

Etienne PERRET, Ph.D.

Associate Professor, Electrical Engineering

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Biography

Etienne Perret (S'02–M'06–SM'13) received the Eng. Dipl. degree in electrical engineering from the Ecole Nationale Supérieure d'Electronique, d'Electrotechnique, d'Informatique, d'Hydraulique, et des Télécommunications, Toulouse, France, 2002, and the M.Sc. and Ph.D. degrees in electrical engineering from the Toulouse Institute of Technology, Toulouse, in 2002 and 2005, respectively. From 2005 to 2006, he held a post-doctoral position with the Institute of Fundamental Electronics, Orsay, France. Since 2006, he has been an Associate Professor of electrical engineering with the University of Grenoble Alpes - Grenoble Institute of Technology, Grenoble, France. Since 2014, he has been a Junior Member with the Institut Universitaire de France, Paris, France, an institution that distinguishes professors for their research excellence, as evidenced by their international recognition. Since 2015, he has been an Appointed Member of the French National Council of Universities. He has authored or co-authored over 140 technical conferences, letters and journal papers, and books and book chapters. He holds several patents. His works have generated about 1100 citations. His current research interests include electromagnetic modeling of passive devices for millimeter and submillimeter-wave applications, and wireless communications, especially RFID and chipless RFID, and also include advanced computer-aided design techniques based on the development of an automated codesign synthesis computational approach. Dr. Perret is a Technical Program Committee member of the IEEE International Conference on RFID. He was a recipient of the French Innovative Techniques for the Environment Award in 2013 and the SEE/IEEE Leon Brillouin Award in 2016. He was a Keynote Speaker and the Chairman of several international symposiums. He was named one of the MIT Technology Review's French Innovator's under 35 for his work on chipless RFID in 2013.

Education

2013: **HDR (Habilitation à Diriger des Recherches** – HDR is the highest degree awarded by French universities) from the *Université de Grenoble*.

Title: « Radiofrequency Identification: from the RFID to the chipless RFID »

2005: **Ph.D. with distinction in Electrical Engineering**, from the Toulouse Institute of Technology (INPT), France - **under the guidance of Pr. H. Aubert**.

Title: « Electromagnetic Modeling using Scale Changing Technique ».

2002: **DEA (Diplôme d'Études Approfondies, M.Sc. degrees)** with highest honor in Electrical Engineering, from the Toulouse Institute of Technology (INPT), France, class valedictorian.

2002: **Eng. Dipl. in Electrical Engineering** from the ENSEEIHT, Toulouse, France.

Professional experience

Current Position - Since 2014: Member of "Institut universitaire de France" (IUF)

Current Position - Since 2006: Associate Professor in Electrical Engineering with the Grenoble Institute of Technology, Esisar / LCIS lab, Valence, France.

2005-2006: **CNRS Post-doctoral fellowship** at the Institute of Fundamental Electronics (IEF), Paris-XI University, Orsay, France.

Topic: « Passive THz components on silicon. Design, realization and characterization of electronic bricks », *under the guidance of Pr. F. Aniel*.

2002-2005: **Research Associate** at the « Laboratoire d'Electronique de l'ENSEEIHT » (now Laboratory on plasma and conversion of energy LAPLACE) *under the guidance of Pr. H. Aubert, and Lecturer* at the ENSEEIHT.

Teaching activities

Teaching activities of Etienne Perret began in 2002 in the [INP - ENSEEIHT](#) school of engineering, Toulouse France and after that in the Grenoble INP - Esisar school of engineering, France. On average, over the past eight years spent in the Esisar, he taught **210 hours per year**.

Current lectures and courses: [Electrostatics](#), [magnetostatics](#), [Physics of semi-conductors](#), [Project on RF Circuit Design](#), [Electronic Packaging and Interconnection](#), [Numerical methods in Electromagnetism...](#)

Involved in the establishment of a the International Master of Science in Wireless Integrated Circuits and Systems ([WICS](#)) - Grenoble Alpes University (2016) – Involved in the teaching of the RFID – chipless RFID.

In addition to Etienne Perret’s educational activities for engineering students, he is involved in the Continuing Education department of Grenoble INP entitled “RF SYSTEMS”. This training is intended for engineers who want to upgrade their skills in RF.

Research interests

The research activities of Perret are carried out at the *Laboratoire de Conception et d'Intégration des Systèmes* (LCIS, EA 3747, <http://lcis.grenoble-inp.fr/le-laboratoire/>), in the ORSYS group (Optoelectronic and Radiofrequency SYStems) where the interest is focused on the use of radio frequency (RF) signals and wireless technologies for communication, signal processing and measurement.

RESEARCH TOPICS

Computational electromagnetics, co-simulation, Computer-aided design.

Microwaves circuits.

Antennas, leaky-wave antennas, smart antennas

Millimeter-wave and THz technology

Analog signal processing, Radar

Wireless technology: chipless RFID, UHF RFID, UWB.

PERSPECTIVES:

Development of the Chipless RFID technology for secure applications.

Development of the Chipless RFID technology for identification: 1) sensor-tags, 2) reconfigurable Chipless RFID tags, 3) Reading multiple tags at once.

Development of RF switches based on CBRAM technology.

Development of versatile antennas, low-cost, based on co-simulation approaches for wireless applications (near-field UHF RFID antennas, reconfigurable leaky-wave antennas).

Professional recognition, awards, distinctions

- ⇒ **Winner of the [Out Of Lab](#) challenge – linksium SATT (2017)**
- ⇒ **[SEE/IEEE Leon Brillouin Award](#) (2016)** “for his outstanding achievement in the identification of an object in an unknown environment using a chipless label or tag”.
- ⇒ **Qualified by the French National Council of Universities (CNU) to apply for a Full Professor position** (Qualification Pr, CNU - section 63), **2016**.
- ⇒ **“Institut Universitaire de France” Member ([IUF](#)) 2014**. IUF distinguishes a very small number of university professors (only 2% of French professors have been distinguished by the IUF) for their research excellence, as evidenced by their international recognition. Members benefit from a reduction of 2/3 of their statutory teaching service. Specific research money is paid each year to their team.
- ⇒ **Conf. URSI-GASS 2014 (China): Co-opted by the French chapter of URSI into applying to the Issac Koga Gold Medal (French selection) - Financially supported by an URSI Commission for the Conf.**
- ⇒ **IEEE Senior Member (SM 2013)**
- ⇒ **[MIT Technology Review’s French innovator under 35](#) (2013)**. Innovation award for a “work that is likely to be influential for a very long time”. This award recognizes the work of Etienne Perret on Chipless RFID technology.
- ⇒ **[Innovative techniques for the environment awards](#) (2013)**. The Innovative Techniques for the Environment Trophies award the works that can become applications or industrial developments at short or medium term. This award recognizes the work of Etienne Perret on Chipless RFID technology.

Supervision of graduate students and postdoctoral fellows at LCIS lab

- ⇒ **Current Ph.D. Students: 5 (Supervisor) & 1 (co-supervisor) | Postdoctoral fellows : 1 (12 months)**
- ⇒ **Previous Ph.D. Students (co-supervisor): 4 (2012- 2012- 2013- 2015) - awards:** “Best Student Paper Award IEEE RFID-TA 2011”, “2nd Best Student Paper Award IEEE RFID-TA 2012”, **Recipient of an outstanding PhD dissertation award by the “Université de Grenoble” for 2013.** | **Postdoctoral fellows: 4x12 months | Master Students: 15.**

Participation and Organization of scientific meetings

- ⇒ **Organization of conferences and workshop**

TPC Member of **16** International Conferences

- 2017, **TPC Member and reviewer** of the « IEEE Int. Symp. Antennas and Prop. /USNC-URSI National Radio Science meeting. (IEEE AP-S/URSI 2017).
- 2017, **Technical Program Committee (TPC) Member** of the « European Conf. Antennas and Prop. (EuCAP2017) - invited to serve as a **Panic reviewer**.
- 2016, **TPC Member and reviewer** of the « IEEE Int. Symp. Antennas and Prop./USNC-URSI National Radio Science meeting. (IEEE AP-S/URSI 2016) - invited to serve as an **associated editor** of the track “RFID Antennas and Systems”.
- Sep. 2015, **Organizer of the EuMW 2015 Student Design Competition (competition of around 30 Ph.D. students)**.
- Apr. 2015, **Reviewer and Convened-sessions:** « *Emerging chipless RFID technology trends* » **organizer at EuCAP2015**.
- **Since 2014, TPC Member** of the « *IEEE RFID Technology and Applications (RFID-TA) Conference* » & **judge in the student contest (2014)**.
- **Since 2010, TPC Member** of the « *IEEE international Conference on RFID* ».
- Feb. 2013: **Organizer of a workshop** on the subject of the *RFID technology*: current situation on the RFID research in France. Several projects coordinators with particular interest about the use of paper materials presented the conclusions obtained after several years of research. A half-day was devoted to the presentation of the results obtained under the THID project.
- **TPC Co-chair** of the « *IEEE International Conference on RFID-Technology and Applications* », Nice, 2012. « **Special Session: UWB and Chipless RFIDs** » **organizer** (the first ever Session focused on Chipless RFID in an international conference).
- 2007 : **Local arrangements Member** and **publications chair** of the 19th international symposium «Optique Hertzienne et Diélectriques» (OHD 2007).
 - ⇒ **Chairman** for :
- *EuCAP 2017*: sessions: « **L_A01 Antenna Sensors** » & « **CS49 Wireless Chipless Sensors** ».
- *IEEE AP-S/URSI 2016*: sessions: « **RFID-based Localization Techniques**” and « **Wireless RFID Sensors**”.
- *JNM2015*: session: « **RFID** ».
- *EuCAP2015*: convened-sessions: « **Emerging chipless technology trends** », and session: « **Prop: Other Propagation Topics Propagation/Multi Applications** ».
- *IEEE Int. Conf. on RFID-Technology and Applications*, Special Session « **UWB and Chipless RFIDs** », Nice, Nov. 2012.
- *SBMO/IEEE MTT-S Int. Microwave and Optoelectronics Conf. (IMOC)*, session “**RFID**”, Natal, Brazil, Oct. 29 – Nov. 01, 2011.
- *11th Mediterranean Microwave Symposium (MMS'2011)*, session “**RFID**”, Hammamet, Tunisia, Sept. 2011.
- *Progress In Electromagnetics Research Symposium (PIERS 2011)*, Marrakesh, Session 3A6, « **RFID and RFID-enabled Sensors** », March 22, 2011.
 - ⇒ **Invited Speaker** :
- Aug. 2016: *Int. Symp. Electrom. Theory (EMTS 2016)*, Finland - title : “*Permittivity characterization based on Radar Cross Polarization measurements*”.
- May 2016: *EMN Meeting on Terahertz 2016*, Spain - title : “*Beyond Chipless RFID, the Terahertz Identification*”.
- Sep. 2014: *EuMA Courses* entitle « *Chipless RFID: tag design and reader architectures*” for the joint School *EuCoM/EsoA: "RFID Technologies, from Concepts to Applications"*.
- Second « *study days on RFID technology and applications* » March 14, 2014, Tunis, Tunisia.
- *Panel discussion "La RFID à l'épreuve de l'innovation responsable"* March 21, 2014, Paris, France.
- *SBMO/IEEE MTT-S International Microwave and Optoelectronics Conference (IMOC)*, invited speaker, Natal, Brazil, Oct. 29 – Nov. 01, 2011.
- *11th Mediterranean Microwave Symposium (MMS'2011)*, keynote talk, Hammamet, Tunisia, Sept. 2011.
- First « *study days on RFID technology and applications* » March 11-12, 2010, Tunis, Tunisie.

Institutional responsibility

- ⇒ *Since 2016: Member of the Board of the Federation on Micro Nano Technologies FMNT, FR CNRS 2542*
- ⇒ *Since 2015: Appointed member of the National Council of Universities (Conseil National des Universités (CNU)) | section 63 - Electronics, optronics and systems. The CNU is the national authority in charge of recruiting academics and following up their careers.*
- ⇒ *Since 2015: Head of the RF group (ORSYS - 20 people) - LCIS.*
- ⇒ *Since 2015: Appointed member of the Board of Grenoble INP – LCIS.*
- ⇒ *2010 - 2016: Member of the Board of the Grenoble INP - Esynov technology platform.*

- ⇒ *Since 2013: In charge of the development of a demonstrator of the “Chipless RFID technology”* for the Grenoble INP - Esynov technology platform.
- ⇒ *2012-2013 : In charge of the Grenoble INP – Esisar action* untitled "International Master" as part of the **IRT Nanoelec grant** (Teaching activity part).
- ⇒ *2007-2012: Elected member of the Board of Grenoble INP – LCIS and Grenoble INP - Esisar.*
- ⇒ *Since 2008: Head of a specialization module of Grenoble INP – Esisar (equivalent to Master level)* entitled "Electronics of Embedded Systems" ([ESE](#)).
- ⇒ *Since 2008: In charge of measurement equipment and the EM software of the ORSYS lab.*

Commissions of trust

- ⇒ **Reviewer of more than 30 papers a year** for :*IEEE Trans. Microw. Theory Techn. / IEEE Trans. Antennas Propag. / IEEE Antennas Wireless Propag. Lett. / IEEE Microw. Compon. Lett. / IEEE Microw. Mag. / IEEE Sensors J. / IEEE Trans. Ind. Informat. / Progress in Electrom. Res. (PIER) / Annals of telecomm. / The French National Research Agency (ANR) / The “Association Nationale de la Recherche Technologique” (ANRT) / IEEE Int. Conf. RFID (since 2008) / IEEE Int. Conf. RFID-Techn. App. 2012 / IEEE AP-S / EuCAP...*
- ⇒ *July 2016: Selection board member:* member of an international panel to assess candidates for the position no. DL003592-AG203 (Full Professor position) within the Serra Hünter program - Universitat Rovira i Virgili.
- ⇒ *Since 2009: Selection board member:* member of five associate professor recruitment panels at the “*Université de Savoie*” and the Grenoble Institute of Technology.
- ⇒ *Since 2011: Committee member, and evaluation panel member of several Ph.D. defenses* in France (4) but also abroad (3): Javier Lorenzo 2017 (**secretary** of the panel), Ángel Ramos Félix 2015, Spain, Universitat Rovira i Virgili, Tarragona / Rossella Lodato 2016, Italie, Università degli studi di Roma Tor Vergata.
- ⇒ *Since 2015: Evaluation panel member of one HDR* (HDR is the highest degree awarded by French universities) : Emmanuel Bergeret, Université d’ Aix Marseille (dec. 2015).

Research experience – Major collaborations

Etienne Perret has preparing research and industrial technical projects (put together a dossier, writing the proposal, finding the partners etc....) and steering (the scientific but also the financial part) the projects reported in orange below. He has participated actively to the other one, but without being at the origin of the project.

- ⇒ *2016: Head of a research contract with the company Saint-Gobain Recherche* (application of chipless RFID technology– 6 months project - € 15k).
- ⇒ *Since Oct. 2015: Initiator and co-head of 3 research projects funded by the Rhône Alpes Region (ARC6) and the University of Grenoble (AGIR)* on the topic of RF and THz authentication of electronic components and chipless devices (3 Ph.D. funded). This work has contributed to the establishment of the new chair that will begin in sept. 2016: Chair entitles “Safety in Systems” Grenoble INP – Esisar / LCIS.
- ⇒ *Since Oct. 2015: Head of a research contract with the Startup CAPTURAX* (12 months project - RFID reader–€ 20k).
- ⇒ *Since Oct. 2015: Co-head of a research contract with the company Michelin* (12 months project - RFID reader –€ 43k).
- ⇒ *Since Jan. 2015: Project Management Board Member* of the EU project: 645771 - EMERGENT - H2020-MSCA-RISE-2014 (3 years project | topic: chipless RFID and sensing) / Articles number: 2.
- ⇒ *Oct. 2014 – sept. 2015: Head of a research contract with the company Thales Alenia Space* (topic: Leaky wave antenna (LWA) – € 30k). *Significant results* : splitting condition derived from the ray approach – proof that the splitting condition ($\alpha=\beta$) is observed in 2D wideband LWA. / Articles number: 2 in preparation.
- ⇒ *Jan. 2014: Head of a research contract “Pass2Dor” with the company ArjoWiggins Security* (€ 170k - 1 Ph.D.). Objectives: To show the industrial potential of a technology solutions developed and patented in a previous project entitle “PassDor”. Topic: RF authentication based on chipless technology. *Significant results* : a low cost and high performance chipless reader has been developed. / Articles number: 10.
- ⇒ *2011- 2014: Co-head of the LCIS part of the project entitled Spinnaker (OSEO ISI projet).* Spinnaker was led by TAGSYS and includes 8 research labs led by INP Grenoble - LCIS, one research institution (INRIA) and 4 industrial entities, each an expert in its own domain. *Significant results* : near field RFID reader antenna with significant and totally flexible reading zone – introduction to the *booster surface* concept for UHF near field tags / Articles number: 6.
- ⇒ *2010-2013: Coordinator of the French National Research Agency (ANR) project* entitled "THID, the future of RFID" <http://www.thid.fr/>. It was a 3-year project with a full budgeted cost of € **1.85 million**. It has

involved a dozen people and included funding for two Ph.D. students. This project was based on the complementary expertise of two laboratories (LCIS in RF and IMEP-LAHC in THz), the skills in the field of paper type materials of the Pulp and Paper Research & Technical Centre (CTP), and the industrial support of the Signoptic company. It focused on chipless RFID, especially the realization of dual-frequency tags (Microwave and THz) developed from very low-cost technologies, with the use of substrates like paper or polymers. *Significant results* : practical and economic potential of the RFID chipless proof of concept - introduction to the depolarizing tags concept - first chipless tag made of paper - first chipless tag made out of conductive materials - first chipless tag with an encoding information greater than these that can be found in classical 1D barcode - first tag-sensor (humidity) potentially fully printable / Papers number : more than 40 - Patents: 2.

⇒ **2012: Project Manager of a research study funded by the CNES** (National Centre for Space Studies), entitled «Development of a new measurement method for antenna reflectors deformation». (12 months, € 30 k). An original approach based on the use of a several chipless tags positioned on an antenna reflector has shown that it is possible to measure local deformations with a resolution less than 500 µm (prior art) at different locations of the reflector, despite the presence of non-moving objects positioned in the field of the reader. The reflector deformation (the reading position of each sensor-tag) is obtained by one measurement, that is to say exactly the same instant for all the tags present on the reflector. *Significant results* : proof of concept of surface deformation monitoring with a resolution less than 500 µm / Paper number: 2.

⇒ **Since 2009: Coordinator of a GRAVIT project** (<http://www.gravit-innovation.org/>) entitled "Totally passive device for radio frequency identification" ("PassDor"). Project over 18 months, with a total budget of € 340 k. The objective is to show the potential of a new generation of chipless RFID tags for an industrial technology transfer. A complete reading system (reader & tags) has been achieved. The reader generates a pulse with a duration of almost one hundred picoseconds and samples the backscattered signal with a sampling rate of 100GS in equivalent time. An agreement with an industrial partner was signed (with patent license agreements), and a following project ("Pass2Dor") has begun in January 2014. *Significant results* : Development of the first chipless reader - proof of concept on the use of chipless for secure authentication / Paper number: 2 - patent: 1.

⇒ **2008-2010: Coordinator of a BQR project** (project funding from the Scientific Council of Grenoble INP (€ 97.5 k) – 18 months) entitled "Development of RFID chipless tags for THz secured applications". Collaboration between the LCIS and the IMEP-LAHC laboratory. This was the first project on chipless RFID in the ORSYS group. It dealt with the use of terahertz (THz) in chipless RFID technology for secure applications. *Significant results* : introduction to the REP concept (RF Encoding Particles) – first THz chipless tag chipless / papers number : 5 - patent : 1.

⇒ **2007-2010: Co-head of the project entitled "PAC-ID Grande Distribution"**: national project supported by ST Microelectronics, involving 11 partners including 8 companies (France Télécom R&D, IBM, Psion Teklogix, IER, Carrefour, Tagsys, Malongo, ST). Main objectives: improving the efficiency of the supply chain using traceability techniques like RFID. *Significant results*: Development of a fully automated antenna design tool / papers number: 10 – One deposit to the Agency for the Protection of Programs (APP).

⇒ **2006-2010: Collaborator in an "ACTRA" project** (Rhône-Alpes) entitled "Identification / Remote Authentication of documents or products using RF: towards very low costs RFID tags without any chip or antenna". *Significant results* : it has been shown that it is possible to distinguish with a radar approach the 26 characters of the alphabet without introducing specific changes / papers number: 1.

⇒ **2007-2009: Collaborator and co-head of 3 projects about RFID tag antenna design** in collaboration with STMicroelectronics Rousset and funded by the Région Provence-Alpes-Côte d'Azur. *Significant results*: Development of a test bench for the characterization of the two impedance values of a UHF RFID chip / application Notes: 3.

⇒ **2007-2011: Collaborator of the Cofecub-Capes "Mincase"** project entitled "Design, miniaturization and characterization of compact antennas for low-cost emerging Wireless Telecommunications systems". (Franco-Brazilian cooperation with Campina Grande University (UFCG)). Papers number: 3.

Innovation – Valorization of research - Transfer of technology

Perret's transfer activities began in 2010 with the PassDor project and with the Grenoble technology transfer & startup building organization (now named [Linksium, SATT de Grenoble Alpes](#)). These activities have been amplified in 2014 with the Pass2Dor Project (and with all the applications-oriented projects, such as with Saint Gobain) and now with the creation of the Startup [CAPTURAX](#). Perret's transfer activities concern two aspects of his researches: 1) the development of chipless RFID technology and 2) RFID tag and reader antenna design. About the second point 2), an automatic antenna design software developed in 2010 [Pat. 3] is being transferred to the CAPTURAX society. Using this software, the reader antenna that is used inside the handheld reader sold by the company has been designed. He has contributed to the creation of this company. He is currently Scientific Advisor and he has a minority stake in this company. Regarding point 1), he aims to show the industrial potential of the new technology that is chipless RFID. Patents [Pat. 1], [Pat.2] were transferred to the company

ArjoWiggins Security for the authentication aspect. For the identification part, he just begins a collaboration with [MGI](#) company (MGI manufactures high volume inkjet printers compatible with conductive ink to make “smart” and communicant papers). After showing his solution (chipless demonstrator: tags and reader, [click to see the video](#)) during 10 days at the [DRUPA](#) exhibition (the largest exhibition in the world, focused on printing technology), a CIFRE Ph.D. and a FUI project are on the way. In that context, Perret plans to build a Startup focused on his Chipless RFID solution (reader and tag).

Scientific literature

Etienne Perret is author and co-author of more than 145 technical conferences (90), letters and journal papers (32), invited conferences or papers (14), patents (5) and book or book chapters (6), with more than 1400 citations. The complete list can be downloaded [here](#). He is currently employed as Editor-in-Chief for a series of 4 books that will be published in 2017 by ISTE Wiley.

Citations	All	since 2012
Citations	1405	1187
h indice	21	19
i10 indice	37	30

List of the 10 most cited publications (number of citations they have attracted in red);

- [1] A. Vena, E. **Perret**, and S. Tedjini, "Chipless RFID tag using hybrid coding technique," IEEE Trans. Microwave Theory Techn., vol. 59, pp. 3356-3364, 2011. – {122}
- [2] S. Gupta, A. Parsa, E. **Perret**, R. V. Snyder, R. J. Wenzel, and C. Caloz, "Group-Delay Engineered Noncommensurate Transmission Line All-Pass Network for Analog Signal Processing," IEEE Trans. Microwave Theory Techn., vol. 58, pp. 2392-2407, 2010. – {119}
- [3] A. Vena, E. **Perret**, and S. Tedjini, "A Depolarizing Chipless RFID Tag for Robust Detection and Its FCC Compliant UWB Reading System," IEEE Trans. Microwave Theory Techn., vol. 61, Issue 8, pp. 2982 - 2994, Aug. 2013. – {67}
- [4] A. Vena, E. **Perret**, and S. Tedjini, "High Capacity Chipless RFID Tag Insensitive to the Polarization," IEEE Trans. Antennas Prop., vol. 60, 2012. – {63}
- [5] A. Vena, E. **Perret**, and S. Tedjini, "Design of Compact and Auto Compensated Single Layer Chipless RFID Tag," IEEE Trans. Microwave Theory Techn., vol. 60, 2012. – {56}
- [6] E. **Perret**, N. Zerounian, S. David, and F. Aniel, "Complex permittivity characterization of benzocyclobutene for terahertz applications," Microelectronics Engineering, 2008. – {53}
- [7] A. Vena, E. **Perret**, and S. Tedjini, "A Fully Printable Chipless RFID Tag With Detuning Correction Technique," IEEE Microwave Wireless Components Letters, vol. 22, 2012. – {50}
- [8] E. **Perret**, H. Aubert, and H. Legay, "Scale Changing Technique for the Electromagnetic Modelling of Phase-shifter elements in MEMS-controlled Reflectarrays," IEEE Trans. Microwave Theory Techn., vol. 54, pp. 3594-3601, Sep. 2006. – {47}
- [9] R. Nair, E. **Perret**, and S. Tedjini, "Design of chipless RFID tags printed on paper by flexography" IEEE Trans. Microwave Theory Techn., vol. 61, pp. 5868-5877, 2013. – {42}
- [10] E. **Perret**, S. Tedjini, and R. Nair, "Design of Antennas for UHF RFID Tags," Proceedings of the IEEE, invited, vol. 100, pp. 2330 - 2340, 2012. – {34}

Research monographs and translations

- O. Rance, E. **Perret**, R. Siragusa, P. Lemaître-Auger, RCS Synthesis for Chipless RFID - Theory and Design', Wiley-ISTE Jul. 2017.
- A. Vena, E. **Perret**, and S. Tedjini, Chipless RFID based on RF Encoding Particle - Realization, Coding and Reading System: ISTE - Elsevier, 2016.
- E. **Perret**, Radio Frequency Identification and Sensors: From RFID to Chipless RFID, Wiley-ISTE, 2014
- E. **Perret**, Identification par radiofréquence de la RFID à la RFID sans puce, ISTE Editions, 2014.

Major granted patents

- [Pat. 1] E. **Perret**, S. Tedjini, A. Vena, Y. Boutant, and C. Halopé, "Item comprising a barcode with an electromagnetic signature", WO2014002013 (A2-A3), FR2992410 (A1), EP2864935 (A2), US2015102105 (A1), 2013 .
- [Pat. 2] E. **Perret**, S. Tedjini, V. Deepu, A. Vena, F. Garet, and L. Duvillaret, "Chipless passive RFID tag" US8556184(B2), US8556184(X6-B2), FR2956232(A1-B1), EP2534614(A2-B1), CA2789087(A1), CN102884540(A), US2013015248(A1), WO2011098719(A2-A3-A4), WO2011098719(A3), WO2011098719(A4), 2010.
- [Pat. 3] E. **Perret**, H. Chaabane, and S. Tedjini, "RFIDTool," Dépôt du logiciel auprès de l'Agence pour la Protection des Programmes (APP). Inter Deposit Digital Number : IDDN.FR.001.390041.000S.C.2010.000.20600, 2010.