


PERSONAL INFORMATION

Ruggero Taddei

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 ruggertaddei.wordpress.com

Sex Male | Date of birth 12/02/1984 | Nationality Italian (from Florence)

JOB APPLIED FOR

WORK EXPERIENCE

Mar2015 – now (1.5 yrs)

Principal RF Antenna Design Engineer @ Airbus Defence and Space

Antenna group, Stevenage, United Kingdom (UK)

- Project and design of shaped and multi-beam antennas for telecommunications satellites, both in broadcast Ku-Ka bands and in mobile L-S bands. Expertise in feed horn design
- Customer interaction at proposal and program level

Jan 2012 – Feb 2015 (3 yrs)

Microwave and Antenna Engineer @ Selex-ES, a Finmeccanica company

Radar Engineering Department, Campi Bisenzio, Florence, Italy (IT)

- Project and design of complex antenna systems and microwave devices for avionic and naval applications (X and Ka bands). Leading role in every step of the engineering process of reflector, printed and flat-array antennas, from design to manufacturing and testing.
- Experience with RF test equipment and measurements: planar field scanners and compact range facilities.
- Relationship with suppliers and workshops

EDUCATION AND TRAINING

2016 PRINCE2 certification in Project Management

In preparation - Examination scheduled for October 2016

2015 Ph. D. in RF, Microwaves and Electromagnetism

Microelectronics and Microwave Engineering Laboratory, University of Florence, Florence, Italy

- Theoretical development and implementation of multi-objective optimization algorithms.
- Development of a hybrid MoM-FEM code for 3-D planar finite arrays.

2010 Master's degree in Telecommunications Engineering - Applied Electromagnetism

110/110 summa cum laude

University of Florence, Florence, Italy

- 2 years MSc, main topics: Electromagnetism, Antennas, Radiation, Propagation, Microwaves, Radar, Signal Processing, Signal Coding and Transmission, Cellular Networks.

2008 Bachelor's degree in Computer Systems Engineering

109/110

University of Florence, Florence, Italy

- 3 years BSc, main topics: Mathematics, Physics, Electric and Electronic Engineering, Programming Basics, Software Engineering, Artificial Intelligence, Neural Networks, Computer Networks.

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	Fluent	Fluent	Fluent	Fluent	Fluent
	Studied for 7 years. TOEFL Score: 115/120, taken in 2011, equivalent to C1. <u>Used in everyday practice at work</u>				
French	Fluent	Fluent	Fluent	Very Good	Very Good
	Studied for 13 years. DELF B1, 2002, Institut Français de Florence, Italy <u>Used in everyday practice at work</u>				

Personal skills Good software and hardware engineering skills. Strong problem-solving and communicative skills, both written and verbal. Aptitude to team working and experience with customer interaction.

Computer skills EM simulators and CAD: Ansys HFSS, TICRA POS & GRASP, CST Microwave Studio, Altair FEKO, AWR Microwave Office, Ansys Designer, Agilent ADS.
Programming languages: MATLAB, Python (NumPy, SciPy, Matplotlib, PyQt), C++ (Qt, PETSc, Armadillo), Fortran, VBScript.
Miscellaneous: Windows, Unix Shell, Office, SAP, wireless communication standards (GSM/GPRS/EDGE).

Job-related skills Antenna and wave propagation theoretical background, numerical methods for electromagnetism, CAD modelling, Finite Elements and Method of Moments simulations, high-level programming languages.
Experience with technical specifications redaction and validation.
Experience with RF test equipment (VNAs, near-field and compact-range RF anechoic chambers), radiation performance measurements and test reports publishing.

International Experience I have travelled in many countries across the world, fully organizing each aspect of my journeys by myself.
I can easily get in touch with people of any nationality.
I am used to working in a multi-national and multi-cultural environment.

Other skills Reviewer for IEEE Antennas and Propagation Magazine, IET Microwaves, Antennas & Propagation and Hindawi International Journal of Antennas and Propagation

Résumé published online at ruggertaddei.wordpress.com. Webmaster of rogotad.netsons.org, where many engineering notes are collected, that has become a reference point for engineering students.

Python programmer and developer, created many open source GUI-programs (PyQt) for personal and work-related purposes. Open source electronics and DIY projects.

Amateur photographer and runner

I can live and work in the UK, and continental Europe without restrictions.
I have a full European driving license.

 THESIS

- Ph. D Thesis** Numerical Techniques for Antenna Arrays: Multi-Objective Optimization and Method of Moments Acceleration
Supervisors: G. Pelosi and S. Selleri
Description: Development of a Multi-Objective optimization algorithm for electromagnetics based on Taguchi's quality engineering method, and of a Method of Moments (MoM) acceleration code for antenna arrays via the Array Scanning Method and a Macro Basis function approach.
- Master Thesis** Analysis and Project of Absorbing Surfaces based on Frequency Selective Surfaces
Supervisors: G. Pelosi and S. Selleri
Description: Design of a radar absorbing material realized with a frequency selective surface, manufactured with periodic arrangements of carbon nanotubes.
- Bachelor Thesis** Development of pre-conditioners for the solution of Adaptive Integral Method problems
Supervisors: A. Freni and L. Facheris
Description: MATLAB implementation of pre-conditioning techniques (ILUT and SPAI) for the solution of linear systems arising from the discretization of integral equation systems..

 PUBLICATIONS

- [1] R. Taddei, G. Guarnieri, G. Mauriello, G. Pelosi, and S. Selleri, "A fast MoM code for finite arrays," European Microwave Conference, EuMW, Rome, October 2014.
- [2] E. Agastra, G. Pelosi, S. Selleri, and R. Taddei, "Multi-Objective Optimization Techniques," 2014, Wiley Encyclopedia of Electrical and Electronics Engineering, John Wiley & Sons, Inc.
- [3] R. Taddei, G. Guarnieri, and G. Mauriello, "Automated Waveguide Array - Integrated Design Environment (AWA-IDE): An Automated and Modular Tool for Planar Waveguide Array Synthesis and Analysis," *IEEE Antennas and Propagation Magazine*, vol. 55, no. 4, pp. 204–216, 2013.
- [4] R. Taddei and G. Guarnieri, "Automated Waveguide Array Design with Ansys HFSS 15 IronPython scripting," in *ANSYS User Meeting/High Frequency Simulation Conference*. Salsomaggiore Terme, Italy, June 2013.
- [5] E. Agastra, G. Pelosi, S. Selleri, and R. Taddei, "Taguchi's Method for Multi-Objective Optimization Problems," *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 23, no. 3, pp. 357–366, 2013.
- [6] G. Pelosi, S. Selleri, and R. Taddei, "A Novel Multiobjective Taguchi's Optimization Technique for Multibeam Array Synthesis," *Microwave and Optical Technology Letters*, vol. 55, no. 8, pp. 1836–1840, 2013.
- [7] U. d'Elia, G. Pelosi, S. Selleri, and R. Taddei, "Finite Element Design of CNT-based Multilayer Absorbers," *COMPEL: The International Journal for Computation and Mathematics in Electrical and Electronic Engineering*, vol. 32, no. 6, pp. 1929 – 1942, 2013.
- [8] N. Breda, G. Pelosi, S. Selleri, and R. Taddei, "Finite Element Analysis of Wideband Nanostructures for Photovoltaic Applications," in *11th International Workshop on Finite Elements for Microwave Engineering-FEM2012*. Estes Park, Colorado, USA, June 2012.
- [9] U. d'Elia, G. Pelosi, S. Selleri, and R. Taddei, "A Carbon Nanotube Based Frequency-Selective Absorber," *International Journal of Microwave and Wireless Technologies*, Cambridge University Press, vol. 2, no. 5, pp. 479–485, October 2010.
- [10] U. d'Elia, G. Pelosi, S. Selleri, and R. Taddei, "A Carbon Nanotubes-Based Material for High Absorption FSS Layers," in *10th International Workshop on Finite Elements for Microwave Engineering-FEM2010*. Meredith (NH), October 2010.
- [11] U. d'Elia, G. Pelosi, S. Selleri, and R. Taddei, "Finite Element Design of CNT-based Multilayer Absorbers," in *IV Italian Workshop The Finite Element Method Applied to Electrical and Information Engineering*. Roma Tre, Rome, December 2010.

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