

# List of Publication titles of Luca Catarinucci

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## **Abstract**

In this document a short CV and the nearly complete list of publications of Luca Catarinucci is reported.

Luca Catarinucci is Researcher of Electromagnetic Fields at the Department of Innovation Engineering, University of Salento, Lecce, Italy. He was born in Todi (PG), Italy, in 1972. Received the Laurea degree (with honor) in Electronic Engineering at the University of Perugia, in 1998. Between 1998 and 1999 has been with S.D.S. Research, as responsible of the digital systems. In 1999 he received a grant from INFN for the implementation of electromagnetic tools on massively parallel architectures, by collaborating with the High Performance Computer Centre of ENEA, Rome, and the Electromagnetic Field Group of the University of Perugia. Between 2001 and 2002, he has been a “Ricercatore a Contratto” at University of Perugia and between 2002 and 2004 he has been a “Assegnista di Ricerca” of the “Centro Interuniversitario sulle Interazioni tra Campi Elettromagnetici e Biosistemi” (ICEmB). In 2003 he moved to the University of Salento where has been a Researcher since 2005. He is also Professore Incaricato of Microwave and teaches modules in the main courses of Ing-Inf/02 sector, at the same University of Salento.

The first research area in a chronological order is related to the optimum frequency assignment in GSM Networks. Consequently, the problem of the simulation of electromagnetic propagation aspects has been afforded by developing numerical techniques on massively parallel architectures. Such studies showed how the joint use of Finite Difference Time Domain (FDTD) techniques and High Performance Computing, allow the accurate solution of large electromagnetic problems. Moreover, among the others, the rigorous characterization of electromagnetic sources, the dosimetric parameters evaluation in humans exposed to radiofrequency radiation, the microwave curing of polymeric substances, the metamaterial characterization and the numerical evaluation of the shielding effectiveness of metal foams slabs, are some of the problems attached with such techniques. In such a context, appears to be relevant the effort for the evaluation, for the first time, of the shielding properties of aluminium foams, with interesting prospective of application in many industrial sectors.

Regarding the Radiofrequency Identification Systems (RFID), the scientific activities are dealing with all the aspects related to the electromagnetic viewpoint, linked to the reader and tags antenna design, the realization of microwave circuits for the integration of UHF RFID Systems with sensor networks and the realization of a “multisensor RFID tag for biomedical application” (Patent Pending).

Further research activities deals with Time Domain Reflectometry (TDR) for the qualitative and quantitative characterization of fluids. In such a field, he developed numerical tools for the modelling of TDR signals and for the extrapolation of the dielectric properties of fluids and of the liquid levels. Moreover, it is also relevant the design and realization of a novel Coaxial-TDR-Probe for the accurate estimation of the liquid properties.

The activity that has been producing the most promising results and the highest interaction with the international scientific community is numerical dosimetry. More specifically, it has been showed how there are strong lacks on the major international organization in terms of

Radioprotection (ICNIRP and IEEE) regarding the numerical evaluation of dosimetric parameters. In such a context, new algorithm for the evaluation of the energy deposited in biological systems have been developed, giving the scientific community a rigorous and accurate alternative solution to the problem.

Catarinucci authored more 24 papers appeared on international journals, 2 national patents, 4 international chapters of books with international diffusion and more than 60 papers appeared on proceedings mostly of international conferences.

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Luca Asselle. Curriculum Vitae. List of Publications. Luca Asselle. Luca Asselle. Curriculum Vitae. List of Publications. More. Luca Asselle. Curriculum Vitae. List of Publications. List of Publications. One can ask questions about LUCA in various ways, the most common way being to look for traits that are common to all cells, like ribosomes or the genetic code. With the availability of genomes, we can, however, also ask what genes are ancient by virtue of their phylogeny rather than by virtue of being universal. That approach, undertaken recently, leads to a different view of LUCA than we have had in the past, one that fits well with the harsh geochemical setting of early Earth and resembles the biology of prokaryotes that today inhabit the Earth's crust. That was the time during which the last universal common ancestor (LUCA) of all cells lived. LUCA, the tree of life, and its roots. Publications by authors named "Luca Catarinucci". 4 Publications. An animal tracking system for behavior analysis using radio frequency identification. Authors: Luca Catarinucci Riccardo Colella Luca Mainetti Luigi Patrono Stefano Pieretti Andrea Secco Ilaria Sergi. Lab Anim (NY) 2014 Sep;43(9):321-7. Department of Innovation Engineering, University of Salento, Lecce, Italy. View Article. Download full-text PDF. Source. <http://dx.doi.org/10.1038/labani.547>. DOI Listing. September 2014. RFID sensor-tags feeding a context-aware rule-based healthcare monitoring system.