Graduate School of Information Sciences, Tohoku University
2013 Strategic Advisor to the President of Tohoku University
2015 Director, Research Organization of Electrical Communications (ROEC), Tohoku University
2018 Deputy Dean, Graduate School of Information Sciences, Tohoku University

MAJOR ACADEMIC ACTIVITIES

1997-1999 Editorial member of the Magazine, The Institute of Electronics, Information and Communication Engineering (IEICE)
2000 Member of Satellite Communication Technical committee of IEICE
2001 Member of Communication System Technical Committee of IEICE
2002-2005 Associate Editor of IEICE Transactions of Communications
2003 Associate Editor of the Special Issue on Recent Fundamental Technologies for Broadband Satellite Communications (IEICE Transactions of Communications)
2005 Associate Editor of the Special Issue on the Next Generation Ethernet Technologies (IEICE Transactions of Communications)
2005 Co-Guest Editor of the Special Issue on Broadband Convergence Networks (BCN) (Journal of Communications and Networks)
2006- Associate Editor of the Wiley International Journal of Communications Systems

2006-2006 Advisory Board Member, Wiley Security and Communications Networks
 2006 Technical Editor, IEEE Wireless Communications
 2007 Co-Chair, the Internet Protocol Symposium, IEEE GLOBECOM'07

2008 Co-Chair, Wireless Communications and Networking Symposium, CHINACOM'08

2009 Co-Chair, ACCESSNETS Workshop
 2009 Co-Chair, CHINACOM'09
 2009 Editor, IEEE Transactions on Wireless Communications
 2009 Secretary, IEEE Ad hoc & Sensor Networks Technical Committee (TC)
 2010 Associate Editor, IEEE Transactions on Vehicular Technology
 2010 Vice Chair, IEEE Asia Pacific Board (Meeting & Conferences Committee)
 2010 Co-Chair, Fall Workshop, VTC'10
 2010 Vice Chair, Network Track, IEEE WCNC TPC
 2010 Co-Chair, Ad hoc & Sensor Network Symposium, IEEE ICC'10
 2010-2012 Chair, IEEE Satellite and Space Communications TC
 2011 Co-Chair, IEEE ICC'11 Ad hoc & Sensor Network Symposium
 2011 Vice Chair, Network Track, IEEE WCNC'11 TPC
 2011 Guest Editor-in-Chief, IEEE Transactions on Parallel and Distributed Systems (TPDS) Special Issue (SI) on Cyber Physical System
 2011-2012 Chair, IEICE Technical Committee on Satellite Communications
 2011-2014 Editor, IEEE TPDS
 2012 Symposium Co-Chair, Ad Hoc, Sensor and Mesh Networking Symposium, IEEE ICC'12
 2012 Symposium Co-Chair, IEEE ICC'12
 2012 Symposium Co-Chair, IEEE GLOBECOM'12
 2012 Guest Editor-in-Chief, IEICE SI on Satellite Communication Technologies in Conjunction with Main Topics of JC-SAT2011
 2012-2013 Vice Chair, IEEE Ad Hoc & Sensor Networks TC
 2012- Steering Committee Member, IEEE WCNC'12
 2012-2015 IEEE GLOBECOM/ICC Technical Content (GITC) Member
 2012-2014 Distinguished Lecturer, IEEE Communications Society (COMSOC)
 2012-2014 Editor, IEEE Network Magazine
 2012- Chair, IEEE Sendai Chapter
 2013 Co-Chair, Wireless Networking Symposium, IEEE GLOBECOM'12
 2013-2014 Associate Editor-in-Chief, IEEE TPDS
 2013- Associate Editor-in-Chief, IEEE Internet of Things Journal
 2014-2016 Member-at-Large on the Board of Governors, IEEE COMSOC
 2014 TPC Vice Chair, IEEE ICC'14
 2014 Symposium Co-Chair, IEEE SmartGridComm'14
 2014 Symposium Co-Chair, IEEE TrustComm'14
 2013-2014 Associate Editor-in-Chief, IEEE Network Magazine
 2014- Area Editor, IEEE Transactions on Vehicular Technology
 2014-2015 Chair, Ad Hoc & Sensor Networks TC of IEEE COMSOC
 2014- IEEE Vehicular Technology Society Distinguished Lecturer
 2015.7-2017.6 Editor-in-Chief, IEEE Network Magazine
 2015- Associate Editor, IEEE Transactions on Computers
 2015 Guest Editor, IEEE Internet of Things Journal SI on "Things" as Intelligent Sensors and Actuators in the Users' Context: Processing and Communications Issues
 2015 Symposium Co-Chair, IEEE WCNC'15
 2015 GITC Advisor, IEEE GLOBECOM'15
 2015-2016 IEEE Computer Society Award Committee

2015-2017	Member, IEEE Communications Society Awards Committee
2016	Vice Chair, IEEE Computer Society Fellow Committee
2016	General Chair, IEEE TrustComm'16
2017-	Vice President, IEEE Communications Society
2017-	Editor-in-Chief, IEEE Transactions on Vehicular Technology

RESEARCH AREAS

- Network architectures and protocols
- Wireless networks
- Ad hoc & Sensor networks
- Vehicular networks
- Satellite communications
- Network security
- IoT, Big Data
- Machine Learning and Artificial Intelligence
- Network management

MAJOR AWARDS AND RECOGNITIONS

1. Minoru Ishida Foundation Research Encouragement Prize (2003)
2. Distinguished Contributions to Satellite Communications Award from the IEEE Communications Society, Satellite and Space Communications Technical Committee (2005)
3. FUNAI information Science Award (2007)
4. TELCOM System Technology Award from Foundation for Electrical Communications Diffusion (2008)
5. IEICE Network System Research Award (2009)
6. IWCMC'09 Best paper award (2009)
7. IEEE GLOBECOM'10 Best paper award (Ad Hoc and Sensor Networking Symposium) (2010)
8. IEEE GLOBECOM'10 Best paper award (Wireless Networking Symposium) (2010)
9. IEICE Satellite Communications Research Award (2011)
10. IEEE WCNC'12 Best Paper Award (2012)
11. KDDI Foundation Excellent Research Award (2012)
12. IEICE Communications Society Best Paper Award (2012)
13. Fellow of IEICE (2012)
14. IEICE Satellite Communications Research Award (2012)
15. IEICE Communications Society Distinguished Service Award (2012)
16. IEEE Communications Society Distinguished Lecturer (2012-2015)
17. IEEE IWCMC'13 Best Paper Award (2013)
18. IEEE GLOBECOM'13 Best paper award (2013)
19. Fellow of IEEE (2013)
20. IEEE Vehicular Technology Conference (VTC'13) - Spring Best Paper Award (2013)
21. IEEE Wireless Communications and Networking Conference (WCNC'14) Best Paper Award (2014)
22. Distinguished Contributions to Disaster-resilient Networks R&D Award, Ministry of Internal Affairs and Communications, Japan (2014)
23. IEEE Vehicular Technology Society Distinguished Lecturer (2014-)
24. International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS'14) Best Paper Award (2014)
25. 4th IEEE International Conference on Network Infrastructure and Digital Content (IC-NIDC'14) Best Paper Award (2014)
26. 13th IEEE International Conference on Trust, Security and Privacy in Computing and

- Communications (TrustCom'14) Best Paper Award (2014)
27. International Conference on Wireless Communications and Signal Processing (WCSP'14) Best Paper Award (2014)
 28. IEEE GLOBECOM'14 Best paper award (2014)
 29. International Conference on Wireless Communications and Signal Processing (WCSP'15) Best Paper Award (2015)
 30. IEEE/CIC International Conference on Communications in China (ICCC'15) Best Paper Award (2015)
 31. IEEE Communications Society Ad Hoc & Sensor Networks Outstanding Service & Leadership Recognition Award (2016)
 32. IEEE Vehicular Technology Conference (VTC'16) - Spring Best Paper Award (2016)
 33. IEEE International Conference on Communications (ICC'16) Best Paper Award "A Mobility-Based Mode Selection Technique for Fair Spatial Dissemination of Data in Multi-Channel Device-to-Device Communication" (2016)
 34. IEEE International Conference on Communications (ICC'16) Best Paper Award "GHAR: Graph-based Hybrid Adaptive Routing for Cognitive Radio Based Disaster Response Networks" (2016)
 35. IEEE International Conference on Network Infrastructure and Digital Content (IC-NIDC'16) Best Paper Award (2016)
 36. IEEE Global Communications Conference (GLOBECOM'16) Best Paper Award (2016)
 37. IEEE International Conference on Communications (ICC'17) Best Paper Award (2017)
 38. IEEE Global Communications Conference (GLOBECOM'17) Best Paper Award (2017)
 39. IEEE Communications Society Asia-Pacific Outstanding Paper Award(2017)
 40. IEEE International Conference on Communications (ICC'18) Best Paper Award (2018)
 41. Science and Technology Prize, the Minister of Education, Culture, Sports, Science and Technology, Japan (2018)
 42. Contribution Award, Tohoku Bureau of Telecommunications, Ministry of Internal Affairs and Communications, Japan (2018)
 43. Fellow of The Engineering Academy of Japan (2018)
 44. IEEE Global Communications Conference (GLOBECOM'18) Best Paper Award(2018)
 45. IEEE Communications Society Green Communications and Computing Technical Committee Distinguished Technical Achievement Recognition Award(2019)

OTHER RECOGNITIONS

1. Certificate of Appreciation for Internet Protocol Symposium Chair at IEEE GLOBECOM'07 (2007)
2. Certificate of Appreciation for Network symposium Vice-Chair at IEEE WCNC'10 (2010)
3. Certificate of Appreciation for Sensor and Mesh Networking Symposium Co-Chair at IEEE ICC'10 (2010)
4. Certificate of Appreciation for Sensor and Mesh Networking Symposium Co-Chair at IEEE ICC'11 (2011)
5. Certificate of Appreciation for Symposium Co-Chair at IEEE GLOBECOM'12 (2012)
6. Certificate of Appreciation for Track Chair at IEEE PIMRC'12 (2012)
7. Certificate of Appreciation for Symposium Co-Chair at IEEE GLOBECOM'13 (2013)
8. Certificate of Appreciation for Publicity Co-Chair at IEEE INFOCOM'14 (2014)
9. Certificate of Appreciation for Vice-Chair at IEEE ICC'14 (2014)
10. Certificate of Appreciation for serving as a Member-at-Large of IEEE ComSoc, 2016
11. Certificate of Appreciation for Symposium Co-Chair at IEEE SmartGridComm'14 (2014)
12. Certificate of Appreciation for serving as a member of the IEEE ComSoc Award Committee, 2017

13. Certificate of Appreciation for serving as the EiC of IEEE Network Magazine, 2017

KEYNOTE SPEECHES

1. "On Removing Routing Protocol from Future Wireless Networks: A Real-time Deep Learning Approach for Intelligent Traffic Control", the 3rd EAI International Conference on Machine Learning and Intelligent Communications, July, 2018
2. "On Removing Routing Protocol from Future Wireless Networks: A Real-time Deep Learning Approach for Intelligent Traffic Control", The 4th International Conference on Cloud Computing and Security (ICCCS 2018), Haikou, China, June 2018.
3. "The Deep Learning Vision for Heterogeneous Networks Control – Proposal, Challenges, and Future Perspective", The 2017 International Conference on Wireless Internet (WICON '17), Tianjin, China, Dec. 2017
4. "IoT: Towards a Connected Era--- Research Direction and Social Impacts," 22nd IEEE International Conference on Parallel and Distributed Systems (ICPADS'16), Wuhan, China, Dec. 2016.
5. "Advanced Ad Hoc and Mesh Networks Technologies to Facilitate Specialized Disaster-resilient Networks," The 13th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (IEEE TrustCom'14), Beijing, China, Sept. 2014.
6. "Disaster Resilient Network Technologies: MDRU and Relay-by-Smartphone," International Conference on Computing, Networking and Communications (ICNC'14), Honolulu, Hawaii, USA, Feb. 2014.
7. "Relay-by-Smartphone: A New Paradigm Toward Autonomous Communications in Disaster-affected Areas," 10th International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services, Tokyo, Japan, Dec. 2013.
8. "Relay-by-Smartphone: A Dual Mode Ad hoc Network System for Disaster-affected Areas," 2013 International Conference on Wireless Communications and Signal Processing (WCSP'13), Hangzhou, China, Oct. 2013.
9. "D2D: Research Trend and Future Perspective," The 9th International Conference on Wireless Communications, Networking and Mobile Computing, Beijing, China, Sept. 2013.
10. "Research and Development for Constructing Disaster Resilient Networks Exploiting Resource Units," the 75th National Convention of the Information Processing Society of Japan (IPJS), Sendai, Japan, Mar. 2013.
11. "Recent Trends in Ad hoc, Sensor, and Mesh Networks: From Fundamental to Specialized Disaster-Resilient Applications," International Conference on Computing, Networking and Communications (ICNC'13), San Diego, USA, Jan. 2013.
12. "Advanced Ad Hoc and Mesh Networks Technologies to Facilitate Specialized Disaster-resilient Networks," The 8th International Conference on Mobile Ad-hoc and Sensor Networks, Chengdu, China, Dec. 2012.
13. "Robust and Efficient Stream Delivery for Application Layer Multicasting in Heterogeneous Networks," 2nd Workshop on Multimedia Communications & Services (MCS), IEEE GLOBECOM'11, Houston, Texas, USA, Dec. 2011.

INTERNATIONAL RESEARCH PROJECT PI

1. A3 Foresight Program (supported by Japan, China, Korea Governments) (2011-2016)
2. JUNO Program (supported by Japan, US Governments) (2013-2017)
3. JST Program (supported by Japan, Taiwan Governments) (2014-)

SELECTED ACTIVITIES FOR GOVERNMENT

1. Member on the expert committee of Telecommunications Council, the Special Commissioner of Telecommunications Business Dispute Settlement Commission, Ministry of Internal Affairs and Communications, Japan
2. Chairperson of ITU-R SG4 and SG7, Japan
3. Telecommunications Business Dispute Settlement Commission Special Commissioner, Japan

PUBLICATIONS/SPEECHES SUMMARY

Publications Type	Number
Journal Papers	232
International Conference Papers	189
Invited papers (inclusive of journal and conference papers)	11
Domestic Conference Papers	48
Book	1
Book Chapters	4
Workshop Papers	22
Technical Reports	104
Keynotes	10
Tutorials	23
Panel Speeches	10
Distinguished Lectures	6

SELECTED PUBLICATIONS LIST

JOURNALS

1. Nei Kato, Yuichi Kawamoto, Akira Aneha, Yuichi Yaguchi, Ryu Miura, Hideki Nakamura, Michihiro Kobayashi, Toshihiko Henmi, Osamu Akimoto, Yoshihiro Kamisawa, Akifumi Kitashima, "Location Awareness System for Drones Flying Beyond Visual Line of Sight Exploiting the 400 MHz Frequency Band," IEEE Wireless Communications Magazine, Accepted.
2. Shigenori Tani, Katsuyuki Motoyoshi, Hiroyasu Sano, Atsushi Okamura, Hiroki Nishiyama, and Nei Kato, "Flexibility-Enhanced HTS System for Disaster Management: Responding to Communication Demand Explosion in a Disaster," IEEE Transactions on Emerging Topics in Computing (TETC), In press.
DOI : 10.1109/TETC.2017.2688078.
3. Masaki Takahashi, Yuichi Kawamoto, Nei Kato, Amane Miura, Morio Toyoshima, "Adaptive Power Resource Allocation with Multi-Beam Directivity Control in High-Throughput Satellite Communication Systems," IEEE Wireless Communications Letters, In press.
DOI : 10.1109/LWC.2019.2912753.
4. Bomin Mao, Fengxiao Tang, Zubair Md. Fadlullah, and Nei Kato, "An Absorbing Markov Chain Based Model to Solve Computation and Communication Tradeoff in GPU-Accelerated MDRUs for Safety Confirmation in Disaster Scenarios," IEEE Transactions on Computers, In press.

DOI : 10.1109/TC.2019.2906881.

5. Jiadai Wang, Lei Zhao, Jiajia Liu, Nei Kato, "Smart Resource Allocation for Mobile Edge Computing: A Deep Reinforcement Learning Approach," *Transactions on Emerging Topics in Computing*, In press.
DOI : 10.1109/TETC.2019.2902661.
6. Jiajia Liu, Luo Qian, Hongzhi Guo, Nei Kato, "TSP Security in Intelligent and Connected Vehicles: Challenges and Solutions," *IEEE Wireless Communications Magazine*, In press.
DOI : 10.1109/MWC.2019.1800289.
7. Bomin Mao, Fengxiao Tang, Zubair Md. Fadlullah, and Nei Kato, "An Intelligent Route Computation Approach Based on Real-Time Deep Learning Strategy for Software Defined Communication Systems," *IEEE Transactions on Emerging Topics in Computing*, In press.
DOI : 10.1109/TETC.2019.2899407.
8. Yoshitaka Shimizu, Yasuo Suzuki, Ryota Sasazawa, Yuichi Kawamoto, Hiroki Nishiyama, Nei Kato, Atsushi Yamamoto, and Satoshi Kotabe, "Development of Movable and Deployable ICT Resource Unit (MDRU) and its overseas activities," *Journal of Disaster Research (JDR)*, In press.
DOI : <https://doi.org/10.20965/jdr.2019.p0363>.
9. Hiroshi Kumagai, Hiroshi Sakurauchi, Shinsuke Koitabashi, Takeaki Uchiyama, Shinichi Sasaki, Kazuhide Noda, Makoto Ishizaki, Satoshi Kotabe, Atsushi Yamamoto, Yoshitaka Shimizu, Yasunori Owada, Katsuhiko Temma, Toshiaki Miyazaki, Peng Li, Yuichi Kawamoto, Nei Kato, and Hiroki Nishiyama, "Development of Resilient Communications Technology for Disaster Information Exchange," *Journal of Disaster Research (JDR)*, In press.
DOI : <https://doi.org/10.20965/jdr.2019.p0348>.
10. Tohn Furutani, Yuichi Kawamoto, Hiroki Nishiyama, and Nei Kato, "Proposal and Performance Evaluation of Information Diffusion Technique With Novel Virtual-Cell-Based Wi-Fi Direct," *IEEE Transactions on Emerging Topics in Computing*, In press.
DOI : 10.1109/TETC.2019.2891713.
11. Yunseong Lee, Keisuke Miyanabe, Hiroki Nishiyama, Nei Kato, and Takashi Yamada, "Threshold-Based RRH Switching Scheme Considering Baseband Unit Aggregation for Power Saving in a Cloud Radio Access Network," *IEEE Systems Journal*, In press.
DOI : 10.1109/JSYST.2018.2890130.
12. Nei Kato, Zubair Md. Fadlullah, Fengxiao Tang, Bomin Mao, Shigenori Tani, Atsushi Okamura, and Jiajia Liu, "Optimizing Space-Air-Ground Integrated Networks by Artificial Intelligence," *IEEE Wireless Communications Magazine (WCM)*, In press.
DOI : 10.1109/MWC.2018.1800365.
13. Yuichi Kawamoto, Hiroaki Takagi, Hiroki Nishiyama, and Nei Kato, "Efficient Resource Allocation Utilizing Q-Learning in Multiple UA Communications," *IEEE Transactions on Network Science and Engineering*, In press.
DOI : 10.1109/TNSE.2018.2842246.
14. Fengxiao Tang, Zubair Md. Fadlullah, Bomin Mao, Nei Kato, Fumie Ono, and Ryu Miura, "On A Novel Adaptive UAV-Mounted Cloudlet-Aided Recommendation System for LBSNs," *IEEE Transactions on Emerging Topics in Computing*, In press.
DOI : 10.1109/TETC.2018.2792051.
15. Shigenori Tani, Katsuyuki Motoyoshi, Hiroyasu Sano, Atsushi Okamura, Hiroki Nishiyama, and Nei Kato, "Flexibility-Enhanced HTS System for Disaster Management: Responding to Communication Demand Explosion in a Disaster," *IEEE Transactions on Emerging Topics in Computing (TETC)*, In press.
DOI : 10.1109/TETC.2017.2688078.
16. Zubair Md. Fadlullah, Bomin Mao, Fengxiao Tang, and Nei Kato, "Value Iteration Architecture based Deep Learning for Intelligent Routing Exploiting Heterogeneous Computing Platforms," *IEEE Transactions on Computers*, vol. 68, no. 6, pp. 939-950, June 2019.
17. Jiadai Wang, Jiajia Liu, Nei Kato, "Networking and Communications in Autonomous Driving: A Survey," *IEEE Communications Surveys & Tutorials*, vol. 21, no. 2, pp. 1243-1274, June 2019.
18. Ayaka Hanyu, Yuichi Kawamoto, Hiroki Nishiyama, Nei Kato, Naoto Egashira, Kazuto Yano, and Tomoaki Kumagai, "Adaptive Frequency Band and Channel Selection for Simultaneous Receiving and Sending in Multiband Communication," *IEEE Wireless Communications Letters*, vol.8, no.2, pp.460-463, Apr. 2019.
19. Keisuke Miyanabe, Tiago Gama Rodrigues, Yunseong Lee, Hiroki Nishiyama, and Nei Kato, "An Internet of Things Traffic-Based Power Saving Scheme in Cloud-Radio Access Network," *IEEE Internet of Things Journal*, vol. 6, no. 2, pp. 3087-3096, Apr. 2019.
20. Zubair Md. Fadlullah, Yuichi Kawamoto, Hiroki Nishiyama, Nei Kato, Naoto Egashira, Kazuto Yano, and Tomoaki Kumagai, "Multi-hop Wireless Transmission in Multi-band WLAN Systems: Proposal and Future Perspective," *IEEE Wireless Communications Magazine (WCM)*, vol.26., no.1, pp.108-113, Feb. 2019.
21. Yuichi Kawamoto, Hiroki Nishiyama, Nei Kato, Fumie Ono, and Ryu Miura, "Toward Future Unmanned Aerial Vehicle Networks: Architecture, Resource Allocation and Field Experiments," *IEEE Wireless Communications Magazine*, vol.26, no.1, pp.94 - 99, Feb. 2019.
22. Shigenori Tani, Katsuyuki Motoyoshi, Hiroyasu Sano, Atsushi Okamura, Hiroki Nishiyama, and Nei Kato, "An

Adaptive Beam Control Technique for Q Band Satellite to Maximize Diversity Gain and Mitigate Interference to Terrestrial Networks," *IEEE Transactions on Emerging Topics in Computing (TETC)*, vol.7, no.1, pp.115-122, Jan. 2019.

23. Fengxiao Tang, Zubair Md. Fadlullah, Bomin Mao, and Nei Kato, "An Intelligent Traffic Load Prediction Based Adaptive Channel Assignment Algorithm in SDN-IoT: A Deep Learning Approach," *IEEE Internet of Things Journal*, vol. 5, no. 6, pp. 5141 - 5154, Dec. 2018.
24. Hongzhi Guo, Jiajia Liu, Jie Zhang, Wen Sun, and Nei Kato, "Mobile-Edge Computation Offloading for Ultra-Dense IoT Networks," *IEEE Internet of Things Journal*, vol. 5, no. 6, pp. 4977 - 4988, Dec. 2018.
25. Zubair Md. Fadlullah, Fengxiao Tang, Bomin Mao, Jiajia Liu, and Nei kato, "On Intelligent Traffic Control For Large-Scale Heterogeneous Networks: A Value Matrix-Based Deep Learning Approach," *IEEE Communication letter*, vol. 22, no. 12, pp. 2479-2482, Dec. 2018.
26. Yuki Takahashi, Yuichi Kawamoto, Hiroki Nishiyama, Nei Kato, Fumie Ono, and Ryu Miura, "A Novel Radio Resource Optimization Method for Relay-Based Unmanned Aerial Vehicles," *IEEE Transactions on Wireless Communications*, vol. 17, no. 11, pp. 7352-7363, Nov. 2018.
27. Yibo Zhou, Zubair Md. Fadlullah, Bomin Mao, and Nei Kato, "A Deep Learning Based Radio Resource Assignment Technique For 5G Ultra Dense Networks," *IEEE Network Magazine*, vol. 32, no. 6, pp. 28 - 34, Nov. 2018.
28. Hongzhi Guo, Jiajia Liu, Zubair Md. Fadlullah, and Nei Kato, "On Minimizing Energy Consumption in FiWi Enhanced LTE-A HetNets," *IEEE Transactions on Emerging Topics in Computing*, vol. 6, no. 4, pp. 579-591, Oct. 2018.
29. Jiajia Liu, Yongpeng Shi, Yongpeng Shi, Zubair Md. Fadlullah, and Nei Kato, "Space-Air-Ground Integrated Network: A Survey," *IEEE Communications Surveys & Tutorials*, vol. 20, no. 4, pp. 2714-2741, Oct. 2018.
30. Katsuya Suto, Hiroki Nishiyama, Nei Kato, and Toshiaki Kuri, "Model Predictive Joint Transmit Power Control for Improving System Availability in Energy-Harvesting Wireless Mesh Networks," *IEEE Communications Letters*, vol. 22, no.10, pp.2112-2115, Oct. 2018.
31. Tiago Gama Rodrigues, Katsuya Suto, Hiroki Nishiyama, Nei Kato, and Katsuhiko Tamma, "Cloudlets Activation Scheme for Scalable Mobile Edge Computing with Transmission Power Control and Virtual Machine Migration," *IEEE Transactions on Computers*, vol. 67, no. 9, pp. 1287-1300, Sept. 2018.
32. Fengxiao Tang, Bomin Mao, Zubair Md. Fadlullah, and Nei Kato, "On a Novel Deep Learning Based Intelligent Partially Overlapping Channel Assignment in SDN-IoT," *IEEE Communication Magazine*, vol. 56, no. 9, pp. 80-86, Sept. 2018.
33. Bomin Mao, Fengxiao Tang, Zubair Md. Fadlullah, Nei Kato, Osamu Akashi, Takeru Inoue, and Kimihiro Mizutani, "A Novel Non-supervised Deep Learning Based Network Traffic Control Method for Software Defined Wireless Networks," *IEEE Wireless Communications Magazine*, vol. 25, no. 4, pp. 74-81, Aug. 2018.
34. Haibin Zhang, Jiajia Liu, and Nei Kato, "Threshold Tuning Based Wearable Sensor Fault Detection for Reliable Medical Monitoring Using Bayesian Network Model," *IEEE Systems Journal*, vol. 12, no. 2, pp. 1886-1896, June 2018.
35. Yongpeng Shi, Jiajia Liu, Zubair Md. Fadlullah, and Nei Kato, "Cross-layer Data Delivery in Satellite-Aerial-Terrestrial Communication," *IEEE Wireless Communications Magazine*, vol. 25, no. 3, pp. 138-143, June 2018.
36. Daisuke Takaishi, Yuichi Kawamoto, Hiroki Nishiyama, Nei Kato, Fumie Ono, and Ryu Miura, "Virtual Cell-Based Resource Allocation for Efficient Frequency Utilization in Unmanned Aircraft Systems," *IEEE Transactions on Vehicular Technology*, vol. 67, no. 4, pp. 3495-3504, Apr. 2018.
37. Yurui Cao, Yongpeng Shi, Jiajia Liu, and Nei Kato, "Optimal Satellite Gateway Placement in Space-Ground Integrated Network for Latency Minimization With Reliability Guarantee," *IEEE Wireless Communications Letters*, vol. 7, no. 2, pp. 174-177, Apr. 2018.
38. Kazuma Kaneko, Hiroki Nishiyama, Nei Kato, Amane Miura, and Morio Toyoshima, "Construction of a Flexibility Analysis Model for Flexible High-throughput Satellite Communication Systems with a Digital Channelizer," *IEEE Transactions on Vehicular Technology*, vol. 67, no. 3, pp. 2097-2107, Mar. 2018.
39. Yuanyuan Qiao, Zhizhuang Xing, Zubair Md. Fadlullah, Jie Yang, and Nei Kato, "Characterizing Flow, Application, and User Behavior in Mobile Networks – A Framework for Mobile Big Data," *IEEE Wireless Communications Magazine (WCM)*, Special Issue - Wireless Big Data, vol. 25, no. 1, pp. 40-49, Feb. 2018.
40. Fengxiao Tang, Zubair Md. Fadlullah, Nei Kato, Fumie Ono, and Ryu Miura, "AC-POCA: Anti-Coordination Game based Partially Overlapping Channels Assignment in Combined UAV and D2D based Networks," *IEEE Transactions on Vehicular Technology*, vol. 67, no. 2, pp. 1672-1683, Feb. 2018.
41. Fengxiao Tang, Bomin Mao, Zubair Md. Fadlullah, Nei Kato, Osamu Akashi, Takeru Inoue, and Kimihiro Mizutani, "On Removing Routing Protocol from Future Wireless Networks: A Real-time Deep Learning Approach for Intelligent Traffic Control," *IEEE Wireless Communications Magazine (WCM)*, vol. 25, no. 1, pp. 154-160, Feb. 2018.
42. Jiajia Liu, Yongpeng Shi, Lei Zhao, Yurui Cao, Wen Sun, and Nei Kato, "Joint Placement of Controllers and Gateways in SDN-enabled 5G-satellite Integrated Network," *IEEE Journal on Selected Areas in Communications*, vol. 36, no. 2, pp. 221-232, Feb. 2018.

43. Thuan Ngo, Hiroki Nishiyama, Nei Kato, Toshikazu Sakano, and Atsushi Takahara, "An Efficient Safety Confirmation Method Using Image Database in Multiple MDRUs Based Disaster Recovery Network," *IEEE Systems Journal*, vol. 11, no. 4, pp. 2556-2565, Dec. 2017.
44. Bomin Mao, Zubair Md. Fadlullah, Fengxiao Tang, Nei Kato, Osamu Akashi, Takeru Inoue, and Kimihiro Mizutani, "Routing or Computing? The Paradigm Shift Towards Intelligent Computer Network Packet Transmission Based on Deep Learning," *IEEE Transactions on Computers*, vol. 66, no. 11, pp. 1946-1960, Nov. 2017.
45. Katsuya Suto, Hiroki Nishiyama, and Nei Kato, "Postdisaster User Location Maneuvering Method for Improving the QoE Guaranteed Service Time in Energy Harvesting Small Cell Networks," *IEEE Transactions on Vehicular Technology*, vol. 66, no. 10, pp. 9410-9420, Oct. 2017.
46. Yuichi Kawamoto, Naoto Yamada, Hiroki Nishiyama, Nei Kato, Yoshitaka Shimizu, and Yao Zheng, "A Feedback Control Based Crowd Dynamics Management in IoT System," *IEEE Internet of Things Journal*, vol. 4, no. 5, pp. 1466-1476, Oct. 2017.
47. Yuichi Kawamoto, Hiroki Nishiyama, Nei Kato, Yoshitaka Shimizu, Atsushi Takahara, and Tingting Jiang, "Effectively Collecting Data for the Location Based Authentication in Internet of Things," *IEEE Systems Journal*, vol. 11, no. 3, pp. 1403-1411, Sept. 2017.
48. Zubair Md. Fadlullah, Fengxiao Tang, Bomin Mao, Nei Kato, Osamu Akashi, Takeru Inoue, and Kimihiro Mizutani, "State-of-the-Art Deep Learning: Evolving Machine Intelligence Toward Tomorrow's Intelligent Network Traffic Control Systems," *IEEE Communications Surveys and Tutorials*, vol. 19, no. 4, pp. 2432-2455, May 2017.
49. Tiago Gama Rodrigues, Katsuya Suto, Hiroki Nishiyama, and Nei Kato, "Hybrid Method for Minimizing Service Delay in Edge Cloud Computing through VM Migration and Transmission Power Control," *IEEE Transactions on Computers (TC)*, vol. 66, no. 5, pp. 810-819, May 2017.
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