

Curriculum Vitae
OF
Dr. S. H. Shah Newaz

PERSONAL PARTICULARS

Name: Dr. S. H. Shah Newaz

Address: Simpang 11-16, Lot 12853, Bangunan 6 story, Kampong Pulaie, Brunei Darussalam.

Phone: Phone: (office) +673-2461020, Ext 5235; (mobile) +673-8883526

Email: shah.newaz@utb.edu.bn, newaz@kaist.ac.kr, shnewaz@gmail.com

Citizenship: Bangladeshi

ACADEMIC EXPERIENCE

Lecturer, School of Computing and Informatics, Universiti Teknologi Brunei (UTB), Brunei Darussalam **Jul. 2016 – till date**

Major Responsibilities:

- Coordinating, lecturing, tutoring, preparing high quality teaching materials and setting exam papers for undergraduate and graduate units. These units are: Cloud computing and web services, Network Security, Advanced Networking II, Network administration and management, and Data Computer Network.
- Unit curriculum development (developed a new unit named “Optical Network”)
- Lecturing and tutoring both in online and face-to-face mode.
- Running experiment classes.
- Supervise Research Higher Degree (RHD) students, and undergraduate and graduate (taught) final year projects.
- Co-supervise industrial attachment students.
- Guiding and mentoring final year students in their field trips.
- Mentoring colleagues in their research.
- Research collaboration and contributing in projects.
- Academic administrative responsibilities:
 - Research coordinator role at Department level Jul. 2016– till date
 - Facilitating and fostering research activities within department (e.g. arranging seminars and workshops, establishing research laboratory, procuring laboratory resources)
 - Ethics coordinator of School Apr. 2018– till date
 - Effectively liaise and communicate with students and supervisors regarding ethical principles of UTB and educate them through seminars. Maintain, monitor and revise practices to ensure the research projects are complying ethical principles UTB mandated.

Teaching Performance at UTB:

- Average teaching evaluation scores since 2016 is 3.58 out of 4.
- The latest average peer review score (assessed by 3 colleagues) is 93%.

Short Courses Offered:

- Under the upskilling and reskilling program arranged by Ministry of Education (MOE), Brunei, I am offering two short courses: fiber-to-the-home technologies (a 1-day short course) and C programming language (a 3-day short course).

Invited Guest Lectures:

- ✓ *Online lecture* “An Overview on Past, Present and Future of FTTH Networks”, SRM Institute of Science and Technology, Tamil Nadu, India (Sept. 2020)
- ✓ “Optical and Wireless Integrated Access Networks”, Khulna University, Khulna, Bangladesh (Jan., 2019).
- ✓ “SDN/NFV: Software Defined Networking & Network Function Virtualization”, Khulna University, Khulna, Bangladesh (Jan., 2019).
- ✓ “Long haul and metro optical networks”, Korea Advanced Institute of Science and Technology (KAIST), S. Korea (Apr., 2015).
- ✓ “Passive Optical Networks”, KAIST, S. Korea (Apr., 2015).

RESEARCH EXPERIENCE

KAIST, Adjunct Professor S. Korea Dec. 2017 – till date

- Joint student supervision
- Joint research and publication
- Student exchange
- Sharing knowledge and expertise.

KAIST, Dept. of EE, Post-doctoral Research Fellow S. Korea Aug. 2013 – Jul. 2016

- Managing projects, standardization, research, mentoring/supervision, and coordinate lab seminars.

Institut TELECOM, TSP, Research Engineer Evry, France Mar. 2011– Jan. 2013

- Research and mentoring

KAIST, MNLab, Research Assistant S. Korea Feb. 2013 – Aug. 2013

- Contributing in projects and research.

Feb. 2008 – Feb. 2011.

ACADEMIC QUALIFICATION

Ph.D. in Electrical Engineering 2010 – 2013

Specialization: MAC Layer and Network Layer protocols for Energy-efficient Passive Optical Networks, network performance analysis and mathematical modelling.

CGPA: 3.7/4.3

Korea Advanced Institute of Science and Technology (KAIST), Daejeon, S. Korea

M.Sc. in Information and Communications Engineering 2008 – 2010

Specialization: Mobile IP in wireless networks, wireless network architectures, location update and handover, performance analysis and mathematical modelling.

CGPA: 3.77/4.3

Korea Advanced Institute of Science and Technology (KAIST), Daejeon, S. Korea

B.Sc. Information and Communications Engineering

2004 – 2008

Specialization: Wireless networks, architecture, wireless propagation, handover and mobility management.

CGPA: 3.94/4

East West University (EWU), Dhaka, Bangladesh

PROFESSIONAL TRAINING

- Foundations of Teaching in Higher Education, one-day course organized by Centre for Communication, Teaching and Learning (CCTL), UTB, Brunei, Oct. 24, 2020.
- School of Computing and Informatics (SCI) Curriculum Development and Review Workshop, organized by SCI, Universiti Teknologi Brunei (UTB), Brunei, June 22 to June 24, 2020
- Methods of Assessment and Scoring Criteria, one-day course organized by CCTL, UTB, Brunei, Oct. 19, 2019.
- Collaborative and Cooperative Learning, one-day course organized by CCTL, UTB, Brunei, Nov. 16, 2019.
- Problem Based Learning, one-day course organized by CCTL, UTB, Brunei, Nov. 03, 2018.
- Flipped Classroom, one-day course organized by CCTL, UTB, Brunei, Oct. 13, 2018.
- Teaching Portfolio, one-day course organized by CCTL, UTB, Brunei, March. 16, 2018.
- Mapping Module Intended Learning, one-day course organized by CCTL, UTB, Brunei, March 3, 2018.

PROFESSIONAL AFFILIATION

- Australian Computer Society (ACS) Associate member (Membership No. 4256933), Apr. 2020 - till date.
- Institute of Electrical and Electronics Engineers (IEEE), Since 2011.
Grade: IEEE Senior Member (Membership No. 90364522)
- IEEE Young Professionals, Jan. 2014 - Dec. 2014 and Jan 2018 - till date.
- IEEE Computer Society Technical Committee on Computer Communications, Since Mar. 2015.
- IEEE Communications Society Membership, Mar. 2015 - Dec. 2015.
- Association for Computing Machinery (ACM), July 2011 - June 2012.
- GreenTouch consortium, 2013 - 2014.

RESEARCH INTERESTS

- **Edge Cloud/Fog Computing/Mobile Cloud Computing**
- **Internet of Things (IoTs):** IoT-based solutions for peat swamp forest monitoring, IoT-based smart monitoring and control, protocol designing for resource constrained IoTs.
- **Smart Grid:** Communication protocol designing, energy trading, appliance load scheduling.
- **Green Networking:** Architecture, protocol design and performance analysis of optical and wireless networks.
- Next Generation Internet/Future Internet (e.g. Software defined networking, Network function virtualization).

Note: A list of my publications can be found in the subsequent part of this document.

Citations and H-Index

Current Publication Standing	Scopus	Google Scholar
Total number of listed publications	60	69
Total number of citations	293	433
h-index	10	11

Scopus

Author ID: 25929478300

<https://www.scopus.com/authid/detail.uri?authorId=25929478300>

Google scholar:

<https://scholar.google.co.kr/citations?user=z7AjZvUAAAAAJ&hl=en>

PROJECTS

■ Current Projects

- NICT Japan grant (2019 ~ 2021), as a second principal investigator, Project – *Relay Station Network Based on Low-power Wide-area Network (LPWAN) Technologies for Disaster Management* – Value: A\$ 40,467 (for all participating institutions).
- NICT Japan grant (2018 ~ 2021), as a contributor, Project – *NAPC: Networked ASEAN Peat Swamp Forest Communities*, NICT Japan – A\$ 40,467 (for all participating institutions).

■ Completed Projects

- UTB internal grant (2017 ~ 2018), as a principal investigator, Project – *Design and performance evaluation of Class Lecture on Demand (CLD) service* – Value: A\$ 1,400.
- Huawei grant (2015 ~ 2016), as a second principal investigator, Project – *The video 3.0 solution consulting collaboration project* – Value: A\$ 243,671.
- KAIST, EEWS grant (2013 ~ 2015), as a second principal investigator, Project – *Development of Core Infrastructure Technologies for Future KAIST Campus Energy Grid* – Value: A\$ 744,551.
- KEIT, Korean government grant (2013 ~ 2014), as a contributor (contribution level 30%), Project – *Research on Core Technologies for Self-Management of Energy Consumption in Wired and Wireless Networks* – Value: A\$ 297,820.
- MKE, Korean government grant (2008 ~ 2010), as a contributor (contribution level 20%), Project – *Research on Ubiquitous Mobility Management Methods for Higher Service Availability* – Value: A\$ 135,373.

AWARDS AND HONORS

- Research excellence early career academic special mention award, Universiti Teknologi Brunei (UTB), Brunei Darussalam, 2020.
- Session best presenter, ICOSICA 2020 (virtual conference), IPB University, Bagor, Indonesia, September 17, 2020.
- Highly Commended Paper, Emerald Publishing, 2019.
- Best Session Paper Award, CIIS 2018, Brunei Darussalam, 2018.
- Research excellence early career academic special mention award, Universiti Teknologi Brunei (UTB), Brunei Darussalam, 2018.
- Annual Honor Roll Award for Excellent 3rd year Doctoral Student in Research Performance Evaluation System, KAIST, S. Korea, 2013.

- Annual Honor Roll Award for Excellent 2nd year Doctoral Student in Research Performance Evaluation System, KAIST, S. Korea, 2012.
- ICNS best paper award, International academy, Research and Industry association (IARIA), 2011.
- ACM SIGCOMM 2011, Travel grant award, 2011.
- ACM's Student Research Competition Travel Award, 2011.
- KAIST Scholarship for pursuing Ph.D., KAIST, S. Korea, 2010.
- Samsung Electronics Scholarship at KAIST for pursuing M.Sc., S. Korea, 2008.
- Summa Cum Laude award from East West University (EWU), Bangladesh, 2008.
- EWU Undergraduate Dean Scholarship, Bangladesh, 2007.
- EWU Undergraduate Merit Scholarship, Bangladesh, 2006.

POSTGRADUATE SUPERVISION

■ Current Supervision

As a Principal Supervisor:

- 1) Mohammad Zulfadly Bin Awang Haji Ismail – *Pin Authentication Protection Mechanism On Touch-Screen Devices for Shoulder-Surfing Attack Resistant* (Ph.D. degree in computing and Informatics, UTB, started in 2020).
- 2) Awangku Muhammad Nur Ikram Bin Pengiran Ilimi – *Study of Water Level Prediction Algorithm for Peatlands in Brunei Using Data Mining Approach* (M.Sc. degree in computing and Informatics, UTB, started in 2020).

As a Co-supervisor:

- 1) Haji Mohd Hifdzullah Matali Bin Hj Ghani – *Alternative Password Enhancing Mechanism for Working Age Group* (M.Sc. degree in computing and Informatics, UTB, started in 2020).
- 2) Fatin Hamadah bt. Hj. Awg. Md. Abdul Rahman – *Trust-based Vehicle Fog Clusters to support 5G/B5G* (Ph.D. degree in computing and Informatics, UTB, started in 2017 and will complete in 2021).
- 3) Muhammad Hanif Bin Jumat – *Development of Visual IoT system for fire mitigation using low power wireless technology* (Ph.D. degree in computing and Informatics, UTB, started in 2019).
- 4) Hj Rudy Erwan bin Hj Ramlie – *Software Defined Networks Security: analysis and framework in SDN-enabled data centers tentative graduation year* (Ph.D. degree in computing and Informatics, UTB, started in 2020).

■ Completed Supervision

As the Principal Supervisor and a co-supervisor (have an equal shared role), I have supervised the following Ph.D. and Masters students in areas of communication networking and smart grid at Universiti Teknologi Brunei (UTB), Brunei, Korea Advanced Institute of Science and Technology (KAIST), S. Korea and LJMU, UK.

As a Principal Supervisor:

- 1) Mohammad Zulfadly bin Awang Haji Ismail – *Security-enhanced Android-based 'Noted-and-Destruct' Communication* (M.Sc. degree in computing and Informatics, UTB, graduated in

2020).

- 2) Dk. Siti Nur Amalina Binti Pg. Hj. Damit – *Machine Learning Based Sleep Interval Deciding Algorithm in TDM-PON* (M.Sc. degree in computing and Informatics, UTB, graduated in 2019).
- 3) Sakinah Noor binti Haji Rosli – *Energy efficient shared WDM Passive optical network (WDM-PON)* (M.Sc. degree in computing and Informatics, UTB, graduated in 2019).
- 4) Dk. Nur Siti Khadhijah Binti Pg. Hj Ali Kumar – *towards Realising Application-Latency Aware Green Fog Computing: Prediction-Based Approach* (M.Sc. degree in computing and Informatics, UTB, graduated in 2018).

As a Co-supervisor:

- 1) Siti Noramalsalina Binti Awang Suhaili – *Optimizing Battery Life of Lora Devices* (M.Sc. degree in computing and Informatics, UTB, graduated in 2020).
- 2) Zara Laila Binti Abdul Hadi – *Blockchain-Based Digital Academic Credentials System for Brunei Darussalam* (M.Sc. degree in computing and Informatics, UTB, graduated in 2020).
- 3) Yoon-Sik Yoo – *Peer-to-Peer based Energy Trading System for Heterogeneous Small-scale DERs* (Ph.D. degree in Electrical engineering, KAIST, S. Korea, graduated in 2020) – online and face-to-face supervision.
- 4) Muhammad Hanif Bin Jumat – *Wireless Sensor Network (WSN) for Peatland Forest Fire, Warning and Detection System in Brunei* (M.Sc. degree in computing and Informatics, UTB, graduated in 2019).
- 5) Ali Saeed Dayem Alfoudi – *Slicing-based Resource Allocation and Mobility Management for Emerging Wireless Networks* (Ph.D. degree in Computer Science, LJMU, UK, graduated in 2018) – online supervision.
- 6) Alaelddin Fuad Yousif Mohammed – *A novel energy saving mechanism for TDM Passive Optical Networks* (Ph.D. degree in Global information and Telecommunication Technology, KAIST, S. Korea, graduated in 2016).
- 7) Hyeontaek Oh – *Energy-efficient sleep interval decision scheme for IEEE 802.11 wireless LAN access points* (M.Sc. degree in Electrical engineering, KAIST, S. Korea, graduated in 2014).
- 8) Jang MinSeok – *Delay aware synchronous bidirectional transmission scheme for energy-efficient TDM-PON* (M.Sc. degree in Electrical engineering, KAIST, S. Korea, graduated in 2013).

UNDERGRADUATE SUPERVISION

As a principal supervisor and co-supervisor, I am currently supervising 8 undergraduate final year projects and I have successfully completed supervising 22 undergraduate projects in the area of communication networking, network security and IoTs. For the detailed list, please visit: <http://shnewaz.weebly.com/teaching-and-supervision.html>.

THESIS EXAMINER AND DEFENCE COMMITTEE MEMBER

■ Thesis Examiner:

Student: Woo Siew Leing

Thesis title: Investigating the Significant Impact of Typography in Graphic Design as a Visual Communication Tool through Emotions Association in Pupillary Response

University: Universiti Teknologi Brunei, Brunei Darussalam.

Year: 2020.

■ PhD Defence Committee Member:

- Alaelddin Fuad Yousif Mohammed, June 2016, Dept. of ITTP, KAIST, S. Korea.

RESEARCH PUBLICATIONS

Based on the classification provided by SCImago, the Rank Q1, Q2, Q3 and Q4 are marked with the publication listed below.

■ Refereed journal papers published:

1. Fatin Hamadah Rahman, **S. H. Shah Newaz** (*corresponding author*), Au Thien-Wan, Wida Susanty Suhaili, Gyu Myoung Lee; "Off-Street Vehicular Fog for Catering applications in 5G/B5G: A Trust-based Task Scheduling Solution and Open Research Issues", *IEEE Access*, vol. 8, pp. 117218-117235, 2020. (SCIE) [Impact factor: 3.745, SCOPUS, **Q1**].
2. Awangku Muhammad Iqbal Yura, **S. H. Shah Newaz** (*corresponding author*), Fatin Hamadah Rahman, Thien Wan Au, Gyu Myoung Lee, Tai-Won Um; "Evaluating TCP performance of routing protocols for traffic exchange in street-parked vehicles based fog computing infrastructure", *Springer Journal of Cloud Computing: Advances, Systems and Applications*, Vol 9, 18, 2020. (SCIE) [Impact factor: 2.14 (2 years' impact factor), SCOPUS, **Q2**].
3. Alaelddin Fuad Yousif Mohammed, **S. H. Shah Newaz**, D S Sankar, Md. Shamim Ahsan, Tai Won Um; "A Green Converged TWDM-PON and 5G HetNet Catering Applications Demanding Low Latency", *Elsevier Optical Fiber Technology (OFT)*, Vol. 58, pp. 118-129, June 2020. (SCIE) [Impact factor: 1.824, SCOPUS, **Q2**].
4. Apurba Adhikary, Md. Shamim Ahsan, Md. Mahbub Hossain, Md. Bipul Hossain, **S. H. Shah Newaz**, Farid Ahmed, Ik-Bu Sohn; "Improvement of light intensity and efficiency of n-ZnO/NiO/p-GaN heterojunction-based white light emitting diodes using micro-/nanolens array", *SPIE Optical Engineering*, Vol. 59, Issue: 11, pp. 117108, 2020. (SCIE) [Impact factor: 1.113, SCOPUS, **Q1**].
5. Ali Saeed Dayem Alfoudi, **S. H. Shah Newaz** (*corresponding author*), Abayomi Otebolaku, Gyu Myoung Lee, Rubem Pereira; "An Efficient Resource Management Mechanism for Network Slicing in a LTE Network", *IEEE Access*, Vol: 7, pp. 89441- 89457, July 2019. (SCIE) [Impact factor: 4.098, SCOPUS, **Q1**]
6. Kazi Mahmud Hasan, **S. H. Shah Newaz**, Md. Shamim Ahsan "Design and Development of an Aircraft Type Portable Drone for Surveillance and Disaster Management", *Emerald International*

- Journal of Intelligent Unmanned Systems* (Emerging Sources Citation Index (ESCI), 2018, pp. 00-00. [Impact factor: 1.17, SCOPUS, Q3]
7. Fatin Hamadah Rahman, Thien-Wan Au, **S. H. Shah Newaz** (*corresponding author*), Wida Susanty Suhaili, Gyu Myoung Lee, “Find My Trustworthy Fogs: A Fuzzy-based Trust Evaluation Framework”, *Elsevier Future Generation Computer Systems*, 15 June 2018. (SCIE) [Impact factor: 6.125, SCOPUS, Q1]
 8. Yoon-Sik Yoo, **S. H. Shah Newaz** (*corresponding author*), Peter David Shannon, Il-Woo Lee, and Jun Kyun Choi, “Towards Improving Throughput and Reducing Latency: A Simplified Protocol Conversion Mechanism in DER Network”, *Elsevier Applied Energy*, Vol. 213, 1 March 2018, pp. 45-55. (SCIE). [Impact factor: 8.848, SCOPUS, Q1]
 9. Alaelddin Fuad Yousif Mohammed, **S. H. Shah Newaz** (*corresponding author*), Fawaz AL-Hazemi, and Jun Kyun Choi, “Grant Management Procedure for Energy Saving TDM-PONs”, *Elsevier Optical Fiber Technology* (OFT), Volume 40, pp. 118-129, January 2018 (SCIE). [Impact factor: 1.824, SCOPUS, Q2]
 10. Sanghong Ahn, Joohyung Lee, Sangdon Park, **S. H. Shah Newaz**, Jun Kyun Choi, “Competitive Code Offloading for Maximizing Energy Efficiency in Mobile Cloud Computing”, *IEEE Access*, Volume 6, pp. 899 - 912, November 2017 (SCIE). [Impact factor: 4.098, SCOPUS, Q1]
 11. Joohyung Lee, Seonghwa Yun, Hyeontaek On, **S. H. Shah Newaz**, Seong Gon Choi, JunKyun Choi, “Power Efficient Radio Resource Allocation for Multi-homing services in Heterogeneous Wireless Access Networks”, *IEEE Journal of Communications and Networks (JCN)*. Vol. 18, Issue 4, pp. 619-628, Aug. 2016 (SCIE) [Impact factor: 1.632, SCOPUS, Q2]
 12. Fawaz AL-Hazemi, Dong-Ki Kang, Seong-Hwan Kim, Yuyang Peng, **S. H. Shah Newaz**, Chan-Hyun Youn, “LPCFreqSchd: A local power controller using the frequency scheduling approach for virtualized servers”, *Springer Cluster Computing*, pp. 1-16, Apr. 7, 2016 (SCIE). [Impact factor: 1.851, SCOPUS, Q2]
 13. Alaelddin Fuad Yousif Mohammed, **S. H. Shah Newaz** (*corresponding author*), Mohammad Rakib Uddin, Gyu Myoung Lee, Jun Kyun Choi, "Early Wake-up Deciding Algorithm for ONUs in TDM-PONs with Sleep Mode", *IEEE/OSA Journal of Optical Communications and Networking (JOCN)*, Vol. 8, Issue 5, pp. 308-319, Apr. 29, 2016 (SCIE). [Impact factor: 3.09, SCOPUS, Q1]
 14. **S. H. Shah Newaz**, Jang MinSeok, Alaelddin Fuad Yousif Mohammed, Gyu Myoung Lee, Jun Kyun Choi, “Building an Energy-efficient Uplink and Downlink Delay Aware TDM-PON System”, *Elsevier Optical Fiber Technology (OFT)*, vol. 29, pp. 34-52, May 2016. (SCIE). [Impact factor: 1.824, SCOPUS, Q2]
 15. Alaelddin Fuad Yousif Mohammed, **S. H. Shah Newaz** (*corresponding author*), Joohyung Lee, Mohammad Rakib Uddin, Gyu Myoung Lee, Jun Kyun Choi, "Performance Analysis of TCP Traffic and Its Influence on ONU's Energy Saving in Energy Efficient TDM-PON", *Elsevier Optical Fiber Technology (OFT)*, vol. 26, part B, pp. 190-200, Dec. 2015. (SCIE). [Impact factor: 1.824, SCOPUS, Q2]
 16. **S. H. Shah Newaz**, Angel Cuevas, Gyu Myoung Lee, Noël Crespi, Jun Kyun Choi, “Evaluating

- Energy Efficiency of ONUs having Multiple Power Levels in TDM-PONs”, *IEEE Communication Letter*, vol.17, no.6, pp.1248-1251, June 2013. (SCIE). [Impact factor: 3.457, SCOPUS, Q1]
17. **S. H. Shah Newaz**, Ángel Cuevas, Gyu Myoung Lee, Noël Crespi, Jun Kyun Choi, “Adaptive Delay-Aware Energy Efficient TDM-PON”, *Elsevier Computer Networks*, Vol. 57, Issue 7, pp. 1577-1596, 8 May 2013. (SCIE) [Impact factor: 3.03, SCOPUS, Q1]
 18. **S. H. Shah Newaz**, Angel Cuevas, Gyu Myoung Lee, Noël Crespi, JunKyun Choi, “Improving Energy Saving in Time-Division Multiplexing Passive Optical Networks”, *IEEE Internet Computing*, Vol.17, no.1, pp.23-31, Jan.-Feb. 2013. (SCIE) [Impact factor: 2.891, SCOPUS, Q2]
 19. Md. Shamim Ahsan, Man Seop Lee, **S. H. Shah Newaz**, and Syed Md. Asif, “Migration to the Next Generation Optical Access Networks Using Hybrid WDM/TDM-PON”. *Journal of Networks*, Vol 6, No 1 (2011), 18-25, Jan 2011. [SCOPUS, Q4]

■ **Refereed conference papers:**

1. Jinyeom Kim, Lee JooHyung, Seongsoo Lee, Sungback Hong, **S. H. Shah Newaz**, “Adaptive Queue Management in Embedded Edge Devices for Object Detection with Low Latency”, *ICTC 2020*, October 21-23, 2020/Ramada Plaza Hotel, Jeju Island, S. Korea.
2. Kazi Mahmud Hasan, Wida Haji Suhaili, Md. Shamim Ahsan, **S. H. Shah Newaz**; “Development of an Aircraft Type Portable Autonomous Drone for Agricultural Applications”, *2020 International Conference on Computer Science and Its Application in Agriculture (ICOS ICA)*, 17 September 2020, Bogor, Indonesia.
3. Kazi Mahmud Hasan, Abdullah-Al-Nahid, Md. Abdul Alim, Md. Maniruzzaman, G M Atiqur Rahaman, **S. H. Shah Newaz**, Md. Shamim Ahsan; “Design and Development of an Aircraft Type Multi-functional Autonomous Drone”, *IEEE TENSYP 2020*, June 5-7, 2020; Dhaka, Bangladesh.
4. Kazi Mahmud Hasan, Md. Tariq Hasan, **S. H. Shah Newaz**, Abdullah-Al-Nahid, Md. Shamim Ahsan; “Design and Development of an Autonomous Pesticides Spraying Agricultural Drone”, *IEEE TENSYP 2020*, June 5-7, 2020; Dhaka, Bangladesh.
5. Bahar Ali Mohammad Haidi, Thien Wan Au, **S. H. Shah Newaz**, “Single Cluster Load Balancing Using SDN: Performance Comparison Between Floodlight and POX”, 19th IEEE International Conference on Communication Technology (ICCT 2019), Oct. 16-19, 2019, Xi'an, China.
6. Ali Saeed Dayem Alfoudi, **S. H. Shah Newaz**, Rudy Ramlie, Gyu Myoung Lee, Thar Baker; “Seamless Mobility Management in Heterogeneous 5G Networks: A Coordination Approach among Distributed SDN Controllers”; IEEE 89th Vehicular Technology Conference: VTC2019-Spring, 28 April – 1 May 2019, Kuala Lumpur, Malaysia.
7. Fatin Hamadah Rahman, Awangku Yura Muhammad Iqbal, **S. H. Shah Newaz**, Au Thien Wan, Md. Shamim Ahsan; “Street Parked Vehicles Based Vehicular Fog Computing: TCP Throughput Evaluation and Future Research Direction”, 21st International Conference on A

- Advanced Communication Technology (ICACT), Feb 17-20, 2019, Pheonix Park, Pyeongchang, S. Korea.
8. Chongomweru Halimu, Asem Kasem, **S. H. Shah Newaz**, "Empirical Comparison of Area under ROC curve (AUC) and Mathew Correlation Coefficient (MCC) for Evaluating Machine Learning Algorithms on Imbalanced Datasets for Binary Classification" Proceedings of the 3rd International Conference on Machine Learning and Soft Computing (ICMLSC 2019), Da Lat, Viet Nam, January 25 - 28, 2019.
 9. M. Abu Jubair, S. Hossain, M.A. Al Masud, K.M. Hasan, **S. H. Shah Newaz**, M.S. Ahsan; "Design and development of an autonomous agricultural drone for sowing seeds"; 7th Brunei International Conference on Engineering and Technology 2018 (BICET 2018), 12-14 Nov. 2018, Bandar Seri Begawan, Brunei.
 10. N. Lingas, M.R. Uddin, **S. H. Shah Newaz**, H. Hashim; "Energy efficient approaches in passive optical network: a review"; 7th Brunei International Conference on Engineering and Technology 2018 (BICET 2018), 12-14 Nov. 2018, Bandar Seri Begawan, Brunei.
 11. Siti Aisyah binti Haji Jalil, Amirah Ruyaieda binti Haji Abdul Majid, Mohammad Ramzi bin Salleh, Fatin Hamadah Rahman, Mohammad Rakib Uddin, **S. H. Shah Newaz**, Gyu Myoung Lee, " Background Traffic Load Aware Video Class-Lecture Client Admission in a Bandwidth Constrained Campus Network". In International Conference on Computational Intelligence in Information System (pp. 117-128). Springer, Cham, 6-18 Nov. 2018, Bandar Seri Begawan, Brunei. [**Received Best paper award**].
 12. Fatin Hamadah Rahman, Thien Wan Au, **S. H. Shah Newaz**, Wida Susanty Haji Suhaili " A Performance Study of High-End Fog and Fog Cluster in iFogSim." *International Conference on Computational Intelligence in Information System*, pp. 87-96, Springer, Cham, 16-18 Nov. 2018, Bandar Seri Begawan, Brunei.
 13. Fatin Hamadah Rahman, Thien Wan Au, **S. H. Shah Newaz** and Wida Susanty Suhaili, " Vehicular Clustering: Fog paradigm and recent advances", 18th IEEE International Conference on Communication Technology (ICCT), Oct. 8-11, 2018, Chongqing, China.
 14. Nurul Hazrina Shahba binti Mohammad Shahrin, Alaelddin Fuad Yousif Mohammed, Rudy Ramlie, **S. H. Shah Newaz** and Au Thien Wan, "An Energy Efficient Mobility Management Mechanism in Software Defined Networking (SDN)," 2018 International Conference on Computer, Control, Electrical, and Electronics Engineering (ICCCEEE), pp. 1-6., 2018, Khartoum, Sudan.
 15. Fatin Hamadah Rahman, Thien Wan Au, **S. H. Shah Newaz**, and Wida Susanty Suhaili, " Trustworthiness in Fog: A Fuzzy Approach", *ICNCC 2017*, Dec. 08-10, 2017, Kunming, China.
 16. Yoon-Sik Yoo, Taein Hwang, Shinyuk Kang, **S. H. Shah Newaz**, Il-Woo Lee, and Jun Kyun Choi, "Peer-to-Peer based Energy Trading System for Heterogeneous Small-scale DERs" , *ICTC 2017*, Oct. 18-20, 2017, Jeju, S. Korea.
 17. AK Md Ismaruni Pg Hj Sani, **S. H. Shah Newaz**, Wida Susanty binti Haji Suhaili, Swabik Musa Abdalla Wani, Au Thien Wan, and Sarwar Jahan, "TCP Performance Evaluation und

- er MANET Routing Protocols in Disaster Recovery Scenario”, *International Conference on Advances in Electrical Engineering (ICAEE)*, Sept. 28-30, 2017, Dhaka, Bangladesh.
18. Mohammad Rakib Uddin, **S. H. Shah Newaz**, Zainidi Haji Abdul Hamid, Yong Hyub Won, “Temperature Characteristics of Silicon-Polymer Hybrid Material Photonic Resonator”, *International Symposium on Advanced Material Research*, Oct. 28, 2017.
 19. **S. H. Shah Newaz**, Wida Susanty binti Haji Suhaili, Gyu Myoung Lee, Mohammad Rakib Uddin, Alaeiddin Fuad Yousif Mohammed, and Jun Kyun Choi, “Towards Realizing the Importance of Placing Fog Computing Facilities at the Central Office of a PON”, *IEEE IC ACT 2017*, Feb. 19-22, 2017, Seoul, S. Korea.
 20. **S. H. Shah Newaz**, Alaeiddin Fuad Yousif Mohammed, Mohammad Rakib Uddin, GyuMyoung Lee and Jun Kyun Choi, "Energy Efficient Operational Mechanism for TDM-PON Supporting Broadband Access and Local Customer Internetworking" *Springer CIIS 2016*, 18-20 Nov. 2016, Brunei Darussalam.
 21. Hyeontaek Oh, **S. H. Shah Newaz**, Sangdon Park, Jun Kyun Choi, “Maximizing Energy Efficiency in Off-peak Hours: A Novel Sleep Scheme for WLAN Access Points”, *IEEE/IFIP NOMS 2016*, 25-29 April 2016, Istanbul, Turkey.
 22. **S. H. Shah Newaz**, Alaeiddin Fuad Yousif Mohammed, Gyu Myoung Lee¹, Jun Kyun Choi, “Energy Efficient and Latency Aware TDM-PON for Local Customer Internetworking”, *IEEE/IFIP International Workshop on Management of the Future Internet (ManFI) 2015*, May 11, 2015, Ottawa, Canada.
 23. Seonghwa Yun, Joohyung Lee, **S.H. Shah Newaz**, Jun Kyun Choi, "Energy Efficient Pricing Scheme for Multi-homing in Heterogeneous Wireless Access Networks: A Game Theoretic Model and Its Analysis", *IEEE Wireless Communication and Networking (WCNC)*, March 9-12, 2015, New Orleans, LA USA.
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 27. **S. H. Shah Newaz**, Alaeiddin Fuad Yousif Mohammed, Gyu Myoung Lee, Jun Kyun Choi, " On Understanding the Influence Sleep Mode on Packet Delay Variation in TDM-PONs” , 12th *International Conference on Optical Internet 2014 (COIN)*, Aug. 27-29, 2014, Jeju,

- S. Korea.
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 29. Jun Kyun Choi, **S. H. Shah Newaz**, Jin Hong Yang, "Analysis and Prediction of Energy Consumption by using Web-based Energy Cloud in Campus Environment", *US-Korea conference*, Aug. 2014, Atlanta, Georgia, USA.
 30. **S. H. Shah Newaz**, Raja Usman Akbar, Gyu Myoung Lee, Noel Crespi, JunKyun Choi "Efficient IP Mobility Management for Green Optical and Wireless Converged Access Networks", *IEEE VTC2012-Fall*. 2-6 Sep 2012- Québec city, Canada.
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 32. **S. H. Shah Newaz**, Gyu Myoung Lee, Noel Crespi, Jun Kyun Choi, "Energy Efficient Shared WDM-PON," *IEEE International Conference Advanced Communication Technology (ICTACT) 2012*, February 2012. Phoenix Park, S. Korea.
 33. **S. H. Shah Newaz**, Ángel Cuevas, Gyu Myoung Lee, Noel Crespi, Jun KyunChoi. "A Novel Approach for Making Energy Efficient PON", *ACM SIGCOMM 2011*, August 15-19, 2011-Toronto, ON, Canada.
 34. **S. H. Shah Newaz**, Raja Usman Akbar, Youngmi Lim, Youngin Bae, Jongmin Lee, JunKyun Choi "Efficient Mobile IP Location Update Mechanism for Idle Terminals in Optical Wireless Integrated Access Networks", *ICNS 2011*, May 22-27, 2011 - Venice/Mestre, Italy. [**Received Best paper award**].
 35. **S. H. Shah Newaz**, Youngin Bae, Jongmin Lee, Gyu Myoung Lee, Noel Crespi, Jun Kyun Choi "Minimizing the Number of IGMP Report Messages for Receiver-driven Layered Video Multicasting", *IEEE VTC2011-spring*. 15-18 May 2011, Budapest, Hungary.
 36. **S. H. Shah Newaz**, Jongmin Lee, Youngin Bae, Bikash Nakarmi, JunKyunChoi, "Pseudo Handoff Call Elimination Capable Call Admission Control Scheme for Soft Handoff in CDMA Networks". *IEEE VTC2010-Fall*, Sept. 6-9, 2010, Ottawa, Canada.
 37. Lee JooHyung, **S. H. Shah Newaz**, Jongmin Lee, JunKyun Choi, "Queueing Analysis for Context Profile Handling Mechanism in Proxy Mobile IP", *International Conference on the Optical Internet (COIN)*, July 11-14, 2010; The Shilla Jeju, S. Korea.
 38. **S. H. Shah Newaz**, Jongmin Lee, Seung Hyun Jeon, Joo Hyung Lee, Min Ho Kang, Jun Kyun Choi, "An Approach of Multipath Transmission from Intelligent OLT in Optical-Wireless Converged Networks". *International Conference on the Optical Internet (COIN)*, July 11-14, 2010; The Shilla Jeju, S. Korea.
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 41. JooHyung Lee, **S. H. Shah Newaz**, JongMin Lee, Jun Kyun Choi, “Context Profile Handling Mechanism for Source Specific Multicast in Proxy Mobile IP”, in *International Conference on Information Networking (ICOIN)*, Jan 27-29, 2010; Busan, S. Korea.
 42. Md. Shamim Ahsan, Man Seop Lee, **S. H. Shah Newaz**, Syed Md. Asif, “Migration to the Next Generation Passive Optical Network”, *International Conference on computer and Information Technology (ICCIT)*, Dec 21-23, 2009; Dhaka, Bangladesh.
 43. Youngin Bae, **S. H. Shah Newaz**, Jeong You Hyeon, Jun Kyun Choi, “An Enhanced Architecture for a Weight Policy of Multicast Service over EPON”, *International Conference on the Optical Internet (COIN)*, Oct 13-16, 2009; Chengdu, China.
 44. Jongmin Lee, **S. H. Shah Newaz**, Jun kyun Choi, Gyu Myoung Lee, Noel Crespi, "QoS Mapping over Hybrid Optical and Wireless Access Networks", in *International Workshop on Hybrid Optical and Wireless Access Networks*, Aug 23-29, 2009; Cannes/La Bocca, French Riviera, France.
 45. **S. H. Shah Newaz**, Jong Min Lee, Sarwar Jahan, M.R. Amin, Jun Kyun Choi; “A New strategy to Implement Security in an Area Using Picocell Base Transceiver Station”, *International Conference Advanced Communication Technology (ICACT)*, Feb 15-18, 2009, Seoul, S. Korea.
 46. A. Hossain; S. Jahan; M.M. Hussain; M.R. Amin; **S. H. Shah Newaz**; “A proposal for Enhancing the Security System of Short Message Service in GSM”, *Anti-counterfeiting, Security and Identification (ASID)*, Aug 20-23, 2008; Guiyang, China.
 47. **S. H. Shah Newaz**, M.A. Hossain, K.K. Al Zahid, M.R. Amin; “Intelligence Adaptation in Visitor Location Register to Enhance the Performance of Next Generation Cellular Network”, *International Conference on Convergence Information Technology (ICCIT)*, Nov 21-23, 2007; Gyeongju, S. Korea.

■ Book Chapter Publications:

Published:

1. Shahriar Shams, **S. H. Shah Newaz** and Rama Rao Karri, “Information and Communication Technology for Small-Scale Farmers: Challenges and Opportunities”, In: Patnaik S., Sen S., Mahmoud M. (eds) *Smart Village Technology. Modeling and Optimization in Science and Technologies*, vol 17. Springer, Cham, 2020.

Under review:

1. "Blockchain based smart supply chain management," in Convergence of Blockchain Technology and E-Business: Concepts, Applications, and Case Studies, by CRC.

■ Domestic Patents:

1. **S. H. Shah Newaz**, Jun Kyun Choi, Seung Hyun Jeon, Gyu Myoung Lee, "Method and apparatus for H-ONU using a sleep mode in TDM-PON"; (Registration No.: 10-1482008, Registration date: 2015-01-07).
2. Lee JooHyung, Jun Kyun Choi, **S. H. Shah Newaz**, "Multicast stream providing system, multicast access gateway and mobile node access processing method using context profile for source specific multicast in proxy mobile internet protocol"; (Registration No.: 10-1077596, Registration date: 2011-10-21).

PROFESSIONAL ACTIVITIES

• International Standardization

Contributed at ITU-T for standardization from 2012 to 2013. In the ITU-T Recommendation Y.3022, I contributed showing how energy consumption of an Optical Network Unit can be quantified when it uses different power modes. Additionally, I submitted and presented few proposals regarding energy-efficiency capability class of networks elements at ITU-T [Study Group 13, Question 16](#) (Rapporteur of this group Dr. Gyu Myoung Lee¹).

- Several contributions to ITU-T Recommendation Y.3022 (Energy Measurement of Networks) approved in Aug. 2014.
- ITU-T SG13 Q16 (Interim meeting in TTA, S. Korea), Q16-13-Sep4-C17, Proposal on energy consumption metric for PON system in skeleton of Y.EnergyECN, Sept. 2013.
- ITU-T SG13 Q16 (Interim meeting in TTA, S. Korea), Q16-13-Sep4-C17, Proposal on energy consumption metric for PON system in Section 6 & 7 of Y.EnergyECN, Sept. 2013.
- ITU-T SG13 Q16 (Interim meeting in TTA, S. Korea), Q16-13-Sep4-C17, Proposal on energy consumption metric for PON system in Section 8 of Y.EnergyECN, Sept. 2013.
- ITU-T SG13 Q16 (Interim meeting in TTA, S. Korea), Q16-13-Sep4-C17, Proposal on energy consumption metric for PON system in Section 9 of Y.EnergyECN, Sept. 2013.

• Editorial

- Guest editor, Applications of Video Processing and Computer Vision Sensor, Special Issue, *MDPI Sensors*, 2021 ([link: https://www.mdpi.com/journal/sensors/special_issues/Video_Processing](https://www.mdpi.com/journal/sensors/special_issues/Video_Processing)).
- Guest editor, Cloud-Based Big Data Analytics in the Internet of Things and Smart Cities, *MDPI Electronics*. 2021 ([link: https://www.mdpi.com/journal/electronics/special_issues/CBGA_electronics](https://www.mdpi.com/journal/electronics/special_issues/CBGA_electronics)).

• Presented in International Conferences, Workshops and Consortiums

Conferences:

- International Conference on Computer Science and Its Application in Agriculture, Sept 17,

¹ <https://www.itu.int/net4/ITU-T/lists/loqr.aspx?Group=13&Period=16>

- 2020, Bogor, Indonesia (virtual conference).
- IEEE International Conference on Advanced Communication Technology (ICACT), Feb 17 - 20, 2019, Pheonix Park, Pyeongchang, S. Korea.
- 7th Brunei International Conference on Engineering and Technology 2018 (BICET 2018), 12-14 Nov. 2018, Bandar Seri Begawan, Brunei.
- International Conference on Advances in Electrical Engineering (ICAEE), Sept. 28-30, 2017, Dhaka, Bangladesh.
- IEEE International Conference on Advanced Communication Technology (ICACT), Feb. 19-22, 2017, Seoul, S. Korea.
- Springer Computational Intelligence in Information Systems (CIIS), 18-20 Nov. 2016, Brunei Darussalam.
- IEEE/IFIP International Workshop on Management of the Future Internet (ManFI) 2015, May 11, 2015, Ottawa, Canada.
- IEEE Wireless Communications and Networking Conference (WCNC), March 9-12, 2015 - New Orleans, LA USA.
- International Conference on Information and Communication Technology Convergence (ICTC), Oct. 22-24, 2014, Busan, S. Korea.
- 12th International Conference on Optical Internet 2014 (COIN), Aug. 27-29, 2014, Jeju, S. Korea.
- IEEE Vehicular Technology Conference (VTC) 2012-Fall. 2-6 Sep 2012, Québec city, Canada
- ACM SIGCOMM 2011, August 15-19, 2011, Toronto, ON, Canada.
- IEEE Vehicular Technology Conference (VTC) 2010-Fall, Sept. 6-9, 2010, Ottawa, Canada.
- International Conference on the Optical Internet (COIN), July 11-14, 2010; Jeju, S. Korea.
- International Conference on Information Networking (ICOIN), Jan 27-29, 2010; Busan, S. Korea.
- International Conference Advanced Communication Technology (ICACT), Feb 15-18, 2009. Seoul, S. Korea.
- International Conference on Convergence Information Technology (ICCIT), Nov 21-23, 2007; Gyeongju, S. Korea.

Consortiums:

- GreenTouch Consortiums: Biannual meeting, May 2013, Shanghai, China.
- GreenTouch Consortiums: Biannual meeting, May 2014, Milan, Italy.

Workshops:

- A3 Foresight Program: Annual-workshop on Next Generation Network and Network Security, Feb., 2015, Busan, S. Korea.
- A3 Foresight Program: Annual-workshop on Next Generation Network and Network Security, July, 2015, Beijing, China.
- ILLUMINE workshop (Korean-French Joint Lab): Workshop on IoT based future media and services, Nov, 2015, Bundang, S. Korea.

• Technical Paper Reviewer at International Journals

- IEEE Internet of Things Journal
- IEEE Wireless Communication letter
- IEEE Access
- IEEE/OSA Journal of Optical Communications and Networking

- IEEE Transactions on Vehicular Technology
 - Elsevier Applied Energy
 - Elsevier Renewable Energy
 - Elsevier Journal of Network and Computer Applications
 - Elsevier Optik
 - Springer Wireless Network
 - MDPI Buildings
 - MDPI Energies
 - MDPI Sensors
 - MDPI Information
 - ICT Express
 - KSII Transactions on Internet and Information Systems
 - IEIE Transactions on Smart Processing and Computing.
- **TPC Member and International Advisory Committee member at International Conferences**
 - IEEE 20th International Conference on Communication Technology (ICCT) 2020, Oct. 28-31, 2020, Nanning, China.
 - 7th Brunei International Conference on Engineering and Technology (BICET) 2018, Nov. 12-14, 2018, Brunei Darussalam.
 - The 10 International Conference of ubiquitous and Future Networks, July 3-6, 2018, Prague, Czech Republic.
 - IEEE International Conference on Communications, Network, and Satellite (IEEE COMNETSAT), 5-7 October 2017, Semarang, Indonesia.
 - ICCCEEE18, Aug. 12-14, 2018, Khartoum, Sudan.
 - International Conference on Information Networking (ICOIN), Jan. 13-17, 2017, Da Nang, Vietnam.
 - International advisory committee member: Brunei International Conference on Engineering and Technology (BICET), Nov. 14-16, 2016, Brunei Darussalam.
 - IEEE International Broadband and Photonics (IBP) Conference, April 23-25, 2015, Bali, Indonesia.
 - IEEE International Conference on Advanced Communication Technology (ICACT), Jan. 27-30, 2013, Seoul, S. Korea.
 - **Involved in Several Conference/ Workshop/Competition Organization**
 - Working committee member, 4th International Conference on Computational Intelligence in Information Systems (CIIS-2020), 25- 27 January, 2021, Brunei Darussalam.
 - Working committee member of Brunei Coding Conquest, Dec. 06 - 08, 2019, Universiti Teknologi Brunei (UTB), Brunei Darussalam.
 - Working committee member of ASEAN data science competition, Sept. 16, 2019, UTB, Brunei Darussalam.
 - Working program Committee member, 3rd International Conference on Computational Intelligence in Information Systems (CIIS), Nov. 16-18, 2018, Brunei Darussalam.
 - Steering committee member, UTB Postgraduate Colloquium, May 2 - 4, 2019, Brunei Darussalam.
 - Steering committee member, UTB Postgraduate Colloquium, March 31, 2018, Brunei Darussalam.
 - Theme Coordinator, UTB Postgraduate Colloquium, March 31, 2018, Brunei Darussalam.

- Judging Committee, UTB Postgraduate Colloquium, March 31, 2018, Brunei Darussalam.
 - Special session chair, Special Session on Energy Informatics for Green and Smart Cities at the 3rd International Conference on Computational Intelligence in Information Systems (CIIS 2018), Nov. 6-18, 2018, Brunei Darussalam.
 - Special session chair, Special session on Green and Smart Cities at the 11th Multi-disciplinary International Workshop on Artificial Intelligence (MIWAI), Nov. 20-22, 2017, Brunei Darussalam.
 - Organizing committee member: ILLUMINE workshop Nov. 19 - 20, 2015, Seoul, S. Korea.
- **Session Chair at International Conferences**
 - 3rd International Conference on Computational Intelligence in Information Systems (CIIS-2018), Nov. 16-18, 2018, Brunei Darussalam.
 - IEEE International Conference on Advanced Communication Technology (IEEE ICACT), Feb. 19-22, 2017, Seoul, S. Korea.
 - 2nd International Conference on Computational Intelligence in Information Systems (CIIS-2016), Nov. 18-20, 2016, Brunei Darussalam.
 - IEEE Wireless Communication and Networking Conference (IEEE WCNC), March 9 - 12, 2015, LA, USA.

References

Dr. Jun Kyun Choi (Ph.D. supervisor)
Professor
Electrical Engineering Department,
Korea Advanced Institute of Science
and Technology (KAIST), Daejeon, South
Korea.
Tel: +82 42 350 3459.
Mobile: +82 10 3434 6122.
Email: jkchoi59@kaist.edu.

Dr. Gour Karmakar (research mentor)
Senior Lecturer
School of Engineering, Information Technology
and Physical Sciences
Federation University, Australia.
Mobile: +61 470 346 491
Email: gour.karmakar@federation.edu.au.

Dr. Joarder Kamruzzaman (research mentor)
Professor
School of Engineering, Information Technology
and Physical Sciences
Federation University, Australia.
Tel: +61 414 600 535.
Email: joarder.kamruzzaman@federation.edu.au.

Dr. Gyu Myoung Lee (research collaborator)
Reader
School of Computing and Mathematical
Sciences,
Liverpool John Moores University.
Liverpool, United Kingdom.
Tel: +44 (0)151 231 2052.
Mobile: +44 (0) 740 025 2952.
Email: g.m.lee@ljmu.ac.uk.