

Ahcène Bounceur, PhD

Data Science - IA - Digital Twin - IoT - Smart Cities - Cybersecurity

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📍 University of Brest - UBO, France

I am an associate professor of Computer Science at the University of Brest (UBO). I am a member of the Lab-STICC Laboratory, a reference in the fields of embedded systems, datascience and cybersecurity. My current research activities are focused on the following aspects:

- Digital Twin tools for cybersecurity of smart critical infrastructures: IoT, Smart Cities and Grids
- Datascience (Datamining and Multidimensional Statistical modelling)
- Simulation Tools for WSN and IoT networks dedicated to Smart-cities
- Pseudo-polygons for security and cybersecurity

I received my Ph.D. in Micro and Nano electronics at Grenoble INP, France, in 2007. I received the M.Sc. degree from ENSIMAG, Grenoble, France in 2003. From April 2007 to August 2008, I was a postdoctoral fellow at TIMA Laboratory. From September 2007 to August 2008, I was with Grenoble INP, France, where I was a temporary professor.

I have obtained the 3rd place of the Annual IEEE Test Technology Technical Council (TTTC-IEEE) Doctoral Thesis Contest, VLSI Test Symposium, Berkeley, USA, May 2007. I am the coordinator of the project ANR PERSEPTEUR (587K€) and the partner of the project Suidia. Until now, I have published more than 150 articles.

I have developed a new theoretical concept, called a **Pseudo-Polygon**, which represents a specific graph structure that can be used to model and resolve many problems that can be modelled as a boundary of a Euclidean connected graph, such as the boundary of a country or any sensitive geographical site, fingerprints, data security and key generation. This theory is published in the book "Boundaries and Hulls of Euclidean Graphs: From Theory to Practice".

Academic Qualifications

Professional Dissertation HDR¹ in Computer Science , University of Western Brittany (UBO) and Lab-STICC Laboratory Subject: Models and Simulation for Mixed Circuit Testing, Data Mining and Wireless Sensor Networks.	2014
PhD in Micro and Nano electronics , TIMA Laboratory (Grenoble) Subject: Computer-Aided Test (CAT) Platform for mixed-signal testing	2007
M.SC. in Operations Research , School of Computer Science and Applied Mathematics of Grenoble (ENSIMAG) Subject: CAT tool for the validation of BIST techniques of RF and mixed-signal circuits	2003
Engineer in Operations Research , University of Bejaia, Algeria Subject: Optimal management of grain silos	2002
Programmer in Computer Science , Micro-Services School of de Béjaia, Algeria Subject: Personal Management Software	1995

Positions

Qualified for professorship , University of Western Brittany (UBO)	2014–Present
Associate Professor , University of Western Brittany (UBO)	2008–Present
Lecturer , National School of Electronics and Radio-electricity of Grenoble (ENSERG)	2007–2008
Post-doc , TIMA Laboratory (Grenoble)	2006–2007

Responsibilities

Member of the National Council of Universities (CNU) , Nominated by the french ministry	2022–Present
Founder of the Startup IOUWON , Development of IoT and Security solutions and consulting	2020–Present

¹HDR means Ability to Lead Research, and is the highest diploma that can be obtained in France. It is called in the past State PhD. In France, only doctors having HDR can supervise PhD students and be a thesis reporter.

<https://www.iouwon.fr>

Head of the computer science section , Continuous Training department of the University of Western Brittany	2011–Present
Co-Head of the Master Degree LSE , University of Western Brittany (UBO)	2009–Present
Associated Researcher and Member of the Scientific council , Centre for the Development of Advanced Technologies (CDTA, Algeria)	2014–2016
Associated Researcher , LIMED Laboratory, University of Bejaia (Algeria)	2010–2007

Distinctions and Patents

Patent: Platform Suidia , IoT Platform for monitoring the gestational diabetes	2015
Best papers at ACM ICFNDS , Jordan	2018
Best papers at ACM ICC , Bulgaria	2016
3rd place winner in the Annual IEEE Test Technology Technical Council (TTTC) Doctoral Thesis Contest , VLSI Test Symposium, Berkeley, USA	2007

Collective Responsibilities and Organisation of Scientific Events

At the international level

- **Guest editor** of the following journals:
 - Journal of Sensor - MDPI (2022)
 - Journal of Sensor and Actuator Networks (2019)
 - Algorithm for Wireless Sensor Networks (2014)
- **General Chair** of the conferences ACM ICC 2016, ACM BDAW 2016 and the ACM ICFNDS 2019 :
 - We received an average of 160 submissions, from 15 different countries, we put 2 to 3 reviewers per paper for an acceptance rate of 35%. We work closely with the Journal of Sensor and Actuator Networks, which funds part of the keynotes and the candidate with the best paper.
- **Co-organization** with Pr. Bernard Pottier of an international summer school on sensor networks, measurements and environment and organization of a training on Arduino and wireless. <http://ecole-capteurs.univ-brest.fr>
- **Associate Editor** of EURASIA journal
- **Responsible of the Tutorials** of the IDT 2014 conference
- **Associate head** of the RCM (Network of Sensors for Medicine) research team of the LIMED laboratory (Medical Informatics Laboratory - University of Béjaia)
- **Co-organisation** with Pr Abdelkamel Tari (University of Béjaia, Algeria) of a summer school on Wireless Sensor Networks: Impacts and Challenges for Society from 30 June 2013 to 3 July 2013.
 - Thirteen speakers were invited, including 8 international and 5 national researchers.
 - I provided training on the basic programming of wireless sensor networks.
 - Site : <http://pagesperso.univ-brest.fr/~bouceur/ecole2013>
- **Invited** to provide practical training on wireless sensor networks and to manage the website of a winter school on wireless sensor networks organised by the University of Oran (2013)
- **Invited** to provide practical training on wireless sensor networks and the Arduino (winter school on wireless sensor networks organised by the CDTA -2014)
- **Proposal for the creation of a new medical informatics laboratory LIMED** (Laboratoire d'Informatique Médicale) and participation in the piloting of its creation at the University of Béjaia (with Mr Abdelkamel Tari, its director and Mrs Chafiaa Hamitouche, the deputy director of the LATIM laboratory of Brest) under the direction of Pr Djoudi Merabet and Pr Kamel Tari the former rector of the University of Béjaia - 2013.
- **Establishment of official cooperation** between the University of Béjaia and the University of Brest in 2010 and 2012.

At a national level

- **Member of the steering committee** of the national CNRS research group GDR-SoC2 (Axis: Connected Objects)
- **Member of the steering committee** of the national CNRS research group GDR-OSI from 2011
- **Organisation** of a thematic day with the Test and Tolerance Group of GDR SoC-SiP (Pierre and Marie Curie University, Jussieu, 5 October 2012)
 - Theme: Methods and Tools for Taking into Account the Variability of Manufacturing Processes
 - Site: http://pagesperso.univ-brest.fr/~bouceur/journee_thematique_gdr.html
- **Carrying out scientific expertises** (European and french project funding, grant applications, etc.)

Locally (at UBO and Lab-STICC Laboratory)

- **Member of the Scientific Council** of the research centre IBNM (Institut Brestois du Numérique et des Mathématiques) and responsible for its website
- **Responsible** of the website of our department
- **In charge** (with Franck Vermet) of the IBNM seminars since 2016
- **Co-responsible** of the SSC seminars (Séminaires des Systèmes Communicants) of the Lab-STICC and the ISSTB (11 monthly seminars organised) from 2010 to 2011. <http://pagesperso.univ-brest.fr/~bouceur/isstb/ssc>
- **Organisation** of a thematic day on IoT networks at UBO (http://pagesperso.univ-brest.fr/~bouceur/journee_mocs_2016/)

Keynotes and Invited Talks

Keynotes [13]

- CupCarbon: A Platform for Designing and Simulating IoT and Wireless Sensor Networks dedicated to secured smart-city applications** 2022
Int. E-Conference on Advances of Electronics And Computer Technology (ICAECT-2022), India, April 7th, 2022.
- CupCarbon for Cybersecurity and BlockChain modelling: which model?** 2021
Artificial Intelligence for Cyber Security and Privacy Conference, El-Oued, Algeria, November 20th, 2021.
- DATA simulation, generation and collection tools for smart cities** 2020
Workshop on Data, Algerian ministry invitation, DGRSDT, Cerist, Algeria, February 27th, 2020.
- CupCarbon-Lab for the validation of Cybersecurity algorithms including BlockChain technology** 2019
In the 2nd International Conference on Computational Intelligence, Security and IoT (ICCISIoT 2019), 13-14 December 2019, National Institute of Technology Agartala, Tripura, India
- The concept of a Pseudo-Polygon and its Application to IoT** 2018
In the 1st International Conference on Artificial Intelligence and its Applications (AIAP'18), 4-5 December, 2018, El-Oued, Algeria
- The concept of a Pseudo-Polygon and its Application to Big Data and IoT** 2018
In the 7th International Society for Knowledge Organization (ISKO-Maghreb), 25-26 November, 2018, Bejaia, Algeria (<https://www.youtube.com/watch?v=hlQqLA5psNI>)
- A Pseudo-Polygon and Its Application in IoT Networks** 2018
In the International Conference on Future Networks and Distributed Systems (ICFNDS), 26-27 June, 2018, Amman, Jordan
- Finding the boundary nodes of a WSN using the D-LPCN algorithm and its simulation under CupCarbon** 2017
In the 1st EAI International Conference on Future Internet Technologies and Trends (ICFITT 2017), August 31-September 2, 2017, Surat, India
- From Smart-city and IoT Simulation to Big Data Generation** 2017
In the 2nd ACM International Conference on Internet of things and Cloud Computing (ICC 2017), Keynote Speaker, Cambridge city, Churchill College. University of Cambridge, United Kingdom. 22-23 March 2017

CupCarbon: A New Platform for Designing and Simulating Smart-City and IoT Wireless Sensor Networks (SCI-WSN)	2016
International Conference on Internet of Things and Cloud Computing, Mar 2016, Cambridge, United Kingdom	
Big-Data: The third computer revolution	2016
The first edition of the Annual Congress on Applied Science and Technology (CASTA'16), Boumerdes, Algeria. September 18-20, 2016	
A New Platform for Designing and Simulating Smart-City and IoT Wireless Sensor Networks	2016
5th edition of the "Big Data Mining and Visualization" days, University of Lorraine, June 23-24, 2016	
CupCarbon: A New Platform for Designing and Simulating Smart-City & IoT Wireless Sensor Networks (SCI-WSN)	2015
In the International conference on Intelligent Information Processing, Security and Advanced Communication, IPAC'2015, University Hadj Lakhdar of Batna, Algeria, 23-25 November 2015	
Invited Talks [10]	
CupCarbon: A Platform for Designing and Simulating IoT and Wireless Sensor Networks dedicated to secured smart-city applications	2022
Internal Seminar, University of Sharjah.	
Teaching method of the IoT in Master, 3rd Pedagogical Day	2020
Third Pedagogical Day, GDR SoC2, Connected Objects Axis, UPMC, Paris, France, March 9th, 2020	
Design and Simulate Secure Algorithms	2020
International Pluridisciplinary PhD Meeting (IPPM'20), University of El-Oued, Algeria, February 25th, 2020	
Simulate IoT networks with CupCarbon	2019
Séminaire d'Automatique du plateau de Saclay of iCODE, Centrale Supélec	
Algorithms for finding the boundary nodes of a WSN and their simulation under CupCarbon	2019
Internal seminar, Manchester Metropolitan University, June 19th, 2019, UK	
Distributed Algorithms for Leader Election in Wireless and IoT Networks	2017
Invited presentation, GT-OSI, Jussieux, Paris, October 20, 2017	
From Smart-city and IoT Simulation to Big Data Generation	2016
Invited talk, University of Bejaia, July 2016	
Plateforme logicielle CupCarbon de conception et de simulation des réseaux de capteurs sans fil de nouvelle génération dédiée aux smart-cities	2015
IRCICA seminar on sensor networks, 6 November 2015, IRCICA, Lille	
Finding the Polygonal Envelope of a Wireless Sensor Network: Theory and Practice	2015
Internal Seminar, University of Clermont-Ferrand, July 2015	
Finding the Polygonal Envelope of a Wireless Sensor Network: Theory and Practice	2015
Internal Seminar, GDR-RO, CEA, Paris, May 2015	

Projects

CNEPRU: 500K€ , Algerian National Research Project	2016–2019
The project concerns "Applications of wireless sensor networks in the context of the Internet of Things", Project code: C00L07UN310120150010, Project approved from 01/01/2016 for a duration of 4 years (until 31/12/2019).	
PERSEPTEUR: 587K€ , French Research Agency Project	2015–2018
I was a coordinator of an ANR research project on behalf of PERSEPTEUR. The aim of this project is to develop a design flow of wireless sensor networks in an urban environment while taking into account electromagnetic waves. This flow will be integrated into a 3D sensor network simulator to be able to model and simulate networks in a 3D environment, which in our case represents a virtual city.	
SUIDIA: 600K€ , Regional Health Agency Project	2014-2018

The project focuses on the development of an IoT Health Application for the remote monitoring of patients with gestational diabetes using new communication technologies based mainly on smartphones and touch-sensitive tablets. This platform is currently being used officially by the doctors of the Brest hospital.

PNR: 500K€, National Research Programme Project 2011-2014

A PNR project involves international partners and is funded completely by the Algerian government. It is focused on cybercrime under the title "*Automatic extraction and analysis of evidence data in cybercrime investigations*".

ISSTB: 10K€, ISSTB (university institute) project 2011-2014

The objective of this project is to work on Statistical modelling for testing the extreme behaviour of microelectronic circuits.

Cuparbon U-One, Principal Investigator 2013-Present

A Smart City and IoT Wireless Sensor Network Simulator. (URL: <http://cupcarbon.com>)

SeaShell, Principal Investigator 2019-Present

Android IoT and RFID Simulator. (URL: <https://www.youtube.com/watch?v=C9Lsxs1OxzA>)

Tutorials

Tutorial on WSN Programming, Summer School, Research Center CDTA, Algeria 2014

Tutorial on XBee and WSN Programming, Summer School, University of Oran, Algeria 2013

Tutorial on WSN Simulation, Summer School, University of Bejaia, Algeria 2013

Tutorial on XBee Programming, Summer School, University of Brest, France 2012

Teaching

Associate Professor, University of Brest, ISEN School, ENSTA School, France 2010–Present

Security programming with Java (3rd Year)

Wireless Sensor Network Design and Simulation (5th Year)

Distributed Graph programming and simulation (3rd Year)

IoT Programming (5th Year)

GUI Programming with Android (4th Year)

Advanced Android Programming (5th Year)

Advanced Java Programming (3rd Year)

Associate Professor, University of Brest and ISEN School, France 2008–2014

J2ME Programming (5th Year)

GUI Programming with Java (4th Year)

Digital Testing (5th Year)

Network Programming with Java (3rd Year)

PhD Student, ENSIEG and Polytech'Grenoble, France 2004–2007

Object-oriented programming (Java)(M.Sc. Degree)

Tcl/Tk Language (M.Sc. Degree)

DBMS (database management system) (1st year)

Lecturer, ENSIEG, Grenoble, France 2007–2008

VHDL programming (3rd Year)

Rapid Prototyping with VHDL (4th Year)

C Programming (4th Year)

Introduction to VLSI design (4th Year)

Digital Microelectronics (4th Year)

Operating System (4th Year)

Rapid Prototyping with VHDL (4th Year)

Java Programming (4th Year)

Rapid Prototyping with VHDL (4th Year)

International Teaching

Software Testing (3rd Year) - University of HANOI, Vietnam (2010–2014)

Android Programming (Post-Doctoral students) - University of Bejaia, Algeria (2010-2012)

WSN Programming (Post-Doctoral students) - University of Bejaia, Algeria (2010-2012)

PhD and HDR External Examinership

Bourenane Abbache , PhD thesis (University of Bejaia, Algeria)	14/09/2019
Joreg Herrera , PhD thesis (Universitat Politècnica de València, Spain)	12/07/2017
Xuan Sang , PhD thesis (ENSTA Bretagne, France)	31/05/2017
Lotfi Zaouche , PhD thesis (UTC de Compiègne, France)	08/02/2017
Samir Uzzaman , PhD thesis (King's College London)	25/02/2017
Feriel Bouakkaz , PhD thesis (University of Bejaia, Algeria)	02/07/2016
Samia Djemai , PhD thesis (University of Bejaia, Algeria)	28/06/2016
Yao Li , PhD thesis (UPMC, Paris, France)	17/06/2015
Nawel Bendimerad , PhD thesis (University of Oran, Algeria)	01/10/2015
Richun Fei , PhD thesis (TIMA, Grenoble INP, France)	13/10/2015
Mawloud Omar , HDR thesis (University of Bejaia, Algeria)	27/11/2014
Noureddine Akkouche , PhD thesis (TIMA, Grenoble INP, France)	09/09/2011

PhD Supervision

Hamza Ngadi , University of Brest Funding Title: Digital Twin for secured smart-city applications	09/2024
Mostefa Kara , University of Eloued Funding Title: Security management of autonomous cloud entities in a distributed system	09/2022
Saci Medileh , University of Eloued Funding Title: The Security and efficient management of distributed behavior in the context of Internet of Things (IoT)	09/2022
Nabil Kadjough , (Defence already programmed) University of Bejaia Funding Title: Simulation of next-generation wireless sensor networks for smart cities	09/2022
Naima Belakbir , Industrial Funding (Systrans) Title: Optimisation methods for transport, the case of specific constraints	05/2020
Madani Bezoui , University of Boumerdes Funding Title: Contribution of multi-objective programming to portfolio optimisation	09/2019
Sanaa Ghalem , University of Oran Funding Title: Managing uncertainties in wireless sensor networks	09/2019
Umber Noreen , ANR Project Funding Title: Interference modelling for 3D simulator of sensor networks dedicated to smart-cities	12/2018
Taha Alwajeih , ANR Project Funding Title: Efficient radio channel modelling for urban sensor networks	12/2018
Ali Benzerbadj , PROFAS B+ Funding Title: A cross-layer approach for energy savings and reliability in wireless sensor networks for mission-critical monitoring applications	07/2018
Massinissa Lounis , PNR Project Funding Title: Wireless Sensor Networks, Modelling and Application to Environmental Measurements	05/2018
Abdelkader Laouid , PNR Project Funding Title: Self-management and security in dynamic distributed systems	11/2017
Massinissa Saoudi , University of Brest Funding Title: Design of a network of sensors for decision making based on Data Mining methods	09/2017
Farid Lalem , Cherchell School Funding Title: Methodological and application framework for the development of reliable sensor networks	09/2017
Rima Houari , PNR Project Funding Title: Multi-Dimensional Sample Generation for Data Mining Study	03/2017

Research Activities

Recent Years

2012-Present

- Digital twin for Cybersecurity in smart critical infrastructures
- Pseudo-Polygons for the determination of the polygonal hull: Cybersecurity and smart-city applications
- IoT Simulation and IoT Digital Twin (CupCarbon simulator)
- Models and architectures for the simulation and emulation of sensor networks dedicated to smart-cities ;
- Statistical modelling for data mining (cases of missing data, failures, anomalies in sensor networks) ;

Previous years

2002–2012

- Test evaluation by considering variations in the manufacturing process (*process variation*) using multidimensional statistical models (Copulae theory, Extreme Value Theory)
- Monte Carlo simulation techniques to accurately evaluate the Test Metrics under deviations from the manufacturing process
- Modeling a very large and non-linear circuit process variations using Archimedean copula

Committees

Program Committee Member: Globecom, IEEE ICC, CCNC, ICFNDS, IEEE PiCom, IDT, ANT, IMS3TW, IPAC, IS-NCC, ATSIP, CBDCOM, MSPA ...

Reviewer: Ad hoc Networks, JNCA (Journal of Network and Computer Applications), TCAD (Transactions on Computer Aided Design), ITC (International Test Conference) and JETTA (Journal of Electronic Testing: Theory and Application), and in many other conferences.

Press and Public Profile

Interview about Future Internet Technologies, Conference ICFITT, India 2017
<https://www.youtube.com/watch?v=4gEvdW0LQ8>

Ennahar TV (in arabic), Invitation to talk about research in Algeria 2018
<https://www.youtube.com/watch?v=Qeo3I2XIV1U>

Suidia (CHRU of Brest Magazine), IoT Platform for gestational diabete 2015
http://labsticc.univ-brest.fr/~bouceur/documents/envies_magazine.pdf

Suidia (UBO Research Magazine), IoT Platform for gestational diabete 2015
http://labsticc.univ-brest.fr/~bouceur/documents/suidia_lettre_rech_ubo.pdf

Science Mag: Bouncing Back in a New Country, Interview in Science Mag 2007
<https://www.sciencemag.org/careers/2007/10/bouncing-back-new-country>

Newspaper Telegram, Article: Computer Science in Business Schools 2014
<https://www.ouest-france.fr/bretagne/brest-29200/le-langage-internet-lecole-de-commerce-2980727>

Interview, Coworking space of Brest 2014
<https://www.lacantine-brest.net/membres/ahcene-bouceur/>

Publications

H-INDEX: 22 - Citations: 2650

Reports (HDR, Ph.D., M.Sc.) (4)

[1] A. Bounceur, Modèles et Simulation pour le Test de Circuits Mixtes, la Fouille de Données et les Réseaux

de Capteurs Sans Fil, Habilitation à Diriger des Recherches. Laboratoire Lab-STICC, Université de Bretagne Occidentale (UBO), 2014.

- [2] A. Bounceur, Plateforme CAO pour le test de circuits mixtes, Thèse de doctorat, INPG, Grenoble, avril 2007.
- [3] A. Bounceur, Outil de CAO pour la validation des techniques d'auto-test des circuits microélectroniques, Rapport de DEA, ENSIMAG, INPG, Grenoble, septembre 2003.
- [4] A. Bounceur, Gestion optimale des silos à céréales de l'entreprise Cevital, Rapport de fin d'études, Université de Béjaïa, septembre 2002.

Books (1)

- [1] A. Bounceur, M. Bezoui, R. Euler. **Boundaries and Hulls of Euclidean Graphs: From Theory to Practice**, CRC Press, Taylor & Francis Group Ed., 2018, ISBN : 1138048917.

Edited Books (3)

- [1] Djallel Eddine Boubiche, Faouzi Hidoussi, Ahcène Bounceur. International conference on Big Data and Advanced Wireless technologies (BDAW'2016). ACM International Conference Proceedings Series, Blagoevgrad, Bulgaria, November 10-11, 978-1-4503-4779-2.
- [2] Djallel Eddine Boubiche, Faouzi Hidoussi, Lyamine Guezouli, Ahcène Bounceur, Homero Toral. International Conference on Internet of things and Cloud Computing (ICC'2016). March 2016, Cambridge, United Kingdom. ACM International Conference Proceedings Series, 2016, 978-1-4503-4063-2.
- [3] M. Sevaux, M. Vecchio, and A. Bounceur, editors. Special issue on Algorithms for Wireless Sensor Networks. Algorithms. MDPI, 2015. Disponible en ligne.

Popular Technical-Books (2)

- [1] A. Bounceur. Tutoriel Java: Le Monde des Objets. EDA Publishing Edition (ISBN : 978-2-3550-0004-1), 108 pages, 2007.
- [2] A. Bounceur. Delphi, le nécessaire pour débiter. EDA Publishing Edition (ISBN : 978-2-3550-0005-8), 55 pages, 2007.

Manuals (2)

- [1] A. Bounceur. CupCarbon User Guide, 2017.
- [2] A. Bounceur. RMS CAT Platform, Manuel d'utilisation de la plateforme de simulation de fautes analogiques sous Cadence, 2007.

Demo Papers (2)

- [1] Ahcène Bounceur, Olivier Marc, Massinissa Lounis, Julien Soler, Laurent Clavier, Pierre Combeau, Rodolphe Vauzelle, Loïc Lagadec, Reinhardt Euler, Madani Bezoui and Pietro Manzoni, CupCarbon-Lab: An IoT Emulator. In the Proceedings of IEEE Consumer Communications & Networking Conference (CCNC 2018), 12-15 January 2018, Las Vegas, USA.
- [2] M. Lounis, K. Mehdi, A. Bounceur. A CupCarbon Tool for Simulating Destructive Insect Movements. 1st IEEE International Conference on Information and Communication Technologies for Disaster Management (ICT-DM'14), Algiers, Algeria, March 24-25, 2014.

Invited Papers (7)

- [1] Reinhardt Euler, Ahcène Bounceur, Madani Bezoui, Mohammad Hammoudeh, Loïc Lagadec, Abdelkader Laouid, Efficient Leader Election in Wireless Sensor and IoT Networks, Invited talk, 31st European Conference on Operational Research EURO, 11-14 July 2021, University of West Attica, Athens, Greece.
- [2] Reinhardt Euler, Ahcène Bounceur, Madani Bezoui, Finding the Boundary Nodes of a Euclidean Graph: Algorithms and Applications, Invited talk, Joint EURO/ALIO European Conference on Operational Research and International Conference on Applied Combinatorial Optimization, June 25th, 2018, Bologna, Italy.
- [3] Ahcène Bounceur, Madani Bezoui, Reinhardt Euler, Loïc Lagadec and Mohammad Hammoudeh, Distributed Leader Election in Wireless and IoT Networks, Invited talk, European Conference on Operational Research EURO 2018, July 8th, 2018, Valencia.

- [4] Ahcène Bounceur, Madani Bezoui, Reinhardt Euler and Marc Sevaux, Finding the Boundary Nodes of a Wireless Sensor Network Without Conditions on the Starting Node, Invited talk, European Conference on Operational Research EURO 2016, Poznan.
- [5] Ahcène Bounceur, Reinhardt Euler, Ali Benzerbadj, Farid Lalem, Massinissa Saoudi, Tahar Kechadi, Marc Sevaux, Finding a Polygon Hull in Wireless Sensor Networks, Invited talk, European Conference on Operational Research EURO 2015, Glasgow.
- [6] S. Mir, H.-G. Stratigopoulos, M. Dubois, and A. Bounceur, Evaluation of parametric test metrics for mixed-signal/RF DFT solutions using statistical techniques, Catrene European Nanoelectronics Design Technology Conference, Grenoble, France, June 2011.
- [7] Salvador Mir, Haralampos-G. D. Stratigopoulos, Ahcène Bounceur, Density estimation for analog/RF test problem solving. Invited Talk, IEEE VLSI Test Symposium (VTS'10).

Book Chapters (5)

- [1] Congduc Pham, Ahcène Bounceur, Laurent Clavier, Umber Noreen, Muhammad Ehsan. Radio channel access challenges in LoRa low-power wide-area networks. LPWAN Technologies for IoT and M2M Applications, 2020.
- [2] Ahcène Bounceur, Madani Bezoui, Umber Noreen, Reinhardt Euler, Farid Lalem, Mohammad Hammoudeh, and Sohail Jabbar, LOGO: A New Distributed Leader Election Algorithm in WSNs with Low Energy Consumption, Chapter in the Future Internet Technologies and Trends, August 31-September 2, 2017, Surat, India.
- [3] M. Bentobache, A. Bounceur, R. Euler, Y. Kieffer, S. Mir, Minimizing test frequencies for linear analog circuits: new models and efficient solution methods. Chapter in VLSI-SoC, Springer, 2015.
- [4] A. Bounceur, S. Mir, L. Rolíndez and E. Simeu. CAT platform for analogue and mixed-signal test evaluation and optimization. Chapter in IFIP International Federation for Information Processing, Volume 249, VLSI-SoC: Research trends in VLSI and Systems on Chip. De Micheli, G., Mir, S., Reis, R. (Eds.), (Boston: Springer), 2007, pp. 281-300.
- [5] A. Dhayni, S. Mir, L. Rufer and A. Bounceur. On-chip Pseudorandom Testing for Linear and Non-linear MEMS. Chapter in VLSI-SoC : From Systems to Silicon. R. Reis, A. Osseiran, H.-J. Pfliederer (Eds.), Springer, Vol. 240, 2007, pp. 245-266.

Journals: Under review and Work in progress (4)

- [1] A Reduced Size of Encrypted Data in Cloud Computing: A Case Study of Patient Data (work in progress)
- [2] An Efficient Consensus Protocol for Multi-Agent Systems (work in progress)

Peer-reviewed International Journals (37)

- [1] Sana Sahar Guia, Abdelkader Laouid, Mohammad Hammoudeh, Ahcène Bounceur, Mai Alfawair, Amna Eleyan, Co-Simulation of Multiple Vehicle Routing Problem Models, Journal of Future Internet (MDPI), 2022, 1, 0, <https://doi.org/10.3390/fi1010000>.
- [2] Mostefa Kara, Abdelkader Laouid, Mohammad Hammoudeh, Muath Alshaikh, Ahcène Bounceur, Proof of Chance: A Lightweight Consensus Algorithm for the Internet of Thing, IEEE Transactions on Industrial Informatics, 19 April 2022, 10.1109/TII.2022.3168747.
- [3] Mostefa Kara, Abdelkader Laouid, Ahcène Bounceur, Mohammad Hammoudeh, Muath AlShaikh, Perfect Confidentiality through Unconditionally Secure Homomorphic Encryption Using One-Time Pad with a Single Pre-Shared Key, Journal of Information Science and Engineering, Advanced Networking and Communication Solutions for Wireless Mobile Networks (JISE-NCS), (accepted).
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- [5] Mostefa Kara, Abdelkader Laouid, Muath AlShaikh, Mohammad Hammoudeh, Ahcène Bounceur, Reinhardt Euler, Abdelfattah Amamra and Brahim Laouid, A Compute and Wait in PoW (CW-PoW) Consensus Algorithm for Preserving Energy Consumption, Journal of Applied Science (MDPI), 11(15), 6750, July 22th, 2021, <https://doi.org/10.3390/app11156750>.

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Software (3)

Under development

SeaShell: Digital Twin for cybersecurity Smart critical infrastructures
 → <https://www.youtube.com/watch?v=C9Lsxs1OxzA>

Free

CupCarbon: Smart City and Internet of Things Wireless Sensor Network simulator.
 → <https://www.cupcarbon.com>
 → https://www.youtube.com/channel/UC_rAd5qpwuPz3myMZfTWbdA

With licence

Suidia: Application Android de télémédecine pour le suivi à distance, par tablettes ou smartphones, des patientes atteintes du diabète gestationnel (<http://www.suidia.fr>).

CATPlatform: Une plateforme formée d'un ensemble d'outils de CAO pour la simulation de fautes et l'évaluation des techniques de test des circuits analogiques, mixtes et RF sous Cadence. Cette plateforme a été installée à STMicroelectronics de Grenoble et à l'Université de Cantabrie en Espagne sous forme d'un NDA (**Non Disclosure Agreement**).