



VU THAI HOC (THAI-HOC, VU - name, surname)

Born: 25/01/1995, Hometown: Ho Chi Minh, Nationality: VietNam

Position and workplace:

- Postdoc researcher (full-time) at Faculty of Electrical Engineering and Computer Science, VSB-Technical University of Ostrava, 17. Listopadu 2172/15, 708 00, Ostrava, Czechia.
- Lecturer (remote) at the Institute of Digital Technology, Thu Dau Mot University, HoChiMinh, 6 Tran Van On, 820 000, Ho Chi Minh, Vietnam (Contract: Starting from 15/03/2025, 1/10/2026 (updated starting day), to 30/09/2026).

Research interests:

- Wireless technologies: *Multiple access, short-packet communication, energy harvesting, reconfigurable intelligent surfaces, integrated sensing and communication, symbiotic mechanisms, physical-layer security, and covert communication.*
- Quantum technologies: *Quantum key distribution, post-quantum cryptography, covert quantum, quantum optimization, AI-assisted quantum communications.*

Expert area: Performance analysis, optimization.

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HIGHLIGHTS

- OPEN ACCESS GRANT COMPETITION OF IT4INNOVATIONS: *AI-assisted Quantum Communications for Hybrid Wireless Networks* (ID: OPEN-36-54) - [link](#).
- VIETNAM NATIONAL FOUNDATION FOR SCIENCE AND TECHNOLOGY DEVELOPMENT - NAFOSTED FUNDING: *Performance Enhancement of Integrated Sensing and Communication Networks Employing Federated Learning and Semantic Communications* (ID: 102.02-2025.92) and *Improving Private Communications for Next-Gen by Exploiting Advanced Multiple Access and Reconfigurable Surface* (ID: 102.02-2025.97) [link](#)
- Vietnam Golden Globe Award in Science and Technology for Young Researchers, 2025.
- World Top 2% Scientists by Stanford/Elsevier 2025 - Single-Year Impact
- Outstanding Ph.D: First authorship of 20+ Top-tier IEEE papers with 10 Transactions, 3 letters, 7 Journals, 1 Survey, and 5 flagship IEEE conference papers (e.g., IEEE GLOBECOM, IEEE ICC).
- Co-recipient and recipient of 3 IEEE Best Paper Awards: ATC and ICCE.
- Exemplary Reviewer Certificate of IEEE Communications Letters in 2023 and 2024
- Google Scholar Statistic: Articles: 70+, Citations 1500+, h-index: 20+, i10-index: 30+.
- Vietnamese Young Scientists in Korea Award 2022 for excellent research activities.

EDUCATION

- *March 2020 – February 2025: Ph.D. in Electrical, Electronic, and Information System Engineering*
Institution: University of Ulsan (UoU), Ulsan, Republic of Korea
Advisors: Prof. Sunghwan Kim, Assoc. Prof. Hee-Youl Kwak
GPA: 4.06/4.5
Thesis: Improving Spectral and Energy Efficiency in Wireless Networks: From Analytical-based Approaches To Deep Learning Designs ([Link](#))
Thesis Description: My Ph.D. thesis focuses on proposing advanced transmission schemes to enhance spectral and energy efficiencies, along with ultra-reliable and low-latency communication (URLLC) for future wireless networks. The core contents of this thesis surround four-folds:

1. **Hybrid Energy Harvesting Model:** I proposed a model for cooperative non-orthogonal multiple access (NOMA) systems with limited energy, including reactive and proactive relay selection protocols.
2. **SPC with RIS Technology:** I proposed to use short-packet communication (SPC) and reconfigurable intelligence (RIS) to achieve high energy efficiency, large coverage, and ultra-reliable and low-latency communication (URLLC) in non-orthogonal multiple access (NOMA) networks.
3. **Analytical-Based Data-Driven Approach:** I proposed exploiting the benefits of an analytical-based method in producing optimal data to facilitate the lack of data generation for a deep learning aspect and built a simple framework for predicting error performance in cognitive of short-packet NOMA systems with limited energy.
4. **Generalized Analytical-Based Data-Driven Approach:** I proposed expanding a deep learning-based performance prediction framework to the complex network where RIS assists data transmission with imperfect CSI estimations. I proposed to use hyperparameter-tuning optimization in the learning prediction framework with multi-output deep neural network architecture.

- **September 2014 – December 2018: B.Sc. in Electronics and Telecommunication Engineering**

Institution: **Posts and Telecommunications Institute of Technology (PTIT), Ho Chi Minh City, Vietnam**

Advisors: **Prof. Vo Nguyen Quoc Bao, Dr. Nguyen Duc Phuc**

GPA: **2.94/4.0**

Thesis: **Study on Cooperative NOMA with Two-Stage Relay Selection**

Thesis Description: My bachelor thesis focuses on deriving closed-form expressions for the performance evaluation of a cooperative NOMA system with multiple decode-and-forward relay implementations, where one of the best relays will be selected among its sets with two strategies:

1. Select a relay with the strongest channel gains from the source to relay and relay to two users.
2. Select a relay with two stages: i) determining a subset of relay capable of successfully decoding distance NOMA users' signal and ii) choosing the best relay in this subset capable of maximizing the rate of nearby NOMA user's signal.

AWARDS, HONOURS, AND CERTIFICATES

- Vietnam Golden Globe Award in Science and Technology for Young Researchers, 2025 ([Link](#))
- World Top 2% Scientists by Stanford/Elsevier 2025 - Single-Year Impact ([Link](#))
- Excellent SCI(E) Paper (At Least 2 Papers/Year) - BK21 Program (five times), 2021-2025
- Best Paper Award at IEEE Advanced Technologies for Communications (ATC) conference, HoChiMinh, Vietnam, Nov 2024 ([Link](#))
- Best Paper Award at IEEE International Conference on Communications and Electronics (ICCE) conference, DaNang, Vietnam, Aug 2024 - Nhatrang, Vietnam, June 2022 ([Link](#))
- Exemplary Reviewers Award in IEEE Communication Letter in 2023 and 2024 ([Link](#))
- Presenter Recognition, Topic entitled "Towards Next-generation Technology" Vietnam Student Association at the University of Ulsan, November 2023
- Vietnamese Young Scientists in Korea Award, Republic of Korea, December 2022 ([Link](#))
- Training scholarship for Southeast Asia students, Centre for Development of Advanced Computing (CDAC), Noida, India, February 2018
- Award for outstanding contributions and research excellence from Posts and Telecommunications Institute of Technology (PTIT), Vietnam, January 2018

WORKING EXPERIENCE

Internship Embedded IoT Engineer | TMA Solutions

July 2018 - November 2019

- Analysis and building connected methods for smart device controllers, smart cameras, and hydroponic farming using Arduino, Arduino Mega 2560, Raspberry Pi, and EPS8266.
- Building AWS LoRa gateway systems (standardizing collected data structure from Lora hardware devices-integrated Raspberry Pi controller, building API framework and AWS database for real-time control, and developing back-end Web interface using Angular 4).

R&D Engineer | Saigon-tourist Cable Television

January 2019 - January 2020

- Building hardware devices in Hybrid fibre-coaxial (HFC) networks and design Gigabyte Passive Optical Network (GPON) systems: Surveying current and prospective customers' numbers, distributing and designing network blueprints based on Auto-Card, and evaluating necessary costs and extra planning.
- Managing and operating Conax and Verimatrix locking systems: Configuring and scheduling television channel broadcasting with fingerprint-secured, checking logs of systems, and conducting cooperatively with other parties to ensure television systems operation on time.
- Developing noise reduction solution for HFC network infrastructures: Configuring server at Hub center to connect Web-interface management, measuring direct signal leaks from experimental network infrastructure, testing pad and equalizers for the amplifier and hybrid-optical nodes to balance noise isolation levels, updating tested results, evaluating and releasing the best standardization.
- Appraisal of bidding quality applications for GPON and HFC projects from national branches, including technical designs and the right of cost expectations.

ACADEMIC RESEARCH & EXPERIENCE

I. Research Experience

I have almost 8 years of research experience, from my third year of undergraduate studies to my current position. Below, I will trace the main steps of my research career in relation to my list of publications.

1. From my third year of undergraduate studies under the supervision of Prof. Vo Nguyen Quoc Bao (Senior IEEE member), I actively participated in the early stage of research by **investigating concepts of NOMA transmission**, cooperative communication, and **fundamental thought in simulating and conducting theoretical analysis**.
2. During 5 years of combining Ms. and Ph.D journey under the supervision of Prof. Sunghwan Kim, I have reused knowledge obtained from the B.Sc. alongside continuous learning and improvements as follows:
 - **1's year:** Focussing on the aspect of cooperative communication and energy harvesting issues in either cognitive radio or non-cognitive NOMA systems
 - **2's year:** Expand to ultra-reliable and low-latency communication, focusing on short-packet communication. Take an initial approach to data-driven aspects and propose new analytical data-driven solutions to achieve the mutual benefits of analytics-driven and data-driven approaches. Gleichzeitig, an initial connection with excellent researchers in research cooperation.
 - **3's year:** Seeking a new approach to cooperative systems designs by looking into the potential of intelligent surfaces to boost communication quality and coverage.
 - **4's year:** Enhancing spectrum utilization while simplifying the complex tasks in the NOMA process, like pairing and sharing users' information by constructing an efficient beamforming method with rate-splitting multiple-access (RSMA) to deal with multi-antenna transmissions.
 - **5's year:** Cooperate with excellent researchers in carrying out (03) IEEE COMST survey papers, including distributed machine learning, security and privacy for intelligent internet-of-things and advanced learning algorithms for integrated sensing and communication (ISAC) systems in 6G, which laid the foundation for crystallizing a survey paper in the application of generative AI (GAI) for wireless communication that I am the first author.

- From April 2025 to September 2025, I worked as a postdoctoral researcher at Kyonggi University in Seoul, Korea. My role is to develop new research and to plan the proposal for the project between Korea and Czechia (refused because of a lack of previous collaboration).
- From March 2025 to now, I am a Lecturer (in remote) at the Institute of Digital Technology, Thu Dau Mot University, HoChiMinh, Vietnam. My work focuses on postgraduate training programs (course entitled "data mining" - scheduled in 2026, February - March) and building national funding projects (Nafosted Funds): (02) basis research (granted).
- Since October 2025, I served as a Post-doctoral Researcher (in full-time) at the Faculty of Electrical Engineering and Computer Science, VSB-Technical University of Ostrava, Czechia. My main roles include:
 - Keep going, Research on advanced wireless communication: *Distributed reconfigurable intelligent networks; enhancing physical-layer security.*
 - Extending and exploring Quantum technologies for wireless networks: *Post-quantum cryptography, wireless-based quantum optimization, wireless-enabled quantum communication.*
 - Teaching and supervision activities: (1) Ph.D co-supervisor and (2) Teaching course, entitled "440-2103/04 Introduction to Communication Technologies (2025/2026 ZS)" and "440-4218/02 Modeling and Dimensioning of Networks (2025/2026 LS)".

II. Research Supervision

I have co-supervised two master candidates together with my Ph.D. advisor at the Coding and Information Theory Lab, University of Ulsan, Republic of Korea. In this capacity, I worked closely with the students to:

1. Guide them to have the most basic and necessary knowledge and research skills. Orient them to useful resources such as books, articles, and programming.
2. Help them determine the appropriate scope of research and how to deal with these problems. Keep track of their progress and provide comments and guidance.
3. Support them in formulating and writing papers.

With my supervision, two master's students have initially achieved the following active research:

1. **K.-T. Nguyen** with three publications, including (1) **IEEE Transactions on Vehicular Technology** ([Link](#)), (1) **IEEE Internet of Things Journal** ([Link](#)), (1) **IEEE Access** ([Link](#)), and (1) **IEEE Conference paper** ([Link](#)) with the best paper award. His topic research includes reconfigurable intelligent surfaces (RIS), short-packet communication (SPC), and deep learning.
2. **L.-A. Nguyen** with (1) **IEEE Transactions on Vehicular Technology** ([Link](#)). Her topic research includes simultaneously transmitting and reflecting surface (STAR-RIS), rate-splitting multiple-access (RSMA), and covert communication.

III. Academic/Social Activities

A. Technical Program Committee Member/Chair for Conferences/ Referee for IEEE International Journals

- Technical Program Committee for International Conference on Research in Intelligent Computing in Engineering (RICE), HungYen, Vietnam, 2022
- Special Session Chair for 2025 International Conference on Advanced Technologies for Communications (ATC), Hanoi, Vietnam, 2025 ([Link](#))
- Referee for IEEE International Journals (140 Reviews of Manuscripts: [Verified by Web of Science](#))

C. Invited Talks/Experience Sharing

- Phenikaa University: Talk show, inspirational, effective learning, and research orientation ([link](#))
- Vietnamese students association: Student scientific conference on 5G/6G mobile network technology (2025 November, 17)

III. List of Publications (Found at [Google Scholar Statistics](#))

A. Selected Articles in SCIE Journals in Last FIVE Years - All are top ranking Q1-WoS

- [1] T. Huynh-The, P. -L. Huynh, V. -C. Phan, **T.-H. Vu** and D. Benevides da Costa, *Latent Diffusion for Spectrum Sensing of Coexisting Radar and Communication Signals* (2026), **IEEE Wireless Communications Letters**, Online first, DOI: 10.1109/LWC.2025.3646878, **IF = 5.5** (2024).
- [2] **T.-H. Vu**, T. -T. Nguyen, T. N. Nguyen, L. -T. Tu and M. Voznak, *Symbiotic Communication Systems in the Internet of Things: A Framework for Double Adaptive Performance Analysis* (2026), **IEEE Wireless Communications Letters**, Online first, DOI: 10.1109/LWC.2025.3642143, **IF = 5.5** (2024).
- [3] **T.-H. Vu**, A. -T. Le, L. -T. Tu, N. C. Luong and M. Voznak, *A Novel Sensing and Symbiotic Communication Approach* (2026), **IEEE Wireless Communications Letters**, Online first, DOI: 10.1109/LWC.2025.3641971, **IF = 5.5** (2024).
- [4] M. Le-Tran and **T.-H. Vu**, *On the Performance of RSMA-Based Visible Light Communication Systems With Multicolor LED* (2026), **IEEE Internet of Things Journal**, Online first, DOI: 10.1109/JIOT.2025.3637758, **IF = 8.9** (2024).
- [5] **T.-H. Vu**, D. B. d. Costa, T. Huynh-The and S. Kim, *Robust Covertness in Joint Radar and Multicast-Unicast Communication With Non-Orthogonal Multiple Access* (2025), **IEEE Transactions on Vehicular Technology**, Online first, DOI: 10.1109/TVT.2025.3635166, **IF = 7.1** (2024).
- [6] T. Trung Duy, **T.-H. Vu**, T. Hoa Nguyen, L. -T. Tu and D. Wing Kwan Ng, *Performance Analysis of Broadcast Cellular Networks With Stochastic Geometry and Fountain Codes* (2025), **IEEE Communications Letters**, Online first, DOI: 10.1109/LCOMM.2025.3635104, **IF = 4.4** (2024).
- [7] A. -T. Le, **T.-H. Vu**, T. N. Nguyen, B. V. Minh and M. Voznak, *Robust Covertness With Coordinated NOMA Strategy* (2025), **IEEE Communications Letters**, Online first, DOI: 10.1109/LCOMM.2025.3613564, **IF = 4.4** (2024).
- [8] **T.-H. Vu**, M. Zeng, S. Kim, H. Vincent Poor and Q. -V. Pham, *A survey on intelligent Internet of Things: Applications, security, privacy, and future directions* (2025), **IEEE Network**, Online first, DOI: 10.1109/MNET.2025.3604248, **IF = 6.3** (2024).
- [9] T. Huynh-The, H. -T. Nguyen, **T.-H. Vu**, D. B. da Costa and Q. -V. Pham, *D2SNet: A Denoising-to-Segmentation Network for Enhanced 5G-LTE Spectrum Awareness* (2025), **IEEE Wireless Communications Letters**, Online first, DOI: 10.1109/LWC.2025.3608332, **IF = 5.5** (2024).
- [10] **T.-H. Vu**, T. -H. Vu, A. -T. Le, N. Hoang Tu, T. N. Nguyen and M. Voznak, *On Performance of IoT Networks With Coordinated NOMA Transmission: Covert Monitoring and Information Decoding* (2025), **IEEE Internet of Things Journal**, Online first, DOI: 10.1109/JIOT.2025.3605276, **IF = 8.9** (2024).
- [11] T. Huynh-The, T. -T. Le, **T.-H. Vu** and D. Benevides da Costa, *CMNet: Radar-Communication Waveform Recognition via Convolution and Mamba Networks* (2025), **IEEE Wireless Communications Letters**, Online first, DOI: 10.1109/LWC.2025.3585243, **IF = 5.5** (2024).
- [12] **T.-H. Vu**, K. -T. Nguyen, D. Benevides da Costa, H. Shin and S. Kim, *Aerial STAR-RIS-based Symbiotic Systems with Semi-NOMA Transmission: Performance Analysis and Optimization* (2025), **IEEE Internet of Things Journal**, Online first, DOI: 10.1109/JIOT.2025.3585253, **IF = 8.9** (2024).
- [13] Luong, N.C., Huynh-The, T., **Vu, T.H.**, Le, D.V., Nguyen, H.T., Hai, N.D., Nguyen, G.V., Anh, N.D.D., Niyato, D., Kim, D.I., et al., *Advanced Learning Algorithms for Integrated Sensing and Communication (ISAC) Systems in 6G and Beyond: A Comprehensive Survey* (2025), **IEEE Communications Surveys and Tutorials**, Online first, DOI: 10.1109/COMST.2025.3584333, **IF = 46.7** (2024).
- [14] H. Q. Ta, **T.-H. Vu**, M. T. P. Le and T. H. Nguyen, *Study on Joint Covert Sensing and Communication Systems* (2025), **IEEE Wireless Communications Letters**, Online first, DOI: 10.1109/LWC.2025.3581949, **IF = 5.5** (2024).
- [15] L. A. Nguyen, **T.-H. Vu** and S. Kim, *Enhancing Covertness in Hybrid Active-Passive STAR-RIS-Based RSMA Systems* (2025), **IEEE Transactions on Vehicular Technology**, Online first, DOI: 10.1109/TVT.2025.3571459, **IF = 7.1** (2024).
- [16] **T.-H. Vu**, A. -T. Le, T. Huynh-The, D. B. da Costa and S. Kim, *A New Look for Outage and Ergodic Improvements in Coordinated IoT Paradigms With Hybrid Multiple Access* (2025), **IEEE Transactions on Vehicular Technology**, Online first, DOI: 10.1109/TVT.2025.3553509, **IF = 7.1** (2024).

- [17] A. -T. Le, **T.-H. Vu**, D. Benevides da Costa and M. Voznak, *Hybrid Power-Frequency Multiple Access With SIC-Free for Holographic Reconfigurable Intelligent Surface-Based Systems* (2025), **IEEE Wireless Communications Letters**, Online first, DOI: 10.1109/LWC.2025.3549228, **IF = 5.5** (2024).
- [18] A. -T. Le, **T.-H. Vu**, T. N. Nguyen, B. V. Minh and M. Voznak, *On Performance of Cooperative Satellite-AAV-Secured Reconfigurable Intelligent Surface Systems With Phase Errors* (2025), **IEEE Communications Letters**, Online first, DOI: 10.1109/LCOMM.2025.3543732, **IF = 4.4** (2024).
- [19] **T.-H. Vu**, N. H. Tu and V. N. Q. Bao, *Study on Reconfigurable Repeater-Based RSMA Systems* (2025), **IEEE Wireless Communications Letters**, Online first, DOI: 10.1109/LWC.2025.3542613, **IF = 5.5** (2024).
- [20] **T.-H. Vu**, D. Benevides da Costa, S. Kim and Q. -V. Pham, *Outage, Capacity, and Error Performance of Downlink RSMA-Based Systems: Analysis and Resource Optimization* (2025), **IEEE Transactions on Communications**, Online first, DOI: 10.1109/TCOMM.2025.3538831, **IF = 8.3** (2024).
- [21] T. Huynh-The, G. -V. Nguyen, **T.-H. Vu**, D. Benevides da Costa and Q. -V. Pham, *SRNet: Deep Semantic Segmentation Network for Spectrum Sensing in Wireless Communications* (2025), **IEEE Wireless Communications Letters**, Online first, DOI: 10.1109/LWC.2024.3502003, **IF = 5.5** (2024).
- [22] A. -T. Le, **T.-H. Vu**, T. N. Nguyen, T. -L. Tien and M. Voznak, *Partial Multiplexing Power-Frequency Multiple Access for Active STAR-RIS Systems: Outage and Ergodic Perspectives* (2025), **IEEE Wireless Communications Letters**, Online first, DOI: 10.1109/LWC.2024.3523387, **IF = 5.5** (2024).
- [23] A. -T. Le, **T.-H. Vu**, T. Trung Duy, L. -T. Tu and M. Voznak, *Analysis of PHY-Layer Security and Covert Communication in Hybrid Power-Frequency Multiple Access Systems* (2025), **IEEE Wireless Communications Letters**, Online first, DOI: 10.1109/LWC.2024.3514655, **IF = 5.5** (2024).
- [24] A. -T. Le, **T.-H. Vu**, N. H. Tu, T. N. Nguyen, L. -T. Tu and M. Voznak, *Active-Reconfigurable-Repeater-Assisted NOMA Networks in Internet of Things: Reliability, Security, and Covertiness* (2025), **IEEE Internet of Things Journal**, Online first, DOI: 10.1109/JIOT.2024.3503278, **IF = 8.9** (2024).
- [25] **T.-H. Vu**, T. N. Nguyen, T. -T. Nguyen and S. Kim, *Hybrid Active-Passive STAR-RIS-Based NOMA Systems: Energy/Rate-Reliability Trade-Offs and Rate Adaptation* (2025), **IEEE Wireless Communications Letters**, Online first, DOI: 10.1109/LWC.2024.3497978, **IF = 5.5** (2024).
- [26] K. -T. Nguyen, **T.-H. Vu**, H. Shin and S. Kim, *Performance Analysis of Active RIS and Passive RIS-Aided MISO Systems Over Nakagami-m Fading Channel With Imperfect CSI* (2025), **IEEE Transactions on Vehicular Technology**, Online first, DOI: 10.1109/TVT.2024.3491501, **IF = 7.1** (2024).
- [27] O. Aouedi, **T.-H. Vu**, Alessio Sacco, D. C. Nguyen, K. Piamrat, G. Marchetto, and Q.-V. Pham, *A survey on intelligent Internet of Things: Applications, security, privacy, and future directions* (2024), **IEEE Communications Surveys Tutorials**, Online first, DOI: 10.1109/COMST.2024.3430368, **IF = 34.4** (2023).
- [28] M. Le, T. Huynh-The, T. Do-Duy, **T.-H. Vu**, W.-J. Hwang, Q.-V. Pham, *Applications of Distributed Machine Learning for the Internet-of-Things: A Comprehensive Survey* (2024), **IEEE Communications Surveys Tutorials**, Online first, DOI: 10.1109/COMST.2024.3427324, **IF = 34.4** (2023).
- [29] **T.-H. Vu**, S. K. Jagatheesaperumal, M.-D Nguyen, N. V. Huynh, S. Kim, and Q.-V. Pham, *Applications of Generative AI (GAI) for Mobile and Wireless Networking: A Survey* (2024), **IEEE Internet of Things Journal**, Online first, DOI: 10.1109/JIOT.2024.3487627, **IF = 8.2** (2023).
- [30] **T.-H. Vu**, T.-V. Nguyen, D. B. da Costa, and S. Kim, *Intelligent Reflecting Surface-Aided Short-Packet Non-Orthogonal Multiple Access Systems* (2022), **IEEE Transactions on Vehicular Technology**, vol. 71, no. 4, pp. 4500–4505, DOI: 10.1109/TVT.2022.3146856, **IF = 6.239** (2021).
- [31] **T.-H. Vu**, T.-V. Nguyen, T.-T. Nguyen, and S. Kim, *Performance Analysis and Deep Learning Design of Wireless Powered Cognitive NOMA IoT Short-Packet Communications With Imperfect CSI and SIC* (2022), **IEEE Internet of Things Journal**, vol. 9, no. 13, pp. 10 464–10 479, DOI: 10.1109/JIOT.2021.3121421, **IF = 10.238** (2021).
- [32] **T.-H. Vu**, T.-V. Nguyen, D. B. da Costa, and S. Kim, *Performance Analysis and Deep Learning Design of Underlay Cognitive NOMA-Based CDRT Networks With Imperfect SIC and Co-Channel Interference* (2021), **IEEE Transactions on Communications**, vol. 69, no. 12, pp. 8159–8174, DOI: 10.1109/TCOMM.2021.3110209, **IF = 5.083** (2020).

- [33] **T.-H. Vu**, T.-V. Nguyen, Q.-V. Pham, D. B. da Costa, and S. Kim, *Short-Packet Communications for UAV-Based NOMA Systems Under Imperfect CSI and SIC (2023)*, *IEEE Transactions on Cognitive Communications and Networking*, vol. 9, no. 2, pp. 463–478, DOI: 10.1109/TCCN.2022.3225118, **IF = 8.6** (2022).
- [34] H-The Thien, G-Vuong Nguyen, **T.-H. Vu**, Q.-V. Pham, and D. B. da Costa, “SRNet: Deep Semantic Segmentation Network for Spectrum Sensing in Wireless Communications,” *IEEE Wireless Communications Letters*, early acceptance, Nov. 2024.
- [35] M. Le-Tran and **T.-H. Vu**, “A novel semi-angle-based index modulation scheme for MIMO visible light communication,” *AEU - International Journal of Electronics and Communications*, in press, Nov. 2024.
- [36] T.-H. Nguyen and **T.-H. Vu**, “A Generalized STAR-RIS-Empowered Ambient Backscatter Short-Packet Communication Systems With Partial NOMA,” *IEEE Communications Letters*, in press, Oct. 2024.
- [37] **T.-H. Vu**, K.-T. Nguyen, D. B. da Costa, Q.-V. Pham, T.-T. Nguyen, D. B. da Costa, and S. Kim, “Enhancing RIS-Aided Two-Way Full-Duplex Communication With Nonorthogonal Multiple Access,” *IEEE Internet Things Journal*, vol. 11, no. 11, pp. 19 963–19 977, Feb. 2024.
- [38] T.-T. Nguyen, **T.-H. Vu**, L.-T. Tu, T. T. Duy, Q.-S. Nguyen, and D. B. da Costa, “A Low-Complexity Relaying Protocol for Cooperative Short-Packet NOMA-based Spectrum Sharing Systems,” *IEEE Transactions on Vehicular Technology*, vol. 73, no. 6, pp. 9044–9049, Jun. 2024.
- [39] T.-V. Nguyen, **T.-H. Vu**, T. Huynh-The, and D. B. da Costa, “Secrecy Performance of Short-Packet Communications in MultiHop IoT Networks With Imperfect CSI,” *IEEE Wireless Communications Letters*, vol. 13, no. 4, pp. 1093–1097, Apr. 2024.
- [40] **T.-H. Vu**, A. Jee, D. B. da Costa, and S. Kim, “STAR-RIS Empowered NOMA Systems With Caching and SWIPT,” *IEEE Open Journal of the Communications Society*, vol. 5, pp. 379–396, Dec. 2023.
- [41] **T.-H. Vu**, Q.-V. Pham, and S. Kim, “On Performance of Downlink THz-Based Rate-Splitting Multiple-Access (RSMA): Is it Always Better Than NOMA?” *IEEE Transactions on Vehicular Technology*, vol. 73, no. 3, pp. 4435–4440, Oct. 2023.
- [42] **T.-H. Vu**, Q.-V. Pham, D. B. da Costa, and S. Kim, “Rate-Splitting Multiple Access-Assisted THz-Based Short-Packet Communications,” *IEEE Wireless Communications Letters*, vol. 12, no. 12, pp. 2218–2222, Sep. 2023.
- [43] K.-T. Nguyen, **T.-H. Vu**, and S. Kim, “A Unified Framework Analysis for Reconfigurable Intelligent Surface-Aided Coordinated NOMA Systems,” *IEEE Transactions on Vehicular Technology*, vol. 72, no. 11, pp. 15 115–15 120, Jun. 2023.
- [44] K.-T. Nguyen, **T.-H. Vu**, and S. Kim, “Performance Analysis and Deep Learning Design of Short-Packet Communication in Multi-RIS-Aided Multiantenna Wireless Systems,” *IEEE Internet Things Journal*, vol. 10, no. 19, pp. 17 265–17 281, May 2023.
- [45] **T.-H. Vu**, T.-V. Nguyen, Q.-V. Pham, D. B. da Costa, and S. Kim, “STAR-RIS-Enabled Short-Packet NOMA Systems,” *IEEE Transactions on Vehicular Technology*, vol. 72, no. 10, pp. 13 764–13 769, May 2023.
- [46] **T.-H. Vu**, T.-T. Nguyen, Q.-V. Pham, D. B. da Costa, and S. Kim, “A Novel Partial Decode-and-Amplify NOMA-Inspired Relaying Protocol for Uplink Short-Packet Communications,” *IEEE Wireless Communications Letters*, vol. 12, no. 7, pp. 1244–1248, Apr. 2023.
- [47] T.-T. Nguyen, **T.-H. Vu**, D. B. da Costa, P.-X. Nguyen, and H.-Q. Ta, “Short-packet communications in IoT-aided cellular cooperative networks with non-orthogonal multiple access,” *IEEE Transactions on Vehicular Technology*, vol. 72, no. 1, pp. 1296–1301, Jan. 2023.
- [48] **T.-H. Vu** and S. Kim, “Performance Analysis of Full-Duplex Two-Way RIS-Based Systems With Imperfect CSI and Discrete Phase-Shift Design,” *IEEE Communications Letters*, vol. 27, no. 2, pp. 512–516, Dec. 2022.
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B. Selected Conference Papers

- [1] K.-T. Nguyen, **T.-H. Vu**, H.-C. Le, and S. Kim, "STAR-RIS-enabled UAV Wireless Systems: A Stochastic Geometry Approach," *2024 International Conference on Advanced Technologies for Communications (ATC)*, accepted for publication **Best Paper Award**.
- [2] **T.-H. Vu**, D. B. Da Costa, B. V. N. Quoc, and S. Kim, "A Novel Paradigm Shift for Next-Generation: Symbiotic Backscatter Rate-Splitting Multiple Access Systems," *2024 Tenth International Conference on Communications and Electronics (ICCE)*, Danang, Vietnam, 2024, pp. 724–728 **Best Paper Award**.
- [3] **T.-H. Vu**, Q.-V. Pham, D. B. da Costa, M. Debbah, and S. Kim, "Physical-Layer Security in Short-Packet NOMA Systems with Untrusted Near Users," *2023 IEEE International Conference on Communications Workshops (ICC Workshops)*, Rome, Italy, 2023, pp. 1830–1835.
- [4] **T.-H. Vu**, D. B. da Costa, Q.-V. Pham, and S. Kim, "Performance Analysis of RSMA-Aided UAV-to-Ground Communications," *2023 IEEE Global Communications Conference*, Kuala Lumpur, Malaysia, 2023, pp. 7635–7640.
- [5] **T.-H. Vu**, K.-T. Nguyen, Q.-V. Pham, T. Huynh-The, D. B. Da Costa *et al.*, "Outage Performance of THz-aided NOMA Systems with Spherical Stochastic Model," *2023 IEEE Statistical Signal Processing Workshop (SSP)*, Hanoi, Vietnam, 2023, pp. 135–139.

- [6] K.-T. Nguyen, **T.-H. Vu**, T.-H. Khuat, H.-C. Le, and S. Kim, "Performance Analysis of Uplink MISO Systems with RIS Selections and MRC/SC Configurations," *2022 IEEE Ninth International Conference on Communications and Electronics (ICCE)*, Nha Trang, Vietnam, 2022, pp. 145-148 **Best Paper Award**.

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