



**Europass
Curriculum Vitae**

Personal information:

First name(s) / Surname(s): **Mario Zitelli**

Address(es):

Telephone(s): **Mobile:**

E-mail:

Nationality: **italian**

Date of birth:

Gender: **Male**

**Desired employment /
Occupational field:** **Optical and RF Engineer, Ph.D.**

National work experience:

Dates: **March 2003 → now**

Occupation or position held: **Director.**

Main activities and
responsibilities:

Project engineer, Consulting, R&D in the fields of Optoelectronics, RF and Telecommunications.

Design of new generation photovoltaic concentrators "EGC", based on engineered graded-index dielectric (published on Applied Optics Vol. 53, No. 9, March 2014).
Design of RZ-DQPSK (Return to Zero - Differential Quadrature Phase Shift Keying) optical transmitter based on a new use of a single Mach-Zehnder electro-optical modulator (SM-RZ-DQPSK, US patent no. US 7398022 B2).

Design of new optical modulation format based on optical phase and intensity, particularly suitable for ultra-dense wavelength division multiplexing (PhIM, US patent no. US 7349636 B2).

Design of advanced fiber transmission system based on dispersion managed solitons (European patent ITRM2002A0223 A1).

Design and development of scientific software for the numerical simulation of core transmission networks (Optolink Numerics, published at SIAE national patent office).

Design and development of new photometric systems for light fixture testing.

Name and address of employer: **Photoneco Ltd, Via A. Codivilla 11, I-00152 Rome, Italy**
<http://www.photoneco.com>

Type of business or sector: **R&D and consulting company. It provides engineering and deployment of advanced photovoltaic systems, LED lighting and telecommunication networks; consulting services, training/learning and generation of high technology intellectual property in the fields of photonics, optical communications, lighting and photovoltaics.**

Dates: September 2017 → now
Occupation or position held: Senior Scientist.
Main activities and responsibilities: Design of LED lights for airfield applications.
Name and address of employer: OCEM Airfield Technology, Via della Solidarietà 2/1, I-40056 Valsamoggia (BO), Italy
<http://www.ocem.com>
Type of business or sector: Design and production of light and electrical power systems and for the airfield.

Dates: September 2009 → June 2017
Occupation or position held: Research and Development Manager.
Level "quadro, CCNL metalmeccanici PMI".
Main activities and responsibilities: Project manager and project engineer.
Project manager for the design of photometric instruments for airfield applications.
Responsible for the design and production of target processor software for a S-band Primary Radar receiver.
Study of innovative algorithms for radar signal processing and target tracking.
High-tech consulting to third party, with project responsibility.
Participation to NATO and European R&D and engineering projects.
Generation and publication as co-inventor of the international patents US2011/0032519 and ITRM2007A000679, concerning photometric systems.
Author commercial softwares SMFPapiField and SMFSignCalc, published at SIAE bureau in 2012.
Name and address of employer: Argos Ingegneria SpA, Via Tiburtina 1166, I-00156 Rome, Italy
<http://www.argosingegneria.com>
Type of business or sector: Design and production of photometric instrumentation for airfield maintenance and testing.

Dates: February 2002 – August 2009
Occupation or position held: Board of management.
Senior Engineer, 9° level "quadro, CCNL metalmeccanici PMI".
Main activities and responsibilities: Research, development and engineering in the fields of Optoelectronic and Telecommunication Engineering, in the framework of consulting activities performed in several high-tech companies.
Participation to NATO and European R&D and engineering projects.
Production of patents and technical reports.
Name and address of employer: TelCon srl, Via F. P. De Calboli 9, I-00195 Rome, Italy.
Type of business or sector: Consulting company providing advanced engineering. R&D in the fields of optical networks and optoelectronics.

Dates: March 2008 - September 2008
Occupation or position held: Project Engineer.
Main activities and responsibilities: In the framework of "Atlas" NATO project: design and modeling of Obstacle Warning, Active Imaging, Range Finding, Direct Countermeasures Systems.
"Atlid" European project: design, thermal and optical characterization of optoelectronic and satellite devices.
Participation to technical and management meetings. Co-operation with European partners (Diehl, Thales, Italian Air Force).

Name and address of employer: Selex-Galileo (now Leonardo Company), Via dei Castelli Romani 2, I-00040 Pomezia (Rome), Italy
<https://www.leonardocompany.com/en/finmeccanica-nel-mondo/international-presence-2/italy-3>

Type of business or sector: Avionic and defense systems, satellite and avionic optoelectronics.

Dates: September 2004 - September 2005

Occupation or position held: Project Engineer.

Main activities and responsibilities: "Nemo" European Project: numerical simulation, design and production of a submarine SDH/WDM optical network for the transmission of photometric data produced by neutrino sensors.

Name and address of employer: Istituto Nazionale di Fisica Nucleare (INFN, Catania) e Istituto Superiore delle Comunicazioni (ISCOM, Roma)

Type of business or sector: Research and development in the fields of nuclear physics and optical communications.

Dates: January 2003 - July 2003

Occupation or position held: Project Engineer.

Main activities and responsibilities: "Vulcano" NATO Project: design and production of a photometric satellite device. Development of application software performing the simulation of satellite and aerial image remote-sensing.

Name and address of employer: Otomelara, Via Valdilocchi 15, I-19136 La Spezia, Italy
<http://www.finmeccanica.com/business-mercati-markets/settori/sistemi-difesa/otomelara>

Type of business or sector: Naval, terrestrial and aerial weapon systems.

Dates: February 2000 – February 2001

Occupation or position held: Senior Scientist.
Level A "CCNL Industria Gomma e Plastica".

Main activities and responsibilities: System engineer and responsible for the design of fiber optic WDM transmission systems, for both terrestrial and submarine MAN and WAN networks. Design of long-haul submarine WDM transmission systems. Development of application and scientific software performing optical networks modeling.

Name and address of employer: Pirelli Submarine Telecom Systems, V.le Sarca 222, I-20126 Milano, Italy
<http://www.pirelli.com>

Type of business or sector: Design and production of optical submarine networks.

International work experience:

Dates: January 2002 - December 2002

Occupation or position held: Project Engineer.

Main activities and responsibilities: Design and production of RF digital filters for the dispersion compensation and the reduction of transmission impairments. Development of scientific software performing the simulation of telecommunication network devices and systems.

Name and address of employer: Santel Networks Inc., 34304 Portia Terrace, Fremont, California 94555-2612

Type of business or sector:	Design and production of RF devices and RF filters for optical networks.
Dates:	February 2001 – September 2001
Occupation or position held:	Senior Scientist. 9th level “quadro, CCNL Metalmeccanici PMI”.
Main activities and responsibilities:	Design and production of high speed transponders based on optical polarization, at Rome and Long Beach Lab sites. Development of scientific software for the modeling of telecommunication systems and devices.
Name and address of employer:	QPlus Networks Italia srl, Vle America 93, I-00144 Rome, Italy Qplus Networks Inc., 3780 Kilroy Airport Way, Suite 440, Long Beach, California 90806
Type of business or sector:	Design and production of advanced optical modulation devices.
Dates:	October - November 2010
Occupation or position held:	Project Engineer.
Main activities and responsibilities:	Consulting and design review activity in the framework of a project for the development of an ADS-B surveillance radio/router system.
Name and address of employer:	Selex System Integrations, Overland Park, Kansas, USA
Type of business or sector:	Telecommunications and Avionic electronics.
Dates:	May 2014
Occupation or position held:	Teacher.
Main activities and responsibilities:	Training course on optical and avionics systems.
Name and address of employer:	FAA Technical Center, Atlantic City, NJ, USA
Type of business or sector:	Civil aviation authority.
Dates:	September 2012
Occupation or position held:	Teacher.
Main activities and responsibilities:	Training course on optical and avionics systems.
Name and address of employer:	NBP corp., Claremont, CA, USA
Type of business or sector:	Telecommunications and Avionic optoelectronics.
Dates:	June 1998 - September 1998
Occupation or position held:	Stage.
Main activities and responsibilities:	Participation to “Terabit” project, aimed at the implementation of the first WDM long-haul system with capacity of 1 Tbit/s over 1000 km distance. Theoretical and experimental study of advanced WDM solitonic optical communication systems and devices.
Name and address of employer:	CNET-France Télécom, 2 Avenue Pierre Marzin, F-22300 Lannion, France
Type of business or sector:	Research, development and engineering of optical communication devices.

Education and training:

- Dates: October 1995 - June 1999
- Title of qualification awarded: Ph.D. degree in "Applied Electromagnetism".
- Principal subjects/occupational skills covered: Theoretical and experimental study of new generation advanced optical devices and fiber telecommunication systems.
Production of theory and numerical modeling for high speed transmission in optical fibers.
Use of instruments and devices for the core networks, optical and optoelectronics components, high power and telecommunication lasers.
Ph.D. thesis title: "Theoretical and experimental study on temporal and spatial optical solitons, and applications for the telecommunications".
In the three years course period I carried out teaching activities and support to the students examination.
- Name and type of organisation providing education and training: Fondazione Ugo Bordoni (FUB), Viale America 201, I-00144 Rome, Italy
<http://www.fub.it>
Università di Roma "La Sapienza", Dipartimento di Energetica, Via A. Scarpa 14, Rome, Italy
<http://www.uniroma1.it>
- Level in national or international classification: ISCED 2011: 8 (844)
- Dates: October 1996
- Title of qualification awarded: Certification for the Engineer Profession (joined to the "Ordine Ingegneri della Provincia di Roma" since 2005).
- Name and type of organisation providing education and training: Università di Roma "La Sapienza".
- Dates: October 1987- July 1995
- Title of qualification awarded: Laurea Degree in Electronics Engineering.
- Principal subjects/occupational skills covered: Electronics, EM fields, RF systems, high speed transmission systems.
- Name and type of organisation providing education and training: Università di Roma "La Sapienza", Dipartimento di Energetica, Via A. Scarpa 14, Rome, Italy.
- Level in national or international classification: ISCED 2011: 7 (746)
- Dates: November 2005 - November 2006
- Title of qualification awarded: Cisco CCNA industrial certification, with VoIP bundle course.
- Principal subjects/occupational skills covered: Design of telecommunication networks, from physical to application layer.
Programming of Cisco routers and switches.
Programming of VoIP systems.
- Name and type of organisation providing education and training: Cisco Academy at Elis, Via Sandro Sandri 71, I-00159 Rome, Italy.

Dates: November 2007
 Title of qualification awarded: Course for the design of electric power systems and photovoltaics.
 Name and type of organisation providing education and training: Ingegneri Romani, Rome, Italy.

Dates: April 2000
 Title of qualification awarded: Project Management course.
 Name and type of organisation providing education and training: Pirelli, V.le Sarca 222, I-20126 Milano, Italy.

Personal skills and competences:

Mother tongue(s): **Italian**

Other language(s):

Self-assessment:
 European level (*):

English:

French:

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
C1	Proficient user	C1	Proficient user	C1	Proficient user	B2	Independent user	B2	Independent user

(*) Common European Framework of Reference for Languages

Organisational skills and competences: R&D manager. Company director.
 20 year experience in R&D, project and engineering management.

Technical skills and competences: R&D-level acquaintance of communication networks protocols and techniques: LAN networks (Ethernet, Token Ring etc.), MAN (FDDI, ATM, Metro Ethernet), WAN (Sonet/SDH, ATM, Frame Relay, MPLS) and access (FTTH, DSL, WiFi etc.); protocols TCP/IP, VoIP, Wavelength Routing, PPP, ARP, IGP, ICMP, DNS, WCDMA, TDMA, CDMA, FDMA; architectures (GSM, UMTS, PSTN, NGN, IMS).
 Advanced experience in optical network protocols and technologies (WDM, SDH, optoelectronic devices), and RF transponders.
 Design of primary radar systems.
 In-depth knowledge of new generation photovoltaic systems and concentrators.

Used instrumentation:
 Digital oscilloscope 1 GS/s, Vector Network Analyzer 20 GHz, BER analyzer (Bit Error Rate) up to 20 Gbit/s, Optical Transponders, RZ and NRZ 10 Gbit/s, Direct modulation lasers 2.5 Gbit/s, OTDM (Optical Time Domain Multiplexer), FEC devices (Forward Error Correction) at 10.7 Gbit/s, Erbium-doped fiber amplifiers, Digital RF filters for dispersion compensation and transmission impairments correction, Optical and optoelectronic components, Electronic and RF components.

Computer skills and competences: 20 year programming experience in:
Visual Studio .Net (C#, Visual Basic) (very good)
Visual Fortran (very good)
C++ (good)
Use of the following scientific and CAD softwares:
Matlab (very good)
Mathcad (good)
TracePro, Zemax (optical CAD, very good)
LabView (good)
SolidWorks with CosmosWorks, AutoCAD, Rhinoceros (mechanical CAD, good)
Altium Designer (electronic CAD, good)
Optolink Numerics, OptSim, Virtual Photonics (optical networks CAD and simulation, very good)
RelCalc (MTBF analysis, good)
COMSOL Multiphysics (EM fields FEM simulator, good).
Very good use of the common office software (Office for Windows, OpenOffice for Linux).
Experience of Windows, Unix, SUN Solaris operative systems.

Driving licence: Car driving license.

Additional information: Author and currently holder of 5 patents concerning new high speed transponders and optical modulation formats (published at USPTO at no. US007349636, US7398022 and at the Italian Patent Office at no. IT1332859), and an innovative photometric device for the measurement of precision approach path indicators (patent applications US2011/0032519 e ITRM2007A000679).
Author of commercial software for the design and simulation of high speed communication networks.
Author of over 20 published papers on international journals and conference proceedings.
Referee activity for international optoelectronics publications by IEEE and Optical Society of America.

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".