

# Alessio Benedetti, Dr. Eng. PhD

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## Summary of Experiences and Qualifications

### **Hard Skills:**

- Proficiency in Matlab, C, C++, Fortran, Pascal, Basic, parallel computing, Lumerical Suite, Comsol Multiphysics 5.x/3.x, Microsoft Office Suite, Labview, x86 and PIC Assembly, PIC Microcontroller programming, Sketchup Google/Make, 3D Rendering in Kerkythea
- Strong background (MSc – 5 years course “V.O.” ante-d.m.509/99 + PhD in electromagnetism + 6 years PostDoctoral fellow) in Electronic Engineering with special abilities in Nonlinear Optics, Plasmonics, Silicon Photonics, Semiconductor Laser Devices, Optoelectronics, Micro/Nano-Fabrication, Theoretical Physics (especially Relativistic Mechanics), Numerical Modeling&Coding
- Knowledge on CMOS/Bipolar technology, electronic circuits and solid state physics, analog and digital signals, electrical noise sources, frequency tuning on laser devices
- High experience (>10 years) in mathematical modeling, numerical analysis with multi-level algorithms, advanced geometry design and experimental data analysis
- Working knowledge of UNIX OS (Ubuntu, Fedora), proficient in using MS-Windows and MS-Office suite (daily use)

### **Soft Skills:**

- Graphical skills and artistic experience in handmade and CGI-driven design (proven by several scientific journal covers, thumbnails and graphic art)
- Capable of inventing, organizing and re-structuring articulated algorithms to solve problems and treat large amount of data; fast in acquiring knowledge on always new programming languages
- Conceived, wrote and published (>20 full-indexed) scientific articles, and presented his work in important international conferences (>25 conference proceedings)
- Was active part of major Italian and European scientific projects at academic, industrial and military levels; wrote patent documents, reports and technical documentation for funded projects (Italian Ministry of Self-Defence) and cared about routine correspondence in English
- Able to prepare and form students as future cooperators in many scientific and technical arguments
- Experienced in working in multidisciplinary professional team settings
- Opened and handled collaborations with various institutions in order to gather resources for his projects

## **Current and Previous Occupations**

- Postdoctoral reasearcher for DIET Department at “Sapienza: Università di Roma” (1 year)
- Postdoctoral reasearcher for DET Department at “Politecnico di Torino” (1 year)
- Model developer, data analysis expert and programmer for “Energie Etiche s.r.l.” (18 months)
- Professor across high schools in Informatics and Phisics (>3 years)
- Postdoctoral reasearcher for SBAI Department at “Sapienza: Università di Roma” (>5 years)

## **Known Languages:**

- **English:** fluent spoken, fluent written
- **Italian:** mother tongue

## **EDUCATION**

- ***Philosophy Doctor (PhD) in Electromanetism***
  - Title received: 15 April 2009 (starting in 2005 - XXI° Cycle)
  - Insitution: “Sapienza: Università di Roma”, SBAI Department
  - Thesys title: “Analytical and Numerical Approach on Advanced Techniques for MW, THz and Optical Manipulation via Linear and Nonlinear Devices“
- ***Full Engineering License for Civil, Industrial and Information sectors***
  - Title received: 20 June 2006
  - Insitution: “Sapienza: Università di Roma”, Faculty of Engineering
- ***Master Degree (italian “Vecchio Ordinamento” alias Ord. ante D.M.509/99, lasting 5 years) in Electronic Eeineering***
  - Title received: 28 October 2005
  - Insitution: “Sapienza: Università di Roma”, Faculty of Engineering
  - Final score: 110 cum Laude /110
  - Thesys title: “Interazioni Parametriche del Terzo Ordine in Cristallo Fotonico” (“Nonlinear third-order paramtric interactions in photonic crystals”)

## **REFERENCES**

### **Prof. Luigi Palumbo ( luigi.palumbo@uniroma1.it )**

Full Professor at S.B.A.I. Department, “Sapienza, Univeristà di Roma”, Via Antonio Scarpa N.16, I-00161, Rome (Italy)

### **Prof. Adriana Passaseo ( adriana.passaseo@nanotec.cnr.it )**

Senior Researcher at the Nanotec Institute for Nanotechnologies of CNR, UoS, I-73100 Lecce (Italy)

### **Prof. Fabrizio Frezza ( fabrizio.frezza@uniroma1.it )**

Full Professor at D.I.E.T. Department, “Sapienza, Univeristà di Roma”, Via Eudossiana N.18, I-00184, Rome (Italy)

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