Curriculum Vitae

Personal Information

Danh Le-Phuoc, PhD

DFG Principle Investigator,

Technical University Berlin, Faculty IV

Email: danh.lephuoc@tu-berlin.de

Homepage: https:/danhlephuoc.info/

Google Scholar: https://scholar.google.de/citations?user=7-k4HCoAAAAJ

DBPL: https://dblp.org/pid/23/6145.html

Linkedin: https://www.linkedin.com/in/danh-le-phuoc-49189a8/

EDUCATION

09/2007-06/2013 Ph.D., Computer Science

National University of Ireland, Galway, Ireland

Thesis: A Native and Adaptive Approach for Linked Stream Data Processing

Advisor: Manfred Hauswirth

09/2004–07/2006 M.Sc., Information Technology

Hue College of Science, Hue University

Thesis: Apply Topic Maps and Ontology to Data Warehouse

Advisor: Binh Nguyen-Thanh

09/1997-07/2001 B.Sc., Information Technology

Hue College of Science, Hue University

Professional Experience

Since October, 2020

DFG Principle Investigator at Faculty IV of the Technical University of Berlin, and Head of Pervasive Intelligence and Computing Lab (https://picom.ai)

Since July, 2021

Junior Fellow at the Berlin Institute for the Foundations of Learning and Data

Since January, 2021

Senior Researcher at Fraunhofer FOKUS

April, 2018- October, 2020

Senior Scientist - Technical University Berlin, Germany

April, 2016- April, 2018

Marie Curie Fellow - Technical University Berlin, Germany

October, 2013–October, 2020

Adjunct Lecturer - National University of Ireland, Galway

October, 2015- April, 2016

Deputy Unit Leader of UIoT (Unit of Internet of Things) at Insight, National University of Ireland, Galway

June, 2014 - April, 2016

Principal Investigator on Linked Data Middleware for Internet of Things and Future Internet at Insight Centre for Data Analytics, National University of Ireland, Galway (lead a research team of 2 PhD students, 2 Master students and 1 research associate).

June, 2013 – April, 2016

Research Fellow at Insight Centre for Data Analytics, National University of Ireland, Galway (I contributed and managed several EU Projects, e.g OpenIoT, PECES, GAMBAS and Fed4Fire)

April, 2013 – June 2013

Postdoctoral Researcher at Insight Centre for Data Analytics, National University of Ireland, Galway

November, 2008 - March 2013

Research Assistant at Digital Enterprise Research Institute, National University of Ireland, Galway

Awards & Honors

December, 2022	Siemens Sustainability Challenge Shortlist with Grid Forecaster solution, 2022-2023, Munich, Germany
October, 2021	Honourable Mention for SWSA Ten-Year Award (ISWC 2021, Virtual)
September, 2019	Best Paper Runner-up Award at The Joint International Semantic Technology Conference (JIST 2019, Hangzhou, China)
September, 2018	Best Paper Award at the 8th International Conference on the Internet of Things (IoT 2018, Santa Barbara, California, USA)
October, 2018	Best Poster Award at the 17th International Semantic Web Conference 2018 (ISWC 2018, Monterey, CA ,USA)
September, 2015	Second Prize at European Linked Data Award 2015 (SEMANTICS 2015, Vienna, Austria)
October, 2014	Second Prize at Semantic Web Challenge 2014 (ISWC 2014, Riva Del Garda, Trentino, Italy)

October, 2011	Honourable mention at Semantic Web Challenge 2011 (ISWC 2011, Bonn, Germany)
October, 2010	Best Demo Award at The 9th International Semantic Web Conference, 2010 (ISWC 2010, Shanghai, China)
September, 2010	First Prize at Linked Data Triplification Challenge 2010 (I-Semantics 2010, Graz, Austria)
September, 2009	Honourable mention at Linked Data Triplification Challenge (I-Semantics 2009, Graz, Austria)
September, 2008	Third Award at Linked Data Triplification Challenge 2008 (I-Semantics 2008, Graz, Austria)
May, 2008	Google Summer of Code 2008

THIRD PARTY FUNDING AND SCHOLARSHIPS

I have secured over *three million euro* for my own research and my team in the last ten years with **two million** in active until the end of 2025. Among them, the DFG project, COSMO, was planned for two stages, the second stage can be extended from 2025-2027.

€957,895	PI grant from an EU project, SmartEdge(Semantic Low-code Programming Tools for Edge Intelligence), Grant No. HORIZON-CL4-2022-DATA-01-101092908, total budget: ≈ 9.5 million euro, 15 partners, EC contribution: $\leqslant 7,353,640$, the rest contributed by UK and Swiss National Foundation, 36 months from $1/1/2023$ to $31/12/2025$.
€330,750	PI grant for an EU project (AIoTwin (Twinning action for spreading excellence in Artificial Intelligence of Things): Grant No. HORIZON-WIDERA-2021-ACCESS-03- 101079214, total budget:
€20,000	A Seed Grant from Siemens Trilateral Seed Fund to prepare collaborative EU proposals in 2022-2023 with Siemens and University of Oxford
€678,600	PI grant from a DFG Project of DFG Individual Research Program, COSMO (Computing Foundations for Semantic Stream Processing): Grant No. 453130567), funding one PI and one postdoc for from October, 2020 to November, 2024, subject to an extension for another 3 years.
€171,461	H2020 Marie Curie Individual Fellowship with the project SMARTEER(A Scalable and Elastic PlatforM for NeAr-Realtime Analytics on The Graph of EveRything), starting from April, 2016 for two years.
€681,250	PI grant from an EU Project, Big-IoT (Big-IoT – Bridging the Interoperability Gap of the Internet of Things): Grant No. H2020-ICT-30-2015-688038, total budget: 8 million euro, 13 partners.

€35,100	ERC Seed Grants of TU Berlin for ERC applicants: 2018 grant(\leqslant 15,500) and 2019 grant (\leqslant 19,600)
€199,369	PI grant for Enterprise Ireland Innovation Partnership (Grant No. EI IP-2014/339): Principle Investigator for the Innovation Partnership Project with B&B Electronics, funded by Enterprise Ireland and B&B, with a team of seven people (three B&B developers as in-kind contribution), starting from January,2014, last 18 months.
€80,000	Co-PI grant from an open call project of EU FP7 project, Fed4Fire (Grant No. FP7-ICT-2011-8-318389). Project tile: Super Stream Collider Fed4FIRE Experiments, for 6 months from May, 2014.
€15,000	Commercialisation Grant for a Commercial Case Feasibility Project related to my PhD Thesis from Enterprise Ireland (2015)
€14,000	Feasibility Study Grant for Innovation Partnership (€9,000) with CBE Ireland are funded by Enterprise Ireland to try out the my research results in RSM and CBE products and Innovation Voucher (€5,000) with RSM Traffic Ireland (2014)
€96,000	Irish Research Council Postdoctoral Fellowship (Grant No. IRC GOIPD/2013/104): Postdoctoral Fellowship funded by Irish Research Council with the research project named "Scalable Linked Stream Data Stream Processing for Near Real-time Analytics", starting from October, 2013 for two years.

PEDAGOGICAL EXPERIENCE

04/2016-Current Technical University Berlin

Position: Lecturer

10/2014–10/2022 National University of Ireland, Galway

Position: Adjunct Lecturer

01/2006–06/2007 Cisco Networking Academy

Position: Cisco Certified Academy Instructor

Overview

H-index: 28, i10-index: 44, citations: 5250 (Source: Google Scholar¹), full list in below

Publication type	Total	First author	Supervisor	Award/Nominee
Journal	14	3	2	3
Conference	24	10	8	5
Encyclopedia Entry/Book/Book Chapter	5	3	0	0
${\bf Poster/Demo/Workshop/Technical\ report}$	15	4	2	2
Total	58	21	12	11

Table 1: Publications per type

Ten Selected Publications

- 1. Le-Phuoc, D., Dao-Tran, M., Parreira, J. X., and Hauswirth, M. A native and adaptive approach for unified processing of linked streams and linked data. In *The Semantic Web ISWC 2011 10th International Semantic Web Conference, Bonn, Germany, October 23-27, 2011, Proceedings, Part I* (2011), vol. 7031 of *Lecture Notes in Computer Science*, Springer, pp. 370–388 **♀** [Honorable Mention for SWSA Ten-Year Award] *Citations:* 523.
- 2. Quoc, H. N. M., Serrano, M., Breslin, J. G., and Le-Phuoc, D. A learning approach for query planning on spatio-temporal iot data. In *Proceedings of the 8th International Conference on the Internet of Things, IOT 2018, Santa Barbara, CA, USA, October 15-18, 2018* (2018), ACM, pp. 1:1−1:8. **Q [Best Paper Award]**
- 3. Le-Phuoc, D., Quoc, H. N. M., Ngo, Q. H., Nhat, T. T., and Hauswirth, M. The graph of things: A step towards the live knowledge graph of connected things. *J. Web Semant.* 37-38 (2016), 25–35. **Q** [Second Prize at Semantic Web Challenge 2014] and **Q** [Second Prize at European Linked Data Award, SEMANTICS 2015]. *Citations:* 84.
- 4. Le-Phuoc, D., Eiter, T., and Tuán, A. L. A scalable reasoning and learning approach for neural-symbolic stream fusion. In *Thirty-Fifth AAAI Conference on Artificial Intelligence*, AAAI 2021 (2021), AAAI Press, pp. 4996–5005
- 5. Le-Phuoc, D., Quoc, H. N. M., Van, C. L., and Hauswirth, M. Elastic and scalable processing of linked stream data in the cloud. In *The Semantic Web ISWC 2013 12th International Semantic Web Conference, Sydney, NSW, Australia, October 21-25, 2013, Proceedings, Part I* (2013), vol. 8218 of *Lecture Notes in Computer Science*, Springer, pp. 280–297. *Citations:* 91.
- 6. Le-Phuoc, D., Nguyen-Mau, H. Q., Parreira, J. X., and Hauswirth, M. A middleware framework for scalable management of linked streams. *J. Web Semant.* 16 (2012), 42–51. **Q** [Honorable Mention at Semantic Web Challenge 2011] . Citations: 147.

¹https://scholar.google.de/citations?user=7-k4HCoAAAAJ

- 7. Duc, M. N., Tuán, A. L., Calbimonte, J., Hauswirth, M., and Le-Phuoc, D. Autonomous RDF stream processing for iot edge devices. In Semantic Technology 9th Joint International Conference, JIST 2019, Hangzhou, China, November 25-27, 2019, Proceedings (2019), vol. 12032 of Lecture Notes in Computer Science, Springer, pp. 304–319.

 [Best Paper Runner-up Award]
- 8. Le-Phuoc, D., Polleres, A., Hauswirth, M., Tummarello, G., and Morbidoni, C. Rapid prototyping of semantic mash-ups through semantic web pipes. In *Proceedings of the 18th International Conference on World Wide Web, WWW 2009, Madrid, Spain, April 20-24, 2009* (2009), ACM, pp. 581–590. **Q** [Honourable mention at Linked Data Triplification Challenge] *Citations:* 174.
- 9. Le-Phuoc, D., Dao-Tran, M., Pham, M., Boncz, P. A., Eiter, T., and Fink, M. Linked stream data processing engines: Facts and figures. In *The Semantic Web ISWC 2012 11th International Semantic Web Conference, Boston, MA, USA, November 11-15, 2012, Proceedings, Part II* (2012), vol. 7650 of *Lecture Notes in Computer Science*, Springer, pp. 300–312. *Citations:* 176.
- 10. Janowicz, K., Haller, A., Cox, S. J. D., Le-Phuoc, D., and Lefrançois, M. SOSA: A lightweight ontology for sensors, observations, samples, and actuators. *J. Web Semant.* 56 (2019), 1–10. *Citations:* **334.**

INVITED TALKS

- 1. "Semantic Streams for Cooperative Perception", 7th Int'l Workshop on Advanced Cooperative Systems, Zagreb, 2022, Croatia.
- 2. "Semantic Stream Reasoning for Active Perception", Invited talk at BMW Scientific Meetups, BMW Group, May, 2021, Germany.
- 3. "AI-Enabling Semantics for The Internet of Things", International Summer School "IoT meets AI", Munich, 2019, Germany.
- 4. "Web of Things: HTML to AI", The Internet of Thinngs Week 2018, Bilbao, Spain.
- 5. "A big near-realtime data analytic platform using Linked Data", First Irish Workshop on Effective Large Scale Computing for Big Data Analytics, Dublin, 2014.
- 6. "Pushing the Data Ubiquity Limit of Internet of Things with Linked Data", The Fifth International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM), Lisbon, Portugal 2011

RECENT CHAIR AND EDITORIAL ROLES

streams'

December, 2022	Co-Chair of the 6th Stream Reasoning Workshop, Amsterdam, Netherlands
Octtober, 2022	Co-Chair of Stream Reasoning Meets Cloud-Edge Intelligence Workshop, Siemens Munich, Germany
September, 2022	Guest editor, Journal of Web Semantics, special issue on "Making Sense of data

October, 2021	Co-Chair of Stream Reasoning Workshop, Milan, Italy
May, 2021	Review editor, Frontier Journal on Mobile and Ubiquitous Computing
Sep, 2019	Guest editor, Sensors Journal, special issue on "Semantics for Sensors, Network and Things' (Sept 2019-March 2020)
April, 2019	Co-Chair of Stream Reasoning Workshop, Linkoping, Sweeden
September, 2018	Co-Chair of 2nd Workshop on High-Level Declarative Stream Processing at KI 2018, Berlin, Germany
January, 2018	Co-Chair of Stream Reasoning Workshop, Zurich, Switzeland
September, 2017	Guest editor, Semantic Web Journal, special issue on "Stream Reasoning' (September 2017)
May, 2017	Co-Chair of 2nd RDF Stream Processing Workshop at ESWC 2017 (May, 2017)
September, 2016	Co-Chair of Stream Reasoning Workshop, Berlin, Germany
September, 2011	Co-Chair of Triplification Challenge 2012, I-Semantics, Graz, Austria

Supervised PhD Students

SUPERVISIONS

2016-2021	Hoan Nguyen Mau Quoc (National University of Ireland, Galway). Thesis Title: A scalable spatio-temporal query processing engine for linked sensor data. Graduated: September 2021.
2017-2022	Anh Le-Tuan (National University of Ireland, Galway). Thesis Title: Processing linked data on lightweight computing devices. Graduated: April, 2022.
2020-2024	Manh Nguyen-Duc (Technical University Berlin). Thesis Title: Cooperative Perception via Semantic Streams. On-going

Selected Supervised MSc Students

2016	Anh Le-Tuan (National University of Ireland, Galway). Thesis Title: Processing linked data on mobile devices. Graduated: December 2016.
2020-2021	Sangeetha Reji (Technical University Berlin). Thesis Title: Domain Adaptation in Deep Learning Object Detection Models. Graduated: May 2021.
2021-2022	Samira Safdari (Technical University Berlin). Thesis Title: Online Continual Few-Shot Unsupervised Domain Adaptation. Graduated: December 2022.
2023	Duong Tran-Thi (Technical University Berlin). Thesis Title: Empirical Study and Benchmarking Knowledge-enhanced VQA approaches. On-going

2022-2023	Xuanchi Guo (Technical University Berlin). Thesis Title: Building a P2P RDF Store for Lightweight Edge Devices. On-going
2022-2023	Sumit Paul (Technical University Berlin). Thesis Title: Performance Evaluation of ROS2-DDS middleware implementations facilitating Cooperative Driving in Autonomous Vehicle. On-going
2022-2023	$Guanyang\ Li$ (Technical University Berlin). Thesis Title: Distributed Real-time ORB-SLAM System. $On\text{-}going$

Member of Examination Committees

January-June, 2023 Alessio Bernardo (Type: PhD thesis at Politecnico di Milano).

PROJECT PARTICIPATIONS AND LEADERSHIPS

National Projects

- 1. "Computing Foundations for Semantic Stream Processing" (COSMO) is a six-year project with the first 3-year stage funded by Deutsche Forschungsgemeinschaft (DFG). COSMO aims to invent next-generation computing foundations for Semantic Stream Processing via combining recent development of database, knowledge representation and reasoning and graph theories. DFG-GEPRIS URL: https://gepris.dfg.de/gepris/projekt/453130567 (Role: Princiciple Investigator, TU Berlin)
- 2. Berlin Institute For Foundations of Learning and Data (BIFOLD) aims to conduct research into the scientific foundations of Big Data and Machine Learning, to advance AI application development, and greatly increase the impact to society, the economy, and science. BIFOLD project is merging BBDC project with other relevant research projects related to AI in Berlin areas under a national competence center for AI. (Role: Co-PI of the work package on "Unified Processing Models for Distributed Stream Reasoning" and Junior Fellow, BIFOLD)
- 3. Berlin Big Data Center (BBDC) is one of two big data competence centers in Germany. BBDC's mission is to perform groundbreaking research and development in Berlin area to create solutions that facilitate the deep analysis of massive amounts of heterogeneous data sets and streams at high velocity. (Role: Team Lead of the work package on "Scalable Stream Graph Processing", TU Berlin)
- 4. "Scalable Linked Stream Processing for Near-realtime Data Analytics" is a 2-year research project under Irish Research Council Postdoctoral Scholarship. The project aims to build the platform to elastically and dynamically distribute processing load to the cluster as well as cope with a large amount of queries and incoming linked data streams as well in huge volumes of data. (Role: Principle Investigator, Insight NUI Galway)
- 5. "Semantic Stream Processing for Smart Swarm Intelligence (SSP4Swarm)" is an Innovation Partnership Project with B&B SmartWorx co-funded by Enterprise Ireland and B&B SmartWorx. SSP4Swarm adopted the semantic stream processing engine, CQELS, developed from my PhD

thesis to work on resource-constraint industrial IoT Gateways, i.e. Swart Swarm gateways. The embedded semantic stream processing developed in SSP4Swarm project enables the "SWARM Intelligence" by enabling the dynamic configuration and information routing for the mesh networks of industrial IoT devices. (Role: *Principle Investigator*, Insight NUI Galway)

EU Projects

I was actively involved in winning the budgets or taking leading roles or core development team leads in the following collaborative projects with 7-20 European partners per project (building the consortium and co-authoring the project proposal):

- 1. SmartEdge Semantic Low-code Programming Tools for Edge Intelligence. The SmartEdge project aims to enable decentralised edge intelligence at runtime, with security, privacy and scalability. This will be done through a cross-layer toolchain for seamless discoverability and composability of autonomous intelligence swarms, and a low-code tool programming environment. Demonstrations will be conducted in automotive, city, factory and heath sectors with collaboration from 8 industrial partners and 7 research institutes. (Role: Technical Coordinator and Work package leader, Technical University Berlin). Project website: https://www.smart-edge.eu/
- 2. AIoTwin Twinning action for spreading excellence in Artificial Intelligence of Things. AIoTwin is a twinning coordination action aiming to boost UNIZG-FER's excellence in AI of Things. A work plan & activities will increase researcher mobility & research/innovation capacity, with 4 research domains identified: Edge Computing & Orchestration, Federated Decentralised ML, AI for Robust Energy-Efficient IoT, & DLT for IoT. A joint research project on energy-efficient IoT middleware will be conducted tested on a use case, with UNIZG-FER's research management administrative skills strengthened. AIoTwin presents a unique opportunity to work with leading international researchers, reducing disparities between Croatia & other EU countries in Horizon Europe. (Role: Principle Investigator and Work package Leader, Technical University Berlin)
- 3. **SMARTER** A Scalable and Elastic Platform for Near-Realtime Analytics for The Graph of EveryThing. The SMARTER project aims to build a platform that provide the ability to derive actionable information from enormous amount of data generated by the Internet of Everything to leverage data-driven strategies to innovate, compete, and capture value from deep web and real-time information.(**Role**: Principle Investigator, Technical University Berlin). CORDIS Url: https://cordis.europa.eu/project/id/661180
- 4. **BigIoT** –Bridging the Interoperability Gap of the Internet of Things: The goal of this project is to overcome these hurdles by Bridging the Interoperability Gap of the IoT and by creating marketplaces for service and application providers as well as platform operators. The project addresses the interoperability gap by defining a generic, unified Web API for smart object platforms, called the BIG IoT API. The establishment of a marketplace where platform, application, and service providers can monetize their assets will introduce an incentive to grant access to formerly closed systems and lower market entry barriers for developer. (**Role**: Main Contact for proposal preparation and then Principle Investigator, Insight NUI Galway). CORDIS Url: https://cordis.europa.eu/project/id/688038

- 5. Super Stream Collider Fed4FIRE Experiments: The goal of this project was to conduct large-scale, distributed experiments with my Super Stream Collider platform on the Fed4FIRE distributed testbed. Open call project in project Federation for Future Internet Research and Experimentation (Fed4FIRE), European Union, Framework Program 7, 2013-2014. (Role: Actively involved in proposal preparation and then Technical Lead, Insight NUI Galway). CORDIS Url: https://cordis.europa.eu/project/id/318389
- 6. GAMBAS eneric Adaptive Middleware for Behavior-driven Autonomous Services: The goal of the GAMBAS project is the development of an innovative and adaptive middleware to enable the privacy-preserving and automated utilization of behavior-driven services that adapt autonomously to the context of users. STREP, European Union, Framework Program, 2012-2015.(Role: Team Lead in the first half and then Principle Investigator, Insight NUI Galway). CORDIS URL: https://cordis.europa.eu/project/id/287661
- 7. OpenIoT Open Source blueprint for large scale self-organizing cloud environments for IoT applications: The goal of this project was to develop and implement an architectural blueprint for IoT applications. OpenIoT provides a flexible middleware (see OpenIoT GitHub) that abstracts from heterogeneous sensor network technologies to higher-level functionalities suitable for use by service and application developers. OpenIoT enables the efficient creation and management of IoT (Sensors) cloud-based environments and provides a blueprint for non-trivial IoT applications, which will be delivered by cloud computing infrastructures, in both autonomic and pay-as-you-go service models. STREP, European Union, Framework Program 7, 2011-2014. (Role: Technical Lead, Insight NUI Galway). CORDIS URL: https://cordis.europa.eu/project/id/287305
- 8. **PECES** *PErvasive Computing in Embedded Systems* A European STREP project whose goal it is to create a comprehensive software layer to enable the seamless cooperation of embedded devices across various smart spaces on a global scale in a context-dependent, secure and trustworthy manner. We participate as experts in semantics and sensor networks middleware. The project has started October 1, 2008 and ended September 30, 2011. (**Role**: *Developer*, Insight NUI Galway). CORDIS URL: https://cordis.europa.eu/project/id/224342

I contributed in the following projects:

- 1. **FIESTA** Federated Interoperable Semantic IoT/cloud Testbeds and Applications. The FIESTA infrastructure will empower an Experimentation-as-a-Service (EaaS) paradigm for IoT experiments, which will enable experimenters to use a single EaaS API for executing experiments over multiple IoT federated testbeds in a testbed-agnostic way. Experimenters will be able to use the EaaS API to access data and resources from any of the underlying testbeds. The underlying interconnected testbed will provide common standardized semantics and interfaces, which will enable the FIESTA EaaS infrastructure to access their data, resources and other low-level capabilities. RIA, European Union, Horizon 2020, 2014-2017 (Role: Internal Scientific and Technical Advisor, Insight NUI Galway). CORDIS URL: https://cordis.europa.eu/project/id/643943
- 2. VITAL Virtualized programmable InTerfAces for innovative cost-effective IoT depLoyments in smart cities. VITAL introduces an abstract virtualized digital layer that will operate across

multiple IoT architectures, platforms and business contexts. Added-value services on top of this layer will provide higher level functionalities like e.g. data filtering and complex event processing that integrate services of existing IoT systems. This will allow solution providers to (re-)use a wider range of data streams, thereby increasing the scope of potential applications and enabling a more connected approach to smart city development. Applications will be able to integrate data and services between different organisational units as well as between different smart cities, reducing the amount of necessary infrastructure inside a city. Application developers will be able to reuse their applications in different cities, greatly reducing development effort and time. STREP, European Union, Framework Program 7, 2013-2016.(Role: Internal Scientific and Technical Advisor, Insight NUI Galway). CORDIS URL: https://cordis.europa.eu/project/id/608682

Industrial Experience

January 2006 - June 2007

Mobile Game Engineer, Punch Entertainment, local office in Hue, Vietnam, head-quarter: California, US.

January 2006 - June 2007

Cisco Certified Academy Instructor, Cisco Networking Academy

May 2004 - June 2007

System Architect, Hue LRC, Hue Vietnam

August 2001 - November 2006

Software Designer, Hue Software Park, Hue, Vietnam

COMMUNITY SERVICES

Program Committee

- 1. Program Committee of 23rd SIAM International Conference on Data Mining 2023 (SDM 2023)
- 2. Program Committee of 39th IEEE International Conference on Data Engineering (ICDE 2023)
- 3. Program Committee of The 26th International Conference on Artificial Intelligence and Statistics (AISTATS 2023)
- 4. Senior Program Committee of The Thirty-Sixth AAAI Conference on Artificial Intelligence, 2022 (AAAA' 22)
- 5. Program Committee of the 2021 IEEE Global Communications Conference (GLOBECOM 2021 and 2022)
- 6. Program Committee of The Thirty-Fifth AAAI Conference on Artificial Intelligence, 2021 and 2022 (AAAI' 21)
- 7. Program Committee of The Web Conferences (WWW 2018, WWW 2019, The WebConf 2020, 2021, 2022 and 2022).

- 8. Program Committee of The 15th ACM International Conference on Distributed and Event-based Systems, 2021-2023
- 9. Program Committee of ESWC Conference Series: ESWC 2012 2023 .
- 10. Program Committee of International Semantic Web Conference (ISWC) series: ISWC 2016 2023
- 11. Program Committee of 17th Conference on Principles of Knowledge Representation and Reasoning, 2020
- 12. Program Committee of International Conference on Knowledge Engineering and Knowledge Management (EKAW), 2020
- 13. Program Committee of 17th International Conference on Web Engineering (ICWE), 2017.
- 14. Program Committee of International Conference on Knowledge Capture (K-Cap) 2017, 2019 and 2021
- 15. Program Committee of 9th Service-Oriented Computing & Applications Conference (SOCA) 2016 and 2018
- 16. Program Committee o International Conference on the Internet of Things, 2018
- 17. Program Committee of following workshops:
 - Semantic Search Workshops, co-located at the WWW Conference in 2010 and 2011
 - Semantic Sensor Network workshop 2012, 2013 and 2014
 - RDF Stream Processing Workshop 2015, co-located with ESWC 2015
 - Stream Reasoning Workshop 2016 co-located with ISWC 2016
 - Querying the Web of Data workshop 2017 and 2018 collated with ESWC 2017 and 2018.
 - International Workshop on Semantic Technologies for Information-Integrated Collaboration 2016
 - 2nd International Workshop on Interoperability and Open-Source Solutions for the Internet of Things, 2016 and 2018
- 18. Member of Guest Editing Boards of Semantic Web Journal
- 19. Regular Reviewer of Journal Of Web Semantics
- 20. Regular Reviewer of International Journal On Semantic Web And Information Systems
- 21. Regular Reviewer of ACM Transactions on Internet of Things

STANDARDIZATION GROUP/TASK FORCE

- W3C Advisory Committee Representative of TU Berlin
- W3C Spatial Data on the Web Working Group, Co-Editor of W3C Recommendation for Semantic Sensor Network Ontology
- W3C Web of Things Working Group
- W3C Web of Things Interest Group, Co-Chair of Semantic and Linked Data Task Force.

- W3C RDF Stream Processing
- W3C Schema.org Community Group
- W3C Semantic Sensor Network Incubator Group.

Publication List

Journal Publications

- 1. Tuán, A. L., Hayes, C., Hauswirth, M., and Le-Phuoc, D. Pushing the scalability of RDF engines on iot edge devices. *Sensors 20*, 10 (2020), 2788
- 2. Koopmann, P., Mailis, T., and Le-Phuoc, D. Special issue on high-level declarative stream processing. *Open J. Databases* 6, 1 (2019), 1–4
- 3. Liu, Q., Wylot, M., Le-Phuoc, D., and Hauswirth, M. Provenance management over linked data streams. *Open J. Databases* 6, 1 (2019), 5–20
- 4. Haller, A., Janowicz, K., Cox, S. J. D., Lefrançois, M., Taylor, K., Le-Phuoc, D., Lieberman, J., García-Castro, R., Atkinson, R., and Stadler, C. The modular SSN ontology: A joint W3C and OGC standard specifying the semantics of sensors, observations, sampling, and actuation. Semantic Web 10, 1 (2019), 9–32
- 5. VAN DEN BRINK, L., BARNAGHI, P. M., TANDY, J., ATEMEZING, G., ATKINSON, R., COCHRANE, B., FATHY, Y., GARCÍA-CASTRO, R., HALLER, A., HARTH, A., JANOWICZ, K., KOLOZALI, S., VAN LEEUWEN, B., LEFRANÇOIS, M., LIEBERMAN, J., PEREGO, A., LE-PHUOC, D., ROBERTS, B., TAYLOR, K., AND TRONCY, R. Best practices for publishing, retrieving, and using spatial data on the web. Semantic Web 10, 1 (2019), 95–114
- 6. Dell'Aglio, D., Eiter, T., Heintz, F., and Le-Phuoc, D. Special issue on stream reasoning. Semantic Web 10, 3 (2019), 453–455
- Quoc, H. N. M., Serrano, M., Nguyen, H. M., Breslin, J. G., and Le-Phuoc, D. EAGLE - A scalable query processing engine for linked sensor data. Sensors 19, 20 (2019), 4362
- 8. Janowicz, K., Haller, A., Cox, S. J. D., Le-Phuoc, D., and Lefrançois, M. SOSA: A lightweight ontology for sensors, observations, samples, and actuators. *J. Web Semant.* 56 (2019), 1–10
- 9. Bröring, A., Schmid, S., Schindhelm, C. K., Khelil, A., Käbisch, S., Kramer, D., Le-Phuoc, D., Mitic, J., Anicic, D., and Teniente, E. Enabling iot ecosystems through platform interoperability. *IEEE Softw.* 34, 1 (2017), 54–61
- 10. Le-Phuoc, D. Operator-aware approach for boosting performance in RDF stream processing. J. Web Semant. 42 (2017), 38–54
- 11. Le-Phuoc, D., Quoc, H. N. M., Ngo, Q. H., Nhat, T. T., and Hauswirth, M. The graph of things: A step towards the live knowledge graph of connected things. *J. Web Semant.* 37-38 (2016), 25–35

- 12. Serrano, M., Quoc, H. N. M., Le-Phuoc, D., Hauswirth, M., Soldatos, J., Ke-Falakis, N., Jayaraman, P. P., and Zaslavsky, A. B. Defining the stack for service delivery models and interoperability in the internet of things: A practical case with openiot-vdk. *IEEE J. Sel. Areas Commun.* 33, 4 (2015), 676–689
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