



Dr. Thomas BOURGEAU
 Chemin du Martinet 4B
 1291 Commugny
 Switzerland
 +41(0) 79.671.65.65

39 years
 Married, Two Children
 Nationality: Swiss, French
 Email : thomas.bourgeau@gmail.com
 Web Site : <http://thomas.bourgeau.fr>

RESEARCHER AND ENTREPRENEUR IN COMPUTER SCIENCE

EDUCATION & QUALIFICATIONS

- 2014 French National Assistant Professor Qualification**
 Sections: 27 (Computer Science) and 61 (Electronics and Automation)
- 2013 Doctorate in Computer Science**
 Specialty area: Network Communication and Algorithmics
 University: Pierre and Marie Curie (UPMC - Paris)
- 2005 Master of Science in Computer Science**
 Major: Electronics, Sensors and Engineering
 Minor: Network and Telecommunication
 University: Pierre and Marie Curie (UPMC - Paris)
- 2003 Bachelor of Science**
 Major: Applied Physics
 Minor: Computer Science and Electronics
 University: Pierre and Marie Curie (UPMC - Paris)

EXPERTISE

- NETWORK SCIENCE:** **Internet** (TCP/IP, Routing, BGP), **Wireless** (WiFi, LTE, LPWAN, 5G), **Cloud** (OpenStack, Docker, Kubernetes), **Cybersecurity** (Cryptography, Threat Detection, Risk Prevention), **Future Internet** (ICN, SDN, SDR).
- COMPUTER SCIENCE:** **Programming Skills** (C/C++, Python, Java), **Algorithmics** (Combinatorics, Graph), **Web** (PHP, NodeJS), **Mobile** (Android, React Native), **OSes** (Windows, Macintosh et UNIX), **Blockchain** (Distributed Ledger, Smart Contract), **Machine Learning** (Classification, Clustering, Neuronal Networks), **VR/AR** (Unity, Card-board, A-Frame).
- ELECTRONICS:** **Analog** (Micro-Controllers, PCB design), **Digital** (FPGA, DSP, verilog), **Instrumentation** (Ultrasonic, Electrowave, IR), **Signal** (Filtering, Processing).
- MANAGEMENT:** **Method** (Agile, DevOps, Design Thinking, CMMI), **Projects** (H2020, Horizon Europe, ANR, BPI), **Standardization** (IETF, IGF, ITU).
- LANGUAGES:** **French** (Native), **English** (Oral/written fluency), **German** (Oral knowledge)

RESEARCH PROJECTS

- 2016 - 2017: EU EUREKA CareWare** IoT solution for elderly's health monitoring.
Role: Research on wearable and IoT communication data vulnerability analysis.
- 2012 - 2013: EINS (FP7-ICT):** Multidisciplinary Network of Excellence in Internet Science.
Role: Participate in workshop and working group about Social tracking with IP.
- 2011 - 2013: OpenLab (FP7-ICT):** Extend experimental facilities through federation.
Role: Research on federation mechanism in measurement systems.
- 2008 - 2011: OneLab2 (FP7-ICT):** Sustainable large-scale shared experimental facility.
Role: Work package Leader: Monitoring tools for network experiments.
- 2007 - 2008: OneLab (FP6-IST):** Development of a large-scale and heterogeneous testbed.
Role: Engineer working at developing and deploying OneLab testbed in Europe.

PROFESSIONAL EXPERIENCE

- SINCE JAN 2018 CEO and Co-founder of KB DIGITAL AG**
Scope: Assist clients and institutions on their digital transformation projects either by providing consulting, training, coaching or prototype adapted to their needs in area such as Web, IoT, Blockchain, Machine Learning.
Customers: ORSYS, Hager, SNCF, Alcatel-Enterprise, SETEC
- SINCE JUN 2016 CTO and Co-founder of BlumenLab SAS**
Scope: French startup developing cutting edge solution for building Virtual and Augmented Reality products. Research area focuses on establishing an immersive editing tool (RIAM CNC Grant)
Customers: SNCF, RATP, Galeries Lafayette.
- SINCE DEC 2015 Visiting Researcher at Telecom SudParis**
Research: Future Internet, Wireless and mobile Networks, IoT, Cybersecurity.
Duties: H2020 project preparation and submission, Student supervision, Teaching.
- JAN 2015 - DEC 2017 Digital Transformation Advisor - Bourgeau Consulting EIRL:**
Consulting: Network infrastructure deployment, Secure Data flow, Haptical systems (Renault, Atos), **Training:** IoT, Network Architecture, Web Development (Practical and theoretical sessions).
- OCT 2013 - SEP 2014 Teaching Assistant (ATER in France) at UPMC - Paris**
Teaching: Software Development (Bachelor) and Network classes (Master)
Research: Internet metrology, Internet of Things Network dynamics.
- SEP 2009 - SEP 2013 Doctoral Student at UPMC - Paris**
Subject: IP-Level Network topology dynamic capture
Results: Efficient algorithm to probe and capture the Internet dynamic at the IP-Level: Network Topology Capture (NTC), Distributed measurement systems and analytics (TopHat), Dataset released, 4 Articles published.
- JAN 2007 - SEP 2009 Research Engineer LIP6 - UPMC - Paris**
European Projects: Work Package Leader (OpenLab), **Support:** Maintainer and administrator of the PlanetLab Europe testbed, **Development:** Monitoring tools (TopHat).
- JAN 2006 - DEC 2006 Junior Engineer at Sogeti High Tech**
Mission: Specification and development of embedded vehicle modules to monitor the ABS and AirBag system connected through the CAN Bus (Autoliv, Bosch).

TEACHING EXPERIENCE

- SINCE 2016 Lecturer at ESCP Europe (110h)**
40h, (Responsible Teacher) **Business Networks & Security (En)**
Module included in MSc Big Data and Business Analysis
70h, (Assistant Teacher) **Digital Insights : algorithmics and programming (En)**
Module included in the Bachelor in Management (BSc)
- SINCE 2015 Professional seminar and training (455h) at ORSYS**
266h, **Internet of Things: Synthesis (Fr/En)**
105h, **Wireless Network Technologies (Fr/En)**
84h, **IP Technologies and services (Fr)**
- 2015 - 2016 Lecturer for Engineer (54h) at Telecom SudParis**
54h, **Network Security (Fr)**
- 2009 - 2014 Lecturer and Teaching Assistant (428h) at UPMC - Paris**
239h, **Network Architectures (Fr/En)**, Master Level
44h, **Engineering Networks (Fr)** Bachelor Level
40h, **Web Technologies (Fr)**, Bachelor Level
30h, **Professional assessments (Fr)** Bachelor Level
26h, **Ambiant and Mobile Internet (Fr/En)** Master Level
26h, **Internet New Generation (Fr)** Master Level
23h, **Routing and Routers (Fr)** Master Level

Articles

- [9] Nahit Pawar, Thomas Bourgeau, and Hakima Chaouchi. “IoT Architecture and Study of IoT Applications Invariant Functionalities (Submitted)”. In: *IEEE 5th World Forum on Internet of Things (WF-IoT)*. Ed. by IEEE. 2019.
- [8] Nahit Pawar, Thomas Bourgeau, and Hakima Chaouchi. “PrIoT: Prototyping the Internet of Things”. In: *2018 IEEE 6th International Conference on Future Internet of Things and Cloud (FiCloud)*. Ed. by IEEE. 2018, pp. 216–223.
- [7] Jacques Bou Abdo, Thomas Bourgeau, Jacques Demerjian, and Hakima Chaouchi. “Extended Privacy in Crowdsourced Location-Based Services Using Mobile Cloud Computing”. In: *Mobile Information Systems*. Vol. 2016. Hindawi Publishing Corporation, 2016.
- [6] Giovanni Giambene, Van Anh Le, Thomas Bourgeau, and Hakima Chaouchi. “Soft Frequency Reuse Schemes for Heterogeneous LTE Systems”. In: *International Conference on Communications (ICC)*. IEEE, 2015.
- [5] Thomas Bourgeau and Timur Friedman. “Efficient IP-level Network Topology Capture”. In: *Passive and Active Measurement conference (PAM)*. Vol. 7799. Springer, 2013, pp. 11–20.
- [4] Thomas Bourgeau and Timur Friedman. “Toward fast and efficient IP-level network topology capture”. In: *ACM CoNEXT student workshop*. CoNEXT Student ’12. ACM, 2012, pp. 5–6.
- [3] Thomas Bourgeau. “Monitoring network topology dynamism of large-scale traceroute-based measurements”. In: *Network and Service Management (CNSM)*. IEEE, 2011, pp. 1–5.
- [2] Thomas Bourgeau, Jordan Augé, and Timur Friedman. “TopHat: Supporting Experiments through Measurement Infrastructure Federation”. In: *ICST TRIDENTCOM*. Vol. 46. Springer, 2011, pp. 542–557.
- [1] Thomas Bourgeau and Timur Friedman. “True link detection in presence of PPLB”. In: *Algotel*. 2009.

Journals

- [5] Hakima Chaouchi and Thomas Bourgeau. *Internet of Things: Building the New Digital Society*. Ed. by IOT Journal. MDPI - open access journal, 2018.
- [4] Giovanni Giambene, Van Anh Le, Thomas Bourgeau, and Hakima Chaouchi. *Iterative Multi-level Soft Frequency Reuse with Load Balancing for Heterogeneous LTE-A Systems*. IEEE, 2016.
- [3] Thomas Bourgeau, Hakima Chaouchi, and Pinar KIRCI. *Machine-to-machine communications*. Computer Communications and Networks. Springer, 2013, pp. 221–241.
- [2] Xavier Carcelle and Thomas Bourgeau. *Technologies CPL (Courants Porteurs en Ligne)*. Ed. Techniques de l’Ingénieur, 2010.
- [1] Xavier Carcelle and Thomas Bourgeau. *Technologies CPL Indoor*. Ed. Techniques de l’Ingénieur, 2010.

Books

- [3] Thomas Bourgeau, Hakima Chaouchi, and Pinar Kirci. “Wireless Technologies: 3G and Beyond”. In: Springer, 2013. Chap. Machine to Machine communications.
- [2] Xavier Carcelle and Thomas Bourgeau. “The Internet of Things: Connecting Objects”. In: Ed. John Willey and Sons, 2013. Chap. Power Line Communication Technology Overview.
- [1] Hakima Chaouchi and Thomas Bourgeau. “Wireless Technologies: 3G and Beyond”. In: Springer, 2013. Chap. Internet of Things: From real to virtual world.