

Cristian-Alexandru Alistarh

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LANGUAGES

ROMANIAN Mother tongue
ENGLISH Fluent
FRENCH Basic

EDUCATION

2017 – 2021 **MIMO Automotive Radar and Communications**
PHD IN ENGINEERING
Heriot-Watt University and University of Edinburgh, UK

2015 – 2016 **Sensors and Imaging Systems**
TAUGHT MSc IN PHYSICS
Universities of Glasgow and Edinburgh, UK

2009 – 2015 **Electronics Engineering and Computer Science**
MASTERS OF ENGINEERING
The University of Edinburgh, UK

2004 – 2008 **Mathematics and Informatics**
HIGH SCHOOL DIPLOMA
"Spiru Haret" Regional College, Tulcea, Romania

TEACHING

2018- PRESENT **Teaching Assistant** for Communication Devices and Systems (4th year), High Frequency Circuits (4th year), Antenna Engineering and Applications (5th year)
Heriot Watt University

2015, 2016 **Demonstrator** for the Analogue Mixed Signal Lab (Year 3)
The University of Edinburgh

GRANTS, HONORS & AWARDS

2019/2020 **European Microwave Association (EUMA) Internship Award** awarded for a voluntary 6-months placement during PhD with TNO, Netherlands

2020 **Erasmus+ Grant** awarded for the same placement with TNO

2019 **2x EPSRC Innovation Placement Awards** at Heriot-Watt University, Edinburgh, UK

2018 **Institute for Signals, Sensors and Systems (ISSS) Award** at Heriot-Watt University, Edinburgh, UK

2018 **1st place, Student Paper Competition** at International Symposium on Antenna Technology and Applied Electromagnetics (ANTHEM), Waterloo, Canada

2018 **Principal's Travel Grant** awarded by the Go Abroad Fund, The University of Edinburgh

2018 **Shortlisted for Best Antenna Design and Applications** (among first 5/1035 accepted papers) at European Conference on Antennas and Propagation (EUCAP), London

2017- 2021 **Doctoral Training Partnership** awarded by Engineering and Physical Sciences Research Council (EPSRC)

2015-2016 **Scottish Council Bursary** for Taught MSc in Sensors and Imaging Systems

2009-2015 **Keycom Scholarship** Annual award for UG degree

PAPERS

1. P. Hilario Re, C. Alistarh, S. Podilchak, G. Goussetis, J. Thompson and J. Lee, "*Millimeter-Wave FMCW Radar Development using SIW Butler Matrix for Time Domain Beam Steering*", European Microwave Week (EUMW), Paris, October, 2019

2. C. Alistarh, S. Podilchak, G. Goussetis, J. Thompson and J. Lee, "*Spectral Smoothing by Multiple Radar Pattern Multiplication for Improved Accuracy*", 18th International Symposium on Antenna Technology and Applied Electromagnetics (ANTHEM), Waterloo, Canada, 2018
3. C. Alistarh, P. Hilario Re, S. Rotenberg, T. Strober, S. Rotenberg, S. Podilchak, C. Mateo-Segura, Y. Pailhas, G. Goussetis, Y. Petillot, J. Thompson and J. Lee, "*Millimetre-Wave FMCW MIMO Radar System Development using Broadband SIW Antennas*", 12th European Conference on Antennas and Propagation (EUCAP), London, April, 2018 -

WORK EXPERIENCE

MARCH – SEP 2020

Guest Doctoral Candidate, TNO, Netherlands

The 6-month industrial placement will consist of a series of trials with several signal processing techniques which I will investigate: compressive sensing technique, monopulse beamforming, delay and sum beamforming, and multiple input-multiple-output beamforming.

JAN – SEP 2017

Research Engineer, Heriot-Watt University

I have prototyped a novel MIMO radar for automotive collision avoidance applications. Simulations have been carried in MATLAB and AWR to test the radar performance before demonstrating 24GHz antennas with an Analogue Devices MMIC Radar.

JUN – OCT 2016

Researcher, University of Edinburgh & CENSIS

The project was a collaboration between University and industry on designing a wireless platform. This device allowed building access with a smartphone based on Bluetooth and NFC technology. I have proposed the project after investigating the idea with the Edinburgh University Researchers Society.

JUN – AUG 2015

Android / Web Developer, Keycom PLC

Developed an Android TV app for set-top boxes with Android Studio. Programmed a Python script for routers to automatically load configurations. Used Slim Framework to develop a registration app for the company's entry system.

JUL – AUG 2014

Embedded Software Engineer, ECE Associates

Developed an application upon an existing Bluetooth protocol. This interfaced TI's MSP430F5438 Experimenter Board with a pair-able device. The project used CC256x

modules with Bluetooth v.4.0. At the end of the project, MCUs decoded transmitted data to execute remote tasks in C.

JUN – SEP 2013

Characterization Engineer

Cambridge Silicon Radio (now Qualcomm), UK

Characterised parameters of 28nm Bluetooth Receiver designed from a 40nm process. The research revealed valuable information about CSR's transition to smaller technology nodes. Test benches were developed with MATLAB and MP Lab.

JUNE – AUG 2012

Analogue RF/IC Engineer

Cambridge Silicon Radio (now Qualcomm), UK

I have used Cadence Virtuoso v.6.0 to create simulations for analyzing LNA and Mixer of a Bluetooth Receiver. Both fabricated in 40nm and 28nm CMOS technology. Used Monte Carlo simulations to determine offset due to transistor mismatch. Following this work, a 28nm Bluetooth receiver was tapped out in December 2012.

JUN – AUG 2011

Software Engineer

Keycom PLC, Stafford, UK

Responsible for developing a messaging system running on CISCO IP landlines. SMS relay system configured with UNIX server. Used PHP programming to wrap CISCO IP Phone XML objects. Server querying realized with MySQL.

SOFTWARE SKILLS

ADVANCED	Java, PHP, HTML, CSS, MySQL, LaTeX, MATLAB, Python, Linux, AWR
GOOD	CST, JavaScript, C, C++, Cadence, PCB CAD (Eagle), Office (Word, Excel, PowerPoint)
BASIC	Assembler, Haskell

REFEREES

1. **Dr. Symon K. Podilchak** (1st supervisor)
Associate Professor in Microwave and Antenna Engineering
Heriot-Watt University
Email: S.Podilchak@hw.ac.uk
Telephone: +44 (0)131 451 3335
2. **Prof. John Thompson** (2nd supervisor)
Professor of Signal Processing and Communications
The University of Edinburgh
Email: John.Thompson@ed.ac.uk
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