

# Quang-Trung LUU

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## RESEARCH INTERESTS

**Computing:** Cloud/edge computing, coflow management, deadline-aware task scheduling

**Intelligence:** Applied AI/ML for networking (deep learning, deep reinforcement/reinforcement learning)

**Networking:** 5G and beyond, network slicing, open radio access network (O-RAN), IoT

## ACADEMIC EXPERIENCES

2025–pres	<b>Associate Professor</b> , CentraleSupélec, Paris-Saclay University . . . . . Paris, France
2023–2025	<b>Assistant Professor</b> , Hanoi University of Science and Technology . . . . . Hanoi, Vietnam
2021–2022	<b>Postdoctoral Fellow</b> , French National Centre for Scientific Research (CNRS) . . . . . Toulouse, France
2017–2021	<b>Doctoral Fellow</b> , CentraleSupélec, Paris-Saclay University . . . . . Paris, France
2017–2020	<b>Research Engineer</b> , Nokia Bell Labs . . . . . Paris, France
04–09/2017	<b>Research Intern</b> , Inria & Ecole Normale Supérieure . . . . . Lyon, France

## EDUCATION

2017–2021	<b>Ph.D. in Information &amp; Communication Networks</b> , CentraleSupélec–Paris-Saclay University Thesis: <i>Dynamic Control and Optimization of Wireless Virtual Networks</i> (GDR-RSD Best Ph.D Award) Advisors: Prof. Michel Kieffer (Paris-Saclay) and Dr. Sylvaine Kerboeuf (Nokia Bell Labs)
2016–2017	<b>M.Sc. in Multimedia Networking</b> , Paris-Saclay University & Télécom Paris Thesis: <i>Optimization of 802.11-based Wireless Networks</i> Advisors: Profs. Anthony Busson and Isabelle Guérin-Lassous (Univ. Lyon 1)
2015–2016	<b>M.Sc. in Antennas and Telecom Devices</b> , Paris-Saclay University Thesis: <i>Wireless Power Transfer for Implantable Medical Devices</i> Advisors: Profs. Antoine Diet, Yann Le Bihan (Paris-Saclay), and Stavros Koulouridis (Univ. Patras)
2008–2013	<b>B.Sc. in Electronics and Telecoms</b> , Hanoi University of Science and Technology (HUST) Thesis: <i>Optimization of Resonator Configuration for Wireless Power Transmission Systems</i> Advisors: Profs. Cao-Minh Ta and Yem Vu-Van (HUST)

## GRANTED PROJECTS

2025–2028	<b>Developing distributed video processing system for smart cities</b> Budget: ~ \$391K. Funded by the Vietnamese National Program KC-01. Role: Co-investigator.
2025–2026	<b>Resource optimization for network slicing in next-generation mobile networks</b> Budget: ~ \$23.6K. Funded by the Government of Vietnam (MOET). Role: PI.
2024–2026	<b>Enhancing the performance of 6G Open RAN integrating edge computing and network slicing</b> Budget: ~ \$71K. Funded by the Government of Vietnam (NAFOSTED). Role: Co-PI.
2023–2026	<b>Typhoon formation prediction using machine learning</b> Budget: ~ \$166K. Funded by VinIF Foundation. Role: Co-investigator.

## SUPERVISION

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### Doctoral Students

- 2026–2030 **Minh-Thanh Nguyen**, Trinity College Dublin  
(co-advised with [Prof. Van-Dinh Nguyen](#))  
Topic: Multi-agent Deep Reinforcement Learning
- 2023–2027 **Tuan-Vu Truong**, University of Technology Sydney and VinUniversity  
(co-advised with [Prof. Diep Nguyen](#) and [Prof. Van-Dinh Nguyen](#))  
Topic: Resource allocation for network slicing in open radio access network (Open RAN)
- 2023–2027 **Minh-Tuong Nguyen**, University of Technology Sydney and VinUniversity  
(co-advised with [Prof. Diep Nguyen](#) and [Prof. Van-Dinh Nguyen](#))  
Topic: Resource allocation for serverless functions in mobile edge cloud environments

### Master's Students

- 2024–2026 **Kim-Hoan Do**, Hanoi University of Science and Technology  
Topic: Resource allocation for Open RAN slicing
- 2023–2025 **Quang-Lap Luu**, Hanoi University of Science and Technology  
Topic: Machine learning for typhoon formation prediction
- 2021–2022 **Jobayer Morshed & Abdel Ouahd Alouane**, Institut Polytechnique de Paris  
Topic: Scheduling coflows in datacenter networks.
- 2020–2021 **Xavier Goeman & Carlos Guzman**, Institut Polytechnique de Paris  
Topic: Embedding algorithms for network slices dedicated to multimedia services

## HONORS AND AWARDS

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- April 2025 **Professional Fellow**, *Asia Pacific Network Information Centre (APNIC)*
- July 2024 **Travel Grant Award**, *Annual US-ASEAN Symposium on Accelerating Science, Technology, and Circular Innovation in Southeast Asia*, organized by the U.S. Department of State, Arizona State University, and Rochester Institute of Technology (top 35 of all ASEAN applicants)
- Dec. 2023 **Best Poster Award**, *Asian Internet Engineering Conference (AINTEC)*
- May 2022 **Best PhD Thesis on Distributed Systems and Networks**, *GDR-RSD & ACM SigOps France*
- Oct. 2020 **Publication Award**, *Nokia Bell Labs*
- Dec. 2019 **Travel Grant**, *Global Young Vietnamese Scholars Network*
- Dec. 2018 **Student Travel Grant Award**, *IEEE Global Communications Conference (IEEE GLOBECOM)*
- 2017–2020 **CIFRE Fellowship**, *French National Association for Technical Research (ANRT)*
- 2015–2016 **IDEX Master's Scholarship**, *Paris-Saclay University*
- May 2013 **Student Research Prize (first runner-up)**, *Hanoi University of Science and Technology*

## SKILLS

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- Techniques:** Mathematical programming, optimization, applied AI/ML (e.g., RL/DRL, GNN)
- Coding:** Python, MATLAB, C/C++, Bash scripts
- Tools:** git, ns-3, CPLEX, Jupyter notebook, Microsoft Office, L<sup>A</sup>T<sub>E</sub>X, InkScape
- Libraries:** NetworkX, NumPy, Pandas, PyTorch, scikit-learn, TensorFlow, matplotlib
- Languages:** Vietnamese (mother tongue), English (fluent), French (fluent)

## ACADEMIC SERVICES

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### Organizing Committee:

- Track Chair, [Networks Track](#), 2025 International Conference on Advanced Technologies For Communications (ATC'25)
- Track Chair, [Communication Networks and Systems Track](#), 2024 IEEE International Conference on Communications and Electronics (ICCE'24)
- Session Chair, [Special Session on Recent Advances in B5G/6G Networks](#), 2024 IEEE International Conference on Communications and Electronics (ICCE'24)
- Jury member, [2020 Annual Ph.D Student Workshop of CentraleSupélec](#) (session “AI and networking”)

### Member of Technical Program Committee (TPC):

- IEEE Global Communication Conference (GLOBECOM): [GLOBECOM'26](#)
- International Conference on Information Technology and Its Applications (CITA): [Special Session on Sustainable and AI-Enabled Telecommunication Systems for Perception-Aware Connected Societies \(SPACS'26\)](#)
- IEEE International Conference on Communications and Electronics (ICCE): [ICCE'24](#), [ICCE'26](#)
- International Conference on Advanced Technologies For Communications (ATC): [ATC'25](#)
- International Conference on Computing and Communication Technologies (RIVF): [RIVF'25](#)
- International Symposium on Information and Communication Technology (SoICT): [SoICT'22](#)
- International Conference on Networks (ICN): [ICN'20](#), [ICN'21](#), [ICN'22](#)

**Regular reviewer for journals:** IEEE Journal on Selected Areas in Communications (JSAC); IEEE/ACM Transactions on Networking (TON); IEEE Transactions on Mobile Computing (TMC); IEEE Transactions on Network and Service Management (TNSM); IEEE Transactions on Parallel and Distributed Systems (TPDS); IEEE Open Journal of the Communications Society (OJCOMS); IEEE System Journal (ISJ); IEEE Communications Letters (COMML); Elsevier Computer Networks (COMNET); Elsevier Computer Communications (COMCOM); Springer Nature Journal of Network and Systems Management (JNSM).

**Regular reviewer for conferences:** IEEE Global Communications Conference (GLOBECOM); IEEE International Conference on Communications (ICC); IEEE Vehicular Technology Conference (VTC); IEEE International Conference on Advanced Technologies for Communications (ATC); IEEE International Conference on Smart Computing (SMARTCOMP).

## OTHER ACTIVITIES

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- Since 2023    **Head of local organizing team**, [Vietnam Summer School of Science \(VSSS\)](#), Quy Nhon, Vietnam. Since 2013, VSSS has grown into an annual event with nearly 150 participants each year, offering scientific training to almost 2,000 students nationwide.
- Since 2020    **Founder & admin**, [telecom-vn](#)—a group gathering more than 400 Vietnamese researchers in networking and telecoms (as of Aug. 2025)

## PUBLICATIONS

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**Research profiles:** [Google Scholar](#), [ORCID](#), [HAL Archives Ouvertes](#), [ResearchGate](#)

## Patents

- (b<sub>1</sub>) Sylvaine Kerboeuf, **Quang-Trung Luu**, Michel Kieffer, and Alexandre Mouradian, “[Slice Resource Provisioning Method Addressing Multiple Slice Demands with SLA Guarantee](#),” *US Patent 11,431,562 B2*, filed 07 December 2018, issued 16 December 2021, granted 30 August 2022.

## In preparation

- (p<sub>1</sub>) **Quang-Trung Luu**, Cong-Viet Hoang, Ha-Son Nguyen, and Dang-Vu Nguyen, “Timirax: Joint Acceptance Rate and Completion Time Optimization for Coflows in Datacenters,” to be submitted to *IEEE Networking Letters*, 2026.
- (p<sub>2</sub>) Ngoc Hung Nguyen, Nguyen Van Thieu, Senura H. Wanasekara, Van-Dinh Nguyen, **Quang-Trung Luu**, Nguyen Cong Luong, and Anh Tuan Nguyen, “Joint Autonomous Control and Tasks Handling in Intelligent Transportation Systems,” to be submitted to *IEEE Transactions on Intelligent Transportation Systems*, 2026.

## Submitted, in review

- (s<sub>1</sub>) **Quang-Trung Luu**, Minh-Thanh Nguyen, Michel Kieffer, Tuan-Anh Do, and Van-Dinh Nguyen, “Network Slice Embedding with Flexible VNF Order: A Branch-and-Bound Approach,” submitted to *IEEE Transactions on Network and Service Management*, 2026 (**major revision**, preprint: [arXiv:2412.05993](#)).
- (s<sub>2</sub>) Minh-Tuong Nguyen, Van-Dinh Nguyen, **Quang-Trung Luu**, and Le-Nam Tran, “Deadline-Aware Task Offloading with Concurrency in Serverless Edge Computing,” submitted to *IEEE Internet of Things Journal*, 2026 (**major revision**).
- (s<sub>3</sub>) Tuan-Vu Truong, **Quang-Trung Luu**, and Van-Dinh Nguyen, “Accelerating Resource Allocation in Open RAN Slicing via Deep Reinforcement Learning,” submitted to *IEEE Transactions on Network and Service Management*, 2026 (**major revision**).
- (s<sub>4</sub>) Tuan-Vu Truong, **Quang-Trung Luu**, Van-Dinh Nguyen, Dinh Thai Hoang, and Diep N. Nguyen, “A Multi-Agent and Attention-Based DRL Approach for Joint Radio and Computing Resource Orchestration in Open RAN Slicing,” submitted to *IEEE Transactions on Communications*, 2026.
- (s<sub>5</sub>) Le-Hung Hoang, **Quang-Trung Luu**, Dinh Thai Hoang, Diep N. Nguyen, and Van-Dinh Nguyen, “Securing SIM-Assisted Wireless Networks via Quantum Reinforcement Learning,” submitted to *IEEE Transactions on Communications*, 2026.
- (s<sub>6</sub>) Ngoc Hung Nguyen, Nguyen Van Thieu, **Quang-Trung Luu**, Anh Tuan Nguyen, Senura Wanasekara, Nguyen Cong Luong, Fatemeh Kavehmadavani, Van-Dinh Nguyen, “Oranits: Mission Assignment and Task Offloading in Open RAN-based ITS using Metaheuristic and Deep Reinforcement Learning,” submitted to *IEEE Transactions on Vehicular Technology*, 2026.
- (s<sub>7</sub>) Nguyen Van Duc, Bui Duc Manh, **Quang-Trung Luu**, Dinh Thai Hoang, Van-Linh Nguyen, and Diep N. Nguyen, “HEDI: Efficient Homomorphic-Encrypted Deep Inference for Privacy-Preserving UAV–Edge Face Analytics,” submitted to *Adhoc Networks*, 2026.

## Journal papers (peer-reviewed)

- (j<sub>1</sub>) **Quang-Trung Luu**, Do-Minh Tran, Minh-Thanh Nguyen, Michel Kieffer, Dinh Thai Hoang, Tai-Hung Nguyen, Huu-Thanh Nguyen, Van-Dinh Nguyen, “[Network Slice Embedding with Flexible Configurations in 5G Networks and Beyond](#),” in *IEEE Networking Letters*, 2026 (**accepted**).

- (j<sub>2</sub>) Phong C. H. Nguyen, Joseph B. Choi, and **Quang-Trung Luu**, "Flow field reconstruction from sparse sensor measurement using physics-aware recurrent convolution neural network," in *Scientific Reports*, 2026 (**accepted**, Scopus Q1, IF 3.9, preprint: [arXiv:2411.13815](https://arxiv.org/abs/2411.13815)).
- (j<sub>3</sub>) Xuan Hoang Nguyen, Van-Dinh Nguyen, **Quang-Trung Luu**, Toan Dinh Gian, and Oh-Soon Shin, "**Robust WiFi Sensing-based Human Pose Estimation Using Denoising Autoencoder and CNN with Dynamic Subcarrier Attention**," in *IEEE Internet of Things Journal*, 2025, doi: 10.1109/JIOT.2025.3535156. (E-ISSN: 2327-4662, Scopus Q1, IF 8.2).
- (j<sub>4</sub>) Rachid El-Azouzi, Francesco De Pellegrini, Afaf Arfaoui, Cédric Richier, Jeremie Leguay, **Quang-Trung Luu**, Youcef Magnouche, and Sebastien Martin, "**Semi-distributed Coflow Scheduling in Datacenters**," in *IEEE Transactions on Network and Service Management*, 2024, doi: 10.1109/TNSM.2024.3395992. (E-ISSN: 1932-4537, Scopus Q1, IF 5.3).
- (j<sub>5</sub>) Olivier Brun, Rachid El-Azouzi, **Quang-Trung Luu**, Francesco De Pellegrini, Balakrishna J. Prabhu, and Cédric Richier, "**Weighted Scheduling of Time-Sensitive Coflows**," in *IEEE Transactions on Cloud Computing*, 2024, doi: 10.1109/TCC.2024.3384514 (E-ISSN: 2168-7161, arXiv: 2303.17175, Scopus Q1, IF 6.5).
- (j<sub>6</sub>) **Quang-Trung Luu**, Sylvaine Kerboeuf, and Michel Kieffer, "**Admission Control and Resource Provisioning for Prioritized Slice Requests with Uncertainties**," in *IEEE Transactions on Network and Service Management*, 2022, doi: 10.1109/TNSM.2022.3160352. (E-ISSN: 1932-4537, hal: [hal-03614028](https://hal.archives-ouvertes.fr/hal-03614028), arXiv: 2203.09367, Scopus Q1, IF 5.3)
- (j<sub>7</sub>) **Quang-Trung Luu**, Sylvaine Kerboeuf, and Michel Kieffer, "**Uncertainty-Aware Resource Provisioning for Network Slicing**," in *IEEE Transactions on Network and Service Management*, vol. 18, no. 1, pp. 79-93, Mar. 2021, doi: 10.1109/TNSM.2021.3058139 (E-ISSN: 1932-4537, hal: [hal-03418308](https://hal.archives-ouvertes.fr/hal-03418308), arXiv: 2006.01104, Scopus Q1, IF 5.3)
- (j<sub>8</sub>) **Quang-Trung Luu**, Sylvaine Kerboeuf, Alexandre Mouradian, "**Coverage-Aware Resource Provisioning Method for Network Slicing**" in *IEEE/ACM Transactions on Networking*, vol. 28, no. 6, pp. 2393-2406, Dec. 2020, doi: 10.1109/TNET.2020.3019098 (E-ISSN: 1558-2566, hal: [hal-03097001](https://hal.archives-ouvertes.fr/hal-03097001), arXiv: 1907.09211v3, Scopus Q1, IF 3.7)

#### Conference papers (peer-reviewed)

- (c<sub>1</sub>) Kim-Hoan Do, Tai-Hung Nguyen, **Quang-Trung Luu**, Minh-Thanh Nguyen, Do-Minh Tran, and Van-Dinh Nguyen, "Graph Neural PPO for Joint User Association and Resource Allocation in Open RAN," in *Proc. 2026 40th International Conference on Information Networking (ICOIN)*, 2026, doi: TBD.
- (c<sub>2</sub>) Ngoc Hung Nguyen, Van Thieu Nguyen, **Quang-Trung Luu**, Vo Phi Son, and Van-Dinh Nguyen, "**A Meta-heuristic Approach for Mission Assignment and Task Offloading in Open RAN-Enabled Intelligent Transport Systems**," in *Proc. IEEE Global Communications Conference (GLOBECOM)*, Taipei, Taiwan, 2025, pp. 1-6, doi: TBD.
- (c<sub>3</sub>) Le-Hung Hoang, Minh-Hoang Pham, **Quang-Trung Luu**, and Van-Dinh Nguyen, "**Secure Multiuser Communications with Stacked Intelligent Metasurfaces using Quantum Reinforcement Learning**," in *Proc. International Conference on Advanced Technologies for Communications (ATC)*, Hanoi, Vietnam, 2025, pp. 1-6, doi: 10.1109/ATC67618.2025.11268562.
- (c<sub>4</sub>) Duc-Tien Nguyen, Trong-Tin Nguyen, Tai Hung Nguyen, Nguyen Huu Thanh, and **Quang-Trung Luu**, "**Resource Allocation for Open Radio Access Networks Using Reinforcement Learning**," in *Proc. International Conference on Advanced Technologies for Communications (ATC)*, Hanoi, Vietnam, 2025, pp. 1-6, doi: 10.1109/ATC67618.2025.11268771.
- (c<sub>5</sub>) **Quang-Trung Luu**, Minh-Thanh Nguyen, Tai-Hung Nguyen, Michel Kieffer, Van-Dinh Nguyen, Quang-Lap Luu, and Trung-Toan Nguyen, "**Admission Control and Embedding of Network Slices with Flexible VNF Order**," in *Proc. 20th International Conference on Network and Service Management (CNSM)*, Prague, Czech Republic, 2024, pp. 1-5, doi: 10.23919/CNSM62983.2024.



- (c<sub>6</sub>) Duc-Manh Nguyen, Duc-Hai Do, Thanh-Hai Tran, and **Quang-Trung Luu**, “[Real-Time Pig Counting Embedded System via Video Object Detection and Tracking](#),” in *Proc. International Conference on Advanced Technologies for Communications (ATC)*, Ho Chi Minh City, Vietnam, 2024, pp. 655-660, doi: 10.1109/ATC63255.2024.10908322..
- (c<sub>7</sub>) Tuan-Vu Truong, **Quang-Trung Luu**, and Van-Dinh Nguyen, [Efficient Resource Allocation Framework for Network Slicing-enabled Open RAN](#),” *IEEE International Conference on Communications and Electronics (ICCE)*, Danang, Vietnam, 2024, pp. 747-752, doi: 10.1109/ICCE62051.2024.10634735 (E-ISSN: 2836-4392).
- (c<sub>8</sub>) Minh-Thanh Nguyen, **Quang-Trung Luu**, Tai-Hung Nguyen, Do-Minh Tran, Tuan-Anh Do, Kim-Hoan Do, and Van-Hieu Nguyen, “[Accelerating Network Slice Embedding with Reinforcement Learning](#),” *IEEE International Conference on Communications and Electronics (ICCE)*, Danang, Vietnam, 2024, pp. 78-83, doi: 10.1109/ICCE62051.2024.10634634. (E-ISSN: 2836-4392)
- (c<sub>9</sub>) **Quang-Trung Luu**, Olivier Brun, Rachid El-Azouzi, Francesco De Pellegrini, Balakrishna J. Prabhu, and Cédric Richier, “[DCoflow: Deadline-Aware Scheduling Algorithm for Coflows in Datacenter Networks](#),” in *Proc. IFIP Networking Conference*, Catania, June 2022, pp. 1-9.
- (c<sub>10</sub>) **Quang-Trung Luu**, Sylvaine Kerboeuf, and Michel Kieffer, “[Foresighted Resource Provisioning for Network Slicing](#),” in *Proc. IEEE International Conference on High Performance Switching and Routing (HPSR)*, Paris, June 2021, pp. 1-8.
- (c<sub>11</sub>) **Quang-Trung Luu**, Sylvaine Kerboeuf, Alexandre Mouradian, and Michel Kieffer, “[Radio Resource Provisioning for Network Slicing with Coverage Constraints](#),” in *Proc. IEEE International Conference on Communications (ICC)*, Dublin, Ireland, June 2020, pp. 1-6. (**BELL LABS PUBLICATION AWARD**).
- (c<sub>12</sub>) **Quang-Trung Luu**, Michel Kieffer, Alexandre Mouradian, and Sylvaine Kerboeuf, “[Aggregated Resource Provisioning for Network Slices](#),” in *Proc. IEEE Global Communications Conference (GLOBECOM)*, Abu Dhabi, Dec. 2018, pp. 1-6 (**IEEE COMSOC STUDENT TRAVEL AWARD**).
- (c<sub>13</sub>) **Quang-Trung Luu**, Stavros Koulouridis, Antoine Diet, Yann Le Bihan, and Lionel Pichon, “[Investigation of Inductive and Radiating Energy Harvesting for an Implanted Biotelemetry Antenna](#),” in *Proc. European Conference on Antennas and Propagation (EuCAP)*, Paris, Mar. 2017.
- (c<sub>14</sub>) Antoine Diet, Stavros Koulouridis, Yann Le Bihan, **Quang-Trung Luu**, Olivier Meyer, Lionel Pichon, and Marc Biancheri-Astier, “[Sub-GHz Inductive Power Transmission from Helical Coils for Implanted Medical Devices](#),” in *Proc. IEEE International Workshop on Antenna Technology (iWAT)*, Athens, Greece, Mar. 2017.
- (c<sub>15</sub>) **Quang-Trung Luu**, Duc-Hung Tran, Bao-Huy Nguyen, Yem Vu-Van, and Cao-Minh Ta, “[Design of the Resonators for Coupled Magnetic Resonance based Wireless Power Transmission Systems](#),” in *Proc. 2nd Vietnam Conference on Control and Automation (VCCA)*, Da Nang, pp. 724-729, Nov. 2013.

## Workshops/Posters

- (w<sub>1</sub>) Kim-Hoan Do, **Quang-Trung Luu**, Tai-Hung Nguyen, Minh-Thanh Nguyen, and Tuan-Anh Do, “[Accelerating Network Slice Embedding with Reinforcement and Deep Reinforcement Learning](#),” *18th Asian Internet Engineering Conference (ACM AINTEC)*, Hanoi, Dec. 2023 (**BEST POSTER AWARD**).
- (w<sub>2</sub>) **Quang-Trung Luu**, Michel Kieffer, Alexandre Mouradian, and Sylvaine Kerboeuf, “[Resource Provisioning for Network Slices with Coverage Constraints](#),” *ANR MAESTRO-5G Workshop on Orchestration of 5G Networks and Beyond*, CentraleSupélec, Gif-sur-Yvette, Dec. 2020.
- (w<sub>3</sub>) Antoine Diet, Stavros Koulouridis, Yann Le Bihan, **Quang-Trung Luu**, Olivier Meyer, Lionel Pichon, M. Biancheri-Astier, “[RF Link for Implanted Medical Devices \(IMDs\) and Sub-GHz Inductive Power Transmission](#),” in *Journées d’Etude sur la Télésanté (JetSan)*, 6ème édition, Bourges, France, May 2017.