

Martin Andraud, personal statement

10th of October 1988, Clermont-Ferrand, France | Nationality: French

Current address: Pastoor Dergentlaan 39/002, 3200 Aarschot - BELGIUM

+32 (0) 493.30.29.39

martin.andraud@esat.kuleuven.be



Young researcher, I am looking for a research-oriented position, with interests in **resource-efficient** analog/mixed signal circuits, **self-adaptive** and **self-learning** circuits with embedded machine-learning. My experience is a combination between analog/RF design & test, hardware/software co-design, and machine-learning based adaptation algorithms.

Researcher ID: [X-7681-2018](#)

BACKGROUND

(current)

Post-doctoral researcher

KU Leuven -
TU Eindhoven

Project management :
system integration

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Research: hardware-
efficient adaptation
algorithms

Selected papers:

ITC2018

[JETCAS 2018](#)

[ESSCRIC 2018](#)

[SSCL 2018](#)

(2012-2015)

PhD Student

TIMA Grenoble

Design and test of RF
circuits

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Machine-learning
based calibration
algorithms

Selected papers:

[TCAS-I 2016](#)

[DAC 2014](#)

(2012)

Intern

CEA-LETI

Low-power
analog design

EDUCATION

2016	Ph.D. degree in micro and nano electronics – Grenoble-Alpes University, TIMA Laboratory (France). Title of the manuscript: “Solutions for the Self-Adaptation of Wireless Systems” (Defense in June 2016)
2012	Double diploma: master of science and engineering school diploma , respectively from Strasbourg University (France) and Telecom Physics Strasbourg engineering school, specialty micro and nano electronics .
2008	Technician diploma in electronic systems (Clermont-Ferrand, France)
2006	Technical high-school diploma in electronics – (Clermont-Ferrand, France)

APPOINTMENTS

Since Jan. 2019	Post-doctoral researcher , in the context of the NORMA project, ESAT-MICAS group (KU Leuven, Belgium)
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Tasks: scientific development (machine-learning based test of integrated circuits, algorithms and circuits for adaptation of resource-scarce devices)

Jan. 2016 to Dec. 2018	Post-doctoral researcher , in the context of the H2020 FET-open European project PHOENIX, shared between ESAT-MICAS group (KU Leuven, Belgium) and MSM group (TU Eindhoven, The Netherlands)
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Tasks: Project management (responsible for hardware integration), scientific development (proof of concept of adaptation algorithms), scientific communication (publications, conferences), student supervision

Oct. 2012 To Dec. 2015	Ph.D. student – dissertation subject: “Solutions for the self-adaptation of wireless systems”. Advisors: E. Simeu and H.-G. Stratigopoulos TIMA Laboratory, RMS team (Grenoble Alpes University, France)
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Tasks: Scientific development (proof of concept, fabrication and test of RF integrated circuits), scientific communication (publications, conferences)

Feb. 2012 To Sept. 2012	CEA-LETI (Grenoble, France) Research assistant (in internship) , in an energy harvesting project <i>Knowledge:</i> low-power analog circuit design, energy-harvesting devices
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Tasks: Scientific support (conception of integrated circuits), scientific communication (publication).

<div>TEACHING</div> <div>148 hours</div> <div>Exercise sessions, projects, analog and digital IC design</div> <div>SUPERVISION</div> <div>Master student</div> <div>TALKS &</div> <div>Invited talks</div> <div>IOLTS 2018</div> <div>NEWCAS 2015</div> <div>Workshops co-organization</div> <div>ITC 2018</div> <div>GECCO 2017</div> <div>Reviewing activities</div> <div>EXPERTISE</div> <div>Analog and RF design</div> <div>System design and integration</div> <div>Resource-efficient</div> <div>Machine-learning algorithms</div> <div>OTHER</div> <div>Music (drums)</div> <div>Sport (rugby, football)</div>	<div>TEACHING AND SUPERVISION EXPERIENCE</div> <hr/> <div>Polytech' Grenoble engineering school, Saint-Martin d'Hères, FRANCE (2014, 2015):</div> <ul style="list-style-type: none"> Analog and digital electronics (32 hours - exercises), Electronics and instrumentation (48 hours – lab works), « Physical computing » project (48 hours – lab works, advisor) <div>KU Leuven, Master of Electrical engineering, Electronics and Integrated Circuits (2018):</div> <ul style="list-style-type: none"> DCF77 project (20 hours): fabrication of a receiver for DCF77 signals, as a mixed mode integrated circuit (analog & digital flows with Cadence software) <div>Student supervision: D. Rivera “Efficient on-chip machine learning applied to self-learning analog and mixed signal circuits” master thesis, Madrid University (carried out in KU Leuven)</div> <div>INVITED TALKS AND COMMUNICATION ACTIVITIES</div> <hr/> <div>Invited talks in conferences</div> <ul style="list-style-type: none"> M.Andraud, M.Verhelst, “From self-healing to self-adaptive analog and RF ICs: challenges and opportunities”, IEEE International On-line Testing Symposium, invited talk in special session, 2018. M.Andraud, H.-G. Stratigopoulos and E.Simeu, “Self-healing of RF circuits using built-in non-intrusive sensors”, 13th IEEE International New Circuits and Systems Conference, Invited Talk in Special Session, June 2015. <div>Workshop (co-)organization</div> <ul style="list-style-type: none"> Co-organization of the workshop “Exploration of inaccessible environments through hardware/software co-evolution”, the Genetic and Evolutionary Computation Conference, July 2017. Vice program Chair of the “Test and Validation of High Speed Analog Circuits” TVHSAC workshop, held with the IEEE International Test Conference, 2018. <div>Reviewing activities</div> <ul style="list-style-type: none"> <i>Conferences:</i> International Symposium on Circuits And Systems (ISCAS) <i>Journals:</i> Transactions on circuits and systems-I (TCAS-1), Journal of Electronic Testing (JETTA) <div>SCIENTIFIC KNOWLEDGE</div> <hr/> <ul style="list-style-type: none"> Languages - <i>French:</i> native - <i>English:</i> fluent - <i>Dutch:</i> basic (currently learning) Programming: C/C++, Matlab, Latex, LabVIEW, java. Complete microelectronic design flow for analog and RF circuits in advanced CMOS technologies (65nm) - schematic design, layout, pad ring design Use of Cadence suite and ADS software Machine-learning algorithms (neural networks, Bayesian networks), reinforcement learning techniques (Q learning) <div>MISCELLANEOUS</div> <hr/> <div>Music: I play the drums for 15 years, in different bands (organization of concerts, tours, band promotion...). I also write in a web musical blog since 2014.</div> <div>Sport: I regularly practice different sports, as football or touch rugby (Belgian champion 2018)</div>
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CONTACT LIST OF REFEREES

- Prof. Marian Verhelst, KU Leuven (marian.verhelst@kuleuven.be, +32 16 32861)
- Prof. Peter Baltus, TU Eindhoven (p.g.m.baltus@tue.nl, + 31 40 247 3393)
- Dr. Haralampos-G. Stratigopoulos, LIP6, Paris (haralampos.stratigopoulos@lip6.fr, +33 1 44 27 71 20)