

Donato Orlandi

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Summary

A summary of topic of study, professional life and achievements

I got high skills in 3D Design and in Finite Elements Method Simulations in Mechanics (statics and dynamics) and Fluid Dynamics at the college times. This kind of profile was further developed during the experience (still present) at INFN on studying and mechanical designing of the experimental detectors in astro-particles physics. I got experience in programming, conducting and maintenance of multi-axis robotized systems for the mass production of experimental complex components. Since the beginning I held managing tasks as project leader during design, optimization and installation of experimental devices. I'm member of scientific commissions for First Grade Fellows and Post PhD Fellows assignment at INFN, author of engineering internal technical notes and engineering technical books, co-author of scientific articles in matter of astro-particles physics

and co-author of bachelor's and master's degree thesis. I have been responsible for the 2007-2013 FESR PO EU protocol about 3D printing techniques by photo-polymerization (SLA) of plastic resins and actually I'm responsible of the INFN LNGS technology transfer and technological innovation protocol about 3D printing techniques by photo-polymerization (SLA, DLP and MJP) of plastic resins and by powder bed based systems (SLM) of metal powders. I'm actually coordinator of the approved and funded 9.8M€ MIUR Italian National Operative Plan ARS010-0717 MAD on Advanced Technologies in Additive Manufacturing, founder and coordinator of the National INFN Hub HAMMER - Hub for Additive Manufacturing, Materials Engineering and Research and I'm involved in several experimental studies about research and characterization of innovative materials for industrial and scientific purposes.

Working Experience

INFN-Gran Sasso National Laboratory/LNGS

II Level Senior Engineer Permanent Staff

ASSERGI (AQ), ITALY

Jun '19 – Present

- Coordinator of the 9.8M€ MUR Italian National Operative Plan ARS010-0717 MAD on Advanced Technologies in Additive Manufacturing
- Founder and Coordinator of the National INFN Hub HAMMER - Hub for Additive Manufacturing, Materials Engineering and Research (<https://hammer.lngs.infn.it>)
- LNGS Advanced Mechanics Service Responsible
- Engineering Integration Responsible for XENON NT Experiment
- Responsible for the LNGS Technology Transfer and Technological Innovation about high resolution 3D Printing Techniques by photo-polymerization of plastic resins
- Responsible for the LNGS Technology Transfer and Technological Innovation about high resolution 3D Printing Techniques by selective laser melting of metals powders

INFN-Gran Sasso National Laboratory/LNGS

III Level Senior Engineer Permanent Staff

ASSERGI (AQ), ITALY

Apr '10 – Jun '19

- Engineering Integration Responsible for XENON 1T Experiment
- Mechanical Designer and Responsible for the Engineering Optimization of the Cryostat for XENON 1T Experiment
- Mechanical Designer and Responsible for the Engineering Optimization and Installation Procedure of the 100T Standard Lead External Shield for CUORE Experiment
- Mechanical Designer and Responsible for the Engineering Optimization and Installation Procedure of the 7T Roman Lead Internal Side Shield for CUORE Experiment
- Mechanical Designer and Responsible for the Engineering Optimization and Installation Procedure of the 4T Standard Lead Internal Top Shield for CUORE Experiment
- Responsible for LNGS 2007-2013 FESR PO EU protocol about 3D printing techniques by photo-polymerization of plastic resins

INFN-Gran Sasso National Laboratory/LNGS

ASSERGI (AQ), ITALY

III Level Junior Engineer Temporary Staff

Oct '06 – Apr '10

- Mechanical Designer and Responsible for the Engineering Optimization and Installation Procedure of the 100T multi-axis motorized platform for CUORE Experiment
- Mechanical Designer and Responsible for the Engineering Optimization of the $Cu - Te^{130}O$ Detector for CUORE Experiment
- Mechanical Designer and Responsible for the Engineering Optimization and Installation Procedure of the Gluing Thermistors Automatic Robotized Machine for CUORE Experiment
- Mechanical Designer and Responsible for the Engineering Optimization and Installation Procedure of the Brick Assembly Machine for OPERA Experiment
- Technical Supervisor and Maintenance Responsible of the Brick Assembly Machine for OPERA Experiment

INFN-Gran Sasso National Laboratory/LNGS

ASSERGI (AQ), ITALY

Senior Research Associate

Oct '04 – Apr '06

- Mechanical Designer and Responsible for the Engineering Optimization and Installation Procedure of the Shielding System for XENON100 Experiment
- Mechanical Designer and Responsible for the Engineering Optimization of the Detector for XENON100 Experiment
- Technical Supervisor and Installation Responsible of the Target Section for OPERA Experiment
- FEM Analyst for Statics and Dynamics of the Target Wall for OPERA Experiment
- Mechanical Designer and Responsible for the Engineering Optimization and Installation Procedure of the Detector Handling Mechanical System for WARP Experiment

INFN-Gran Sasso National Laboratory/LNGS

ASSERGI (AQ), ITALY

Junior Research Associate

Oct '02 – Apr '04

- Mechanical Designer and Responsible for the Engineering Optimization and Installation Procedure of the VETO System for OPERA Experiment
- Mechanical Designer and Responsible for the Engineering Optimization and Installation Procedure of the XPC System for OPERA Experiment
- Responsible for the Alignment and Survey of the Super Module 1 and Super Module 2 for OPERA Experiment
- FEM Analyst for Statics and Dynamics of the GRPC Detectors for OPERA Experiment

Education

University of Rome - La Sapienza - Aerospace Department

ROME, ITALY

Master Degree in Aerospace Engineering

1996 – 2001

Focused on Aerospace Structures Mechanical Design and Optimization Test, Flight Mechanics, Fluid Dynamics and FRF Methods to investigate Effective Damage on Launchers

Lyceum Gymnasium - A.Torlonia

AVEZZANO (AQ), ITALY

Diploma in Classic Studies

1991 – 1996

Focused on Latin and Ancient Greek Grammar and Literature

Skills

Technical specialties: Mechanical Design: Dassault Systemes CATIA V5, Dassault Systemes SolidWorks, Dassault Systemes 3DEXperience - FEM Simulation: CATIA V5, COMSOL MultiPhysics, MSC Patran/Nastran, SolidWorks, ANSYS - STL Managing: MAGICS, EnvisionTec Perfactory - Operative System: UNIX, Mac OS, Win - Graphic Design and Editors: Inkscape, Blender, \LaTeX