

# Curriculum Vitae

Khac-Hoang Ngo

November 2, 2024

*Name:* Khac-Hoang Ngo

*Position:* Assistant Professor

*Affiliation:* Department of Electrical Engineering, Linköping University, Sweden

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## EDUCATION

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- **Diploma in Teaching and Learning in Higher Education** 2024  
Chalmers University of Technology, Sweden
- **Ph.D. in Wireless Communications** 2020  
CentraleSupélec, Paris-Saclay University, France  
*Thesis:* [Noncoherent Wireless Communications: Fundamental Limits and System Design](#)  
*Advisors:* [Prof. Sheng Yang](#), [Dr. Maxime Guillaud](#)
- **M.Sc. in Wireless Communications** 2016  
CentraleSupélec, Paris-Saclay University, France  
*Thesis:* [Performance Analysis of Coded Caching](#)  
*Advisors:* [Prof. Mari Kobayashi](#), [Prof. Sheng Yang](#)  
*GPA:* **17.35/20** *Class rank:* **1/23**
- **B.E. in Electronics and Telecommunications** 2014  
Univ. of Engineering and Technology (UET), Vietnam National University Hanoi (VNU)  
*Thesis:* [Software-Defined-Radio Implementation of OFDM-based Physical Layer Network Coding](#)  
*Advisors:* [Assoc. Prof. Nguyen Linh Trung](#), [Assoc. Prof. Nguyen Quoc Tuan](#)  
*GPA:* **3.75/4.0** *Class rank:* **1/68**

## WORK EXPERIENCE

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- **Assistant Professor** 09/2024–present  
Linköping University, Sweden
- **Adjunct Lecturer** 03/2021 – present  
Advanced Institute of Engineering and Technology (AVITECH), UET, VNU, Vietnam
- **Postdoc Researcher** 09/2020–08/2024  
Chalmers University of Technology, Sweden
- **Research Engineer** 11/2016–06/2020  
Huawei Paris Research Center, France
- **Ph.D. Student** 07/2017–06/2020  
CentraleSupélec, Paris-Saclay University, France

- **Research Assistant** 02/2016–10/2026  
CentraleSupélec, Paris-Saclay University, France
- **Research Assistant** 07/2014–08/2015  
Vietnam National University Hanoi
- **Intern** 12/2013–03/2014  
Vietnam Posts and Telecommunications Group
- **Intern** 07/2012–08/2012  
National University of Singapore

#### SELECTED HONORS AND AWARDS

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- **Golden Globe Award in Science and Technology** for under-35 Vietnamese researchers, 2024
- **Best Paper Award**, IEEE Statistical Signal Processing Workshop (SSP), 2023
- **Featured in the spotlight** of the 7th and 9th Heidelberg Laureate Forum, Germany, 2019 and 2022
- **Marie Skłodowska-Curie Actions Individual Fellowship**, 2021
- **Best Paper Award**, Int. Conf. on Advanced Technologies in Communications (ATC), 2021
- **Signal, Image & Vision Ph.D. Thesis Prize** by EEA, GRETSI and GdR-ISIS, France, 2021
- **“Impact Science” Second Prize** for Ph.D. thesis, CentraleSupélec Foundation, France, 2021
- **Graduate with first-class honors** in both **bachelor’s** and **master’s** levels, 2014 and 2016
- **Honda Young Engineers and Scientists Award**, Honda Foundation, Japan, 2013

#### FUNDED RESEARCH GRANTS

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Participated\* or took lead\*\* in proposal writing

- **\*Theory for the Privacy-Security Trade-off in *Practical* Federated Learning**, Swedish Research Council, amount: 5M SEK, role: co-PI, 2024–2028
- **\*Theory for the Privacy-Security Trade-off in Federated Learning**, Wallenberg AI, Autonomous Systems and Software Program (WASP), Sweden, amount: 4M SEK, role: co-PI, 2023–2027
- **\*\*LANTERN: Low-latency and private edge computing in random-access networks**, Marie Skłodowska-Curie Individual Fellowship, amount: 200K EURO, role: PI, 2021–2023
- **\*Agricultural Internet of Things Based on Edge Computing**, ICT Virtual Organization of ASEAN Institutes and Japan’s NICT, amount 80K USD, role: co-PI, 2022–2024
- **\*Connecting the Unconnected: A Tool for Digital Inclusion**, AlumNode Funding, Klaus Tschira Foundation, Germany, amount: 5K EURO, role: co-PI, 2021–2022

#### RESEARCH PROFILE

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- **Interests:** Wireless Communications, Information Theory  
**Topics:** massive random access, information freshness, integrated sensing and communication, data privacy, MIMO, noncoherent communications, coded caching, network coding
- **Google scholar profile:**  
<https://scholar.google.com/citations?user=RjcW6WwAAAAJ&hl=en>  
Number of citations: **436**, h-index: **11**, i10-index: **13**
- **Publications:** **11** journal papers (8 lead-authorship), **27** conference papers (22 lead-authorship), **4** book chapters, **1** patent
- **List of publications** at the end of the CV

## TEACHING EXPERIENCE: TEACHING ASSISTANT AT CHALMERS \_\_\_\_\_

- Spring 2023, Spring 2024: *Wireless Communications* (master's course, 7.5 credits, 20 students)
- Spring 2021, Spring 2023: *Information Theory* (master's/Ph.D. course, 7.5 credits, 20 students)
- Fall 2021, Fall 2023: *High-Dimensional Statistics* (master's/Ph.D. course, 7.5 credits, 12 students)

## SUPERVISING EXPERIENCE: CO-SUPERVISOR \_\_\_\_\_

- Marcus Lassila (Ph.D. student), *Theory for the privacy-security trade-off in federated learning*, Chalmers University of Technology, Sweden, 09/2023–2027
- Xi Zhang (master's student), *Learning joint detection and decoding in short-packet communications*, Chalmers University of Technology, Sweden, 09/2023–08/2024, now a Ph.D. student at Tampere University, Finland
- Khodor Safa and Shanglin Yang (master's students), *MIMO detection under the generalized Gaussian model*, CentraleSupélec, France, 03/2021
- Wassim Khelil, Mohamed Idriss Khaledi, and Anas Ouallou (master's students), *Embracing non-linearities in future wireless systems via non-convex optimization*, CentraleSupélec, France, 03/2020

## PROFESSIONAL SERVICES \_\_\_\_\_

- **Member** of IEEE (since 2017) and ACM (since 2022)
- **Copyeditor** for ICT Research Journal, Vietnam Ministry of Information and Communications, 2021
- **Reviewer for research grant applications:** National Foundation for Science and Technology Development (NAFOSTED), Vietnam, 2023
- **Reviewer for international journals:**
  - IEEE Transactions on Information Theory
  - IEEE Transactions on Wireless Communications
  - IEEE Transactions on Communications
  - IEEE Transactions on Vehicular Technology
  - IEEE Transactions on Signal Processing
  - IEEE Transactions on Signal and Information Processing over Networks
  - IEEE Transactions on Green Communications and Networking
  - IEEE Internet of Things Journal
  - IEEE Journal on Selected Areas in Information Theory
  - IEEE Journal on Selected Areas in Communications
  - IEEE Communications Letter
  - IEEE Wireless Communications Letter
  - IEEE Vehicular Technology Magazine
  - IET Electronics Letter
  - Elsevier Pervasive Mobile Computing
  - Physical Communication
  - Entropy, MDPI
- **Referee for domestic journals**
  - ICT Research Journal, Vietnam Ministry of Information and Commun.
  - VNU Journal of Science: Computer Science and Commun. Engineering

- **Reviewer for conferences:**

- IEEE Int. Symp. on Information Theory (ISIT): 2020, 2022, 2023
- IEEE Information Theory Workshop (ITW): 2018, 2021
- IEEE Global Communications Conference (GLOBECOM): 2017, 2023
- IEEE Int. Conf. on Communications (ICC): 2017, 2018, 2023, 2024
- IEEE Wireless Commun. and Networking Conf. (WCNC): 2022, 2024
- IEEE Int. Workshop on Signal Process. Adv. Wireless Commun. (SPAWC): 2019
- IEEE Int. Conf. on Acoustics, Speech, and Signal Process. (ICASSP): 2023
- IEEE Statistical Signal Processing Workshop (SSP): 2023
- IEEE Int. Conf. on Communications and Electronics (ICCE): 2024
- International Symposium on Topics in Coding (ISTC): 2018
- Asilomar Conf. on Signals, Systems, and Computers: 2021, 2022, 2023, 2024
- Int. Symp. on Wireless Communication Systems (ISWCS): 2018, 2021
- Int. Symp. on Communication and Information Technology (ISCIT): 2019
- Int. ITG Workshop on Smart Antennas (WSA): 2021, 2023
- Int. Conf. on Advanced Techno. in Commun. (ATC): 2021, 2022, 2023
- IEEE-RIVF Int. Conf. on Computing and Commun. Technologies: 2022
- NAFOSTED Conf. on Information and Computer Science (NICS): 2018
- APSIPA Annual Summit and Conference: 2022, 2023, 2024
- Int. Conf. on Control, Automation and Inf. Sciences (ICCAIS): 2023

- **TPC member for conferences**

- IEEE Wireless Commun. Netw. Conf. (WCNC), Dubai, UAE, 2024
- Int. Conf. Control, Auto. Inf. Sciences (ICCAIS), Hanoi, Vietnam, 2023
- APSIPA Annual Summit and Conference, Taipei, Taiwan, 2023
- 12th Int. Symp. Inf. Commun. Techno. (SoICT), Hanoi, Vietnam, 12/2023
- Joint EuCNC & 6G Summit, Gothenburg, Sweden, 06/2023
- 26th Int. ITG Workshop Smart Anten. (WSA), Germany, 02/2023
- 11th Int. Symp. Inf. Commun. Techno. (SoICT), Hanoi, Vietnam, 12/2022

- **Organizing member for conferences**

- *Session chair*, IEEE GLOBECOM, Kuala Lumpur, Malaysia, 2023
- *Communication track chair*, Int. Conf. Advanced Techno. Commun. (ATC), Hanoi, Vietnam, 2022
- *Track chair*, 1st Int. Conf. Intel. of Things (ICIT), Hanoi, Vietnam, 2022
- *Hot-topic panel discussion organizer*, IEEE Int. Symp. World of Wireless, Mobile Multi. Netw. (WoWMoM), Belfast, UK, 2022
- *Special session organizer*, 25th Int. ITG Workshop on Smart Antennas (WSA), France, 2021
- *Special session organizer*, Int. Conf. Advanced Techno. Commun. (ATC), Hochiminh City, Vietnam, 2021
- *Scientific committee member*, 1st Junior Conf. Wireless & Optical Commun., Paris-Saclay University, France, 2019
- *Executive committee member*, 1st Honda Forum for Young Engineers and Scientists, Tokyo, Japan, 2015

- **Founding member and admin** of [telecom-vn](#), a Facebook group for Vietnamese researchers in telecommunications. Organize seminars (<https://www.youtube.com/@telecom-vn3811>) and maintain research discussions.
- **Science communicator** for the Vietnamese community
  - Online workshop “Data Science, Machine Learning, and Artificial Intelligence in Digital Transformation”, 11/2021
  - Online workshop “Preparing for Tomorrow” about career paths in science and technology for high-school students in Vietnam, 11/2021
  - Online workshop “ICT Convergence - Shaping the Future of Vietnam”, 10/2020
  - Online public science lecture “Wireless Communications: Basics and Applications” to around 120 Vietnamese attendees, 06/2020
- **Participant of Scientific Forums**
  - 7th and 9th [Heidelberg Laureate Forum](#), Germany, 09/2019 and 09/2022
  - 2nd and 3rd Global Young Vietnamese Scholars Forum, Vietnam, 11/2019 and 11/2020
  - [Honda Young Engineers and Scientists \(Y-E-S\) Forum](#), Tokyo, Japan, 11/2015
  - Young Engineers and Scientists Tokyo Meeting, Tokyo, Japan, 11/2014

#### INVITED TALKS BY TOPIC \_\_\_\_\_

- **Massive Random Access:**
  - Aalborg University (04/2024)
  - Linköping University (10/2023)
  - Vietnam National University Hanoi (05/2023, 05/2021)
  - INRIA Lyon (04/2023)
  - CentraleSupélec (01/2023)
  - Zugspitze Workshop on Communications (01/2023)
  - Equipe Traitement de l’Information et Systèmes (ETIS) France (02/2022)
  - H2020 INCOMING Summer School (06/2022)
- **Age of Information:**
  - University of Amsterdam (04/2024)
  - Hanoi University of Science and Technology (12/2023)
  - German Aerospace Center (DLR) (09/2022)
- **Noncoherent Wireless Communications:**
  - 8th Francophone Symposium on Signal and Image Processing (GRETSI) France (09/2022)
  - CentraleSupélec (12/2021, 06/2018)
  - Club EEA France (06/2021)
  - Vietnam National University Hanoi (08/2019, 11/2017)
  - Technical University of Munich (09/2017)
- **Coded Caching:** Vietnam National University Hanoi (08/2016)

## MEDIA COVERAGE

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- Interview in the spotlight of the 9th Heidelberg Laureate Forum about my research and the challenges in the field of telecommunications: <https://scilog.spektrum.de/hlf/hlff-spotlight-9th-hlf-2>
- Interview with the French National Doctoral Network about my PhD journey: <https://www.docteurs-spi.org/post/khac-hoang-ngo-marie-sk%C5%82odowska-curie-actions-fellow-chalmers-university>
- Interview in the 10-out-of-200 list of participants of the 7th Heidelberg Laureate Forum about scientific research: <https://scilog.spektrum.de/hlf/10-out-of-200-serving-the-people-khac-hoang-ngo-improves-our-telecommunication/>
- Various Vietnamese newspapers

## LANGUAGES

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Vietnamese (native), English (fluent), French (elementary), Swedish (beginner)

## LIST OF PUBLICATIONS

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In the following, I retrace the main steps in my research career with reference to my list of publications.

My postdoctoral research primarily focuses on **massive random access**, where a large number of sporadically active devices access the wireless medium in an uncoordinated fashion. First, I characterized the energy efficiency achievable under the **unsourced multiple access** (UMA) framework, where the users employ the same codebook, and the decoder returns an unordered list of codewords. Specifically, I extended the random-coding achievability bound in the original UMA framework to the cases in which:

- the number of active devices is random and unknown to the receiver [C1], [J1];
- there are heterogeneous traffic consisting of both standard and critical messages [C2], [J2];
- the receiver not only detects the transmitted messages but also estimates their types [C3].

Second, I explored practical **advanced slotted ALOHA protocols**. I analyzed irregular repetition slotted ALOHA (IRSA) over the binary adder channel [C4]. I also investigated information freshness, measured in terms of the **age of information** metric achieved with:

- IRSA when devices belong to different classes [C5];
- slotted ALOHA when devices rely on harvested energy [C6], [Pre1].

Furthermore, I investigated the **privacy of federated learning**. I analyzed a variation of local differential privacy where the privacy leakage is measured by mutual information [C7]. I also quantified the privacy guarantee of secure aggregation (where clients jointly mask their updates to reveal only the aggregate) through the lens of differential privacy [C8].

Besides massive random access and privacy, I also conducted research on edge computing [C9], [J3], reconfigurable intelligent surfaces [C9], joint communication and sensing [C10], mmWave channel estimation [C11], and network deployment for rural connectivity [J4].

The topic of my Ph.D. thesis was **noncoherent wireless communications**, where channel state information (CSI) is unavailable a priori. Conventional wireless communication methods involve pilot-based channel estimation and coherent detection. However, when channel estimation is challenging and overconsumes communication resources, adopting communication strategies that operate without relying on CSI, such as using Grassmannian constellations, proves to be more

effective. In the first part of the thesis, I characterized the **fundamental limits** of noncoherent communications under generic fading conditions. Specifically, I derived the optimal/achievable degrees of freedom and data rates for:

- the noncoherent point-to-point channel [C12];
- the multiple access channel [C13];
- the broadcast channel [C14], [C15], [J5].

In the second part, I designed **practical schemes**, including:

- a structured Grassmannian constellation with high packing efficiency and low mapping/demapping complexity [J6], [C16], [P1];
- meaningful metrics to design joint constellations for the multiple access channel [J7], [C17], [C18];
- a practical multiple access scheme [C19];
- a low-complexity and effective noncoherent multiuser detection scheme based on expectation propagation [J8], [C20].

Moreover, I presented a generalized Gaussian model to characterize the input-output relation in nonlinear channels [C21].

My master’s thesis focused on **coded caching**, which reduces the traffic load in content delivery networks by prefetching content near/at the users and by employing coded multicast. I analyzed the performance of coded caching in practical scenarios, considering random demands, random user arrivals, and wireless channels. In MIMO broadcast channels, coded multicast is limited by the channel condition of the worst user, hindering scalability, i.e., the ability to guarantee a constant per-user delivery rate as the user population grows. I proposed methods to achieve scalability based on multiple-antenna transmission or opportunistic user scheduling, uncovering a synergy between coded caching and massive MIMO [C22]–[C25], [J9].

During my bachelor’s study, I actively engaged in research early by completing a summer internship at the National University of Singapore, focusing on solar panel charge controllers [R1]. Subsequently, I participated in a research project on **network coding**, aiming to increase the network throughput through transmitting message combinations. I implemented network coding and cognitive radio protocols using a real-time software-defined radio testbed with USRP and bladeRF devices [C26], [C27], [J10], [B1]–[B4].

## Preprints

- [Pre1] **Khac-Hoang Ngo**, G. Durisi, A. Munari, F. Lázaro, and A. Graell i Amat, “Timely status updating in slotted ALOHA networks with energy harvesting,” *under revision to IEEE Transactions on Communications*, 2024. [Online]. Available: <https://arxiv.org/pdf/2404.19552>.

## Book Chapters

- [B1] L.-T. Nguyen, T.-T.-Q. Tran, **Khac-Hoang Ngo**, and V.-L. Nguyen, “Cognitive physical-layer network coding,” in *Two-Way Relay Communications: Theory and Implementation*, L.-T. Nguyen, N.-Q.-B. Vo, and T.-T.-Q. Tran, Eds., Language: Vietnamese, Hanoi, Vietnam: VNU Publishing House, to be published in 2024, ch. 8.

- [B2] T.-T.-Q. Tran, **Khac-Hoang Ngo**, V.-L. Nguyen, H.-S. Do, and L.-T. Nguyen, “Setting up an SDR testbed for OFDM systems,” in *Two-Way Relay Communications: Theory and Implementation*, L.-T. Nguyen, N.-Q.-B. Vo, and T.-T.-Q. Tran, Eds., Language: Vietnamese, Hanoi, Vietnam: VNU Publishing House, to be published in 2024, ch. 9.
- [B3] V.-L. Nguyen, **Khac-Hoang Ngo**, T.-T.-Q. Tran, V.-H. Le, and L.-T. Nguyen, “Physical-layer network coding for SDR-based multimedia transmissions,” in *Two-Way Relay Communications: Theory and Implementation*, L.-T. Nguyen, N.-Q.-B. Vo, and T.-T.-Q. Tran, Eds., Language: Vietnamese, Hanoi, Vietnam: VNU Publishing House, to be published in 2024, ch. 10.
- [B4] T.-T.-Q. Tran, V.-L. Nguyen, **Khac-Hoang Ngo**, L.-T. Nguyen, Q.-T. Nguyen, V.-H. Le, N.-Q.-B. Vo, and X.-N. Tran, “Implementation of cognitive physical-layer network coding based on OFDM/VFDM,” in *Two-Way Relay Communications: Theory and Implementation*, L.-T. Nguyen, N.-Q.-B. Vo, and T.-T.-Q. Tran, Eds., Language: Vietnamese, Hanoi, Vietnam: VNU Publishing House, to be published in 2024, ch. 11.

## Patent

- [P1] **Khac-Hoang Ngo**, A. Decurninge, M. Guillaud, and S. Yang, “Transmitter and receiver communication apparatus for non-coherent communication,” U.S. Patent 17/243,679, 19 August 2021.

## Journal Papers

- [J1] **Khac-Hoang Ngo**, A. Lancho, G. Durisi, and A. Graell i Amat, “Unsources multiple access with random user activity,” *IEEE Transactions on Information Theory*, vol. 69, no. 7, pp. 4537–4558, Feb. 2023. [Online]. Available: <https://arxiv.org/pdf/2202.06365.pdf>.
- [J2] **Khac-Hoang Ngo**, G. Durisi, A. Graell i Amat, P. Popovski, A. E. Kalor, and B. Soret, “Unsources multiple access with common alarm messages: Network slicing for massive and critical IoT,” *IEEE Transactions on Communications*, vol. 72, no. 2, pp. 907–923, Feb. 2024. [Online]. Available: <https://arxiv.org/pdf/2302.11026.pdf>.
- [J3] G. Gur, A. Kalla, C. de Alwis, Q.-V. Pham, **Khac-Hoang Ngo**, M. Liyanage, and P. Porrambage, “Integration of ICN and MEC in 5G and beyond networks: Mutual benefits, use cases, challenges, standardization, and future research,” *IEEE Open Journal of the Communications Society*, vol. 3, pp. 1382–1412, Aug. 2022.
- [J4] A. U. Rahman, F. Fourati, **Khac-Hoang Ngo**, A. Jindal, and M.-S. Alouini, “Network graph generation through adaptive clustering and infection dynamics: A step towards global connectivity,” *IEEE Communications Letter*, vol. 26, no. 4, pp. 783–787, Jan. 2022. [Online]. Available: <https://arxiv.org/pdf/2111.10690.pdf>.
- [J5] F. Zhang, **Khac-Hoang Ngo**, S. Yang, and A. Nosratinia, “Transmit correlation diversity: Generalization, new techniques, and improved bounds,” *IEEE Transactions on Information Theory*, vol. 68, no. 6, pp. 3841–3869, Jan. 2022, (Zhang and Ngo contributed equally to the technical content). [Online]. Available: <https://arxiv.org/pdf/2104.09711.pdf>.
- [J6] **Khac-Hoang Ngo**, A. Decurninge, M. Guillaud, and S. Yang, “Cube-split: A structured Grassmannian constellation for non-coherent SIMO communications,” *IEEE Transactions on Wireless Communications*, vol. 19, no. 3, pp. 1948–1964, Mar. 2020. [Online]. Available: <https://doi.org/10.1109/TWC.2019.2959781>.



- [J7] **Khac-Hoang Ngo**, S. Yang, M. Guillaud, and A. Decurninge, “Joint constellation design for noncoherent MIMO multiple-access channels,” *IEEE Transactions on Information Theory*, vol. 68, no. 11, pp. 7281–7305, Jul. 2022. [Online]. Available: <https://arxiv.org/pdf/2009.11548.pdf>.
- [J8] **Khac-Hoang Ngo**, M. Guillaud, A. Decurninge, S. Yang, and P. Schniter, “Multi-user detection based on expectation propagation for the non-coherent SIMO multiple access channel,” *IEEE Transactions on Wireless Communications*, vol. 19, no. 9, pp. 6145–6161, Sep. 2020. [Online]. Available: <https://arxiv.org/pdf/1905.11152.pdf>.
- [J9] **Khac-Hoang Ngo**, S. Yang, and M. Kobayashi, “Scalable content delivery with coded caching in multi-antenna fading channels,” *IEEE Transactions on Wireless Communications*, vol. 17, no. 1, pp. 548–562, Jan. 2018. [Online]. Available: <https://doi.org/10.1109/TWC.2017.2768361>.
- [J10] T.-T.-Q. Tran, L. V. Nguyen, **Khac-Hoang Ngo**, L.-T. Nguyen, Q.-T. Nguyen, N.-Q.-B. Vo, X.-N. Tran, E. Bastug, S. Azarian, M. Debbah, and P. Duhamel, “Network coding with multimedia transmission and cognitive networking: An implementation based on software-defined radio,” *REV Journal on Electronics and Communications*, vol. 10, no. 3-4, pp. 72–84, 2020, **Invited Article**. [Online]. Available: <https://centralesupelec.hal.science/hal-03271773v1/document>.

## Conference Papers

- [C1] **Khac-Hoang Ngo**, A. Lancho, G. Durisi, and A. Graell i Amat, “Massive uncoordinated access with random user activity,” in *IEEE International Symposium on Information Theory (ISIT)*, Melbourne, Victoria, Australia, 2021, pp. 3014–3019. [Online]. Available: <https://arxiv.org/abs/2103.09721>.
- [C2] **Khac-Hoang Ngo**, G. Durisi, A. Graell i Amat, P. Popovski, B. Soret, and A. E. Kalør, “Unsourced multiple access for heterogeneous traffic requirements,” in *56th Asilomar Conference on Signals, Systems, and Computers*, **Invited Paper**, CA, USA, Oct. 2022, pp. 687–691.
- [C3] **Khac-Hoang Ngo**, D. P. Krishnan, K. Okumus, G. Durisi, and E. G. Ström, “Type-based unsourced multiple access,” in *IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, 2024. [Online]. Available: <https://arxiv.org/pdf/2404.19552>.
- [C4] **Khac-Hoang Ngo**, A. Graell i Amat, and G. Durisi, “Irregular repetition slotted ALOHA over the binary adder channel,” in *IEEE International Conference on Communications (ICC)*, Rome, Italy, May 2023. [Online]. Available: <https://arxiv.org/pdf/2302.11720.pdf>.
- [C5] **Khac-Hoang Ngo**, G. Durisi, and A. Graell i Amat, “Age of information in prioritized random access,” in *55th Asilomar Conference on Signals, Systems, and Computers*, **Invited Paper**, CA, USA, Oct. 2021, pp. 1502–1506. [Online]. Available: <https://arxiv.org/pdf/2112.01182.pdf>.
- [C6] **Khac-Hoang Ngo**, G. Durisi, A. Graell i Amat, A. Munari, and F. Lázaro, “Age of information in slotted ALOHA with energy harvesting,” in *IEEE Global Communications Conference (Globecom)*, Kuala Lumpur, Malaysia, Dec. 2023. [Online]. Available: <https://arxiv.org/pdf/2310.00348.pdf>.
- [C7] **Khac-Hoang Ngo**, J. Östman, and A. Graell i Amat, “Local mutual-information differential privacy,” in *IEEE Information Theory Workshop (ITW)*, 2024. [Online]. Available: <https://arxiv.org/pdf/2405.07596>.

- [C8] **Khac-Hoang Ngo**, J. Östman, G. Durisi, and A. Graell i Amat, “Secure aggregation is not private against membership inference attacks,” in *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD)*, Vilnius, Lithuania, Sep. 2024. [Online]. Available: <https://arxiv.org/pdf/2403.17775>.
- [C9] **Khac-Hoang Ngo**, N. T. Nguyen, T. Q. Dinh, T.-M. Hoang, and M. Juntti, “Low-latency and secure computation offloading assisted by hybrid relay-reflecting intelligent surface,” in *International Conference on Advanced Technologies for Communications (ATC)*, **Best Paper Award**, Hanoi, Vietnam, Oct. 2021, pp. 306–311. [Online]. Available: <https://arxiv.org/pdf/2109.01335.pdf>.
- [C10] N. T. Nguyen, N. Shlezinger, **Khac-Hoang Ngo**, V.-D. Nguyen, and M. Juntti, “Joint communications and sensing design for multi-carrier MIMO systems,” in *IEEE Statistical Signal Processing Workshop (SSP)*, **Best Paper Award**, Hanoi, Vietnam, Jul. 2023, pp. 110–114. [Online]. Available: <https://arxiv.org/pdf/2306.14006.pdf>.
- [C11] N.-S. Duong, Q.-T. Nguyen, **Khac-Hoang Ngo**, and T.-M. Dinh-Thi, “Sparse Bayesian learning with atom refinement for mmWave MIMO channel estimation,” in *IEEE Statistical Signal Processing Workshop (SSP)*, Hanoi, Vietnam, Jul. 2023, pp. 155–159.
- [C12] **Khac-Hoang Ngo**, S. Yang, and M. Guillaud, “The optimal DoF for the noncoherent MIMO channel with generic block fading,” in *2020 IEEE Information Theory Workshop (ITW)*, Riva del Garda, Italy, Apr. 2021. [Online]. Available: <https://arxiv.org/pdf/2009.11556.pdf>.
- [C13] **Khac-Hoang Ngo**, S. Yang, and M. Guillaud, “The optimal DoF region for the two-user non-coherent SIMO multiple-access channel,” in *IEEE Information Theory Workshop (ITW)*, Guangzhou, China, Nov. 2018. [Online]. Available: <https://arxiv.org/pdf/1806.04102.pdf>.
- [C14] **Khac-Hoang Ngo**, S. Yang, and M. Guillaud, “An achievable DoF region for the two-user non-coherent MIMO broadcast channel with statistical CSI,” in *2017 IEEE Information Theory Workshop (ITW)*, Taiwan, Nov. 2017, pp. 604–608. [Online]. Available: <https://centralesupelec.hal.science/hal-01567036v1/document>.
- [C15] **Khac-Hoang Ngo**, F. Zhang, S. Yang, and A. Nosratinia, “Two-user MIMO broadcast channel with transmit correlation diversity: Achievable rate regions,” in *IEEE Information Theory Workshop (ITW)*, Kanazawa, Japan, Nov. 2021. [Online]. Available: <https://centralesupelec.hal.science/hal-03420090/document>.
- [C16] **Khac-Hoang Ngo**, A. Decurninge, M. Guillaud, and S. Yang, “Design and analysis of a practical codebook for non-coherent communications,” in *51st Asilomar Conference on Signals, Systems, and Computers*, CA, USA, Oct. 2017, pp. 1237–1241. [Online]. Available: <https://centralesupelec.hal.science/hal-01567048/file/hal-01567048.pdf>.
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