

## **CURRICULUM VITAE**

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| Name and Surname: | Alberto BIGAZZI       |
| Title:            | PhD                   |
| Born :            | Milano (IT), 1968     |
| Nationality :     | Italian               |
| Marital status:   | Married               |
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### **AREAS OF INTEREST**

Earth Observation. Remote sensing (Radar, Optical). Navigation and GNSS systems. Space environment.

### **SPECIALITIES:**

System Engineering; Requirements Engineering; Qualification (Verification and Validation) Engineering. Mission concept and design. Program Management. Proposal Management. SW Quality Assurance. Signal Processing and Data analysis. Fluid Dynamics and CFD.

### **PROFILE**

A consultant at Altran Italy, Alberto Bigazzi has worked as Verification & Validation engineer, Program Manager and SW Quality Assurance Engineer for customers such as Thales Alenia Space, Telespazio, Carlo Gavazzi Space, Rheinmetall Space and Scientific Institutions. He has been involved in major programs for Earth Observation, Science and Telecommunications, such as Sentinel-1, COSMO-Skymed, Sabrina, Adaheli, SICRAL, Swift, Agile, Miosat.

He has managed many Proposals to ASI, ESA (ITT's), EU (FP7), NASA and has ongoing collaborations with scientific Institutions in Europe and overseas on Mission for Solar Observation and Lunar Exploration.

He is Associate to the National Institute for Astrophysics (INAF) and is COSPAR Delegate since 2004.

A long-standing background as a scientist, he earned his PhD in Physics in 1999. He has worked at NASA/JPL, Earth and Space Sciences Divisions from 2001 to 2003. He has worked and lived in the USA, UK, Portugal.

He has earned a Master's degree in Engineering on Satellite Navigation and Telecommunication, with a project on outliers detection in GPS signals carried out at Telespazio (IT).

Languages: Italian (mother tongue) English (fluent), French, Portuguese.

## PROFESSIONAL EXPERIENCE

- Date: June 2006 - present.

**Altran Italia**, Altran Group. Senior Consultant.

Main Customers: *Thales Alenia Space, Carlo Gavazzi Space, Rheinmetall Space, University of Rome "Tor Vergata"*

Current Programs:

- Sentinel-1 (ESA) Phase B2. Support to the PA Manager.

- ADAHELI Solar Mission (ASI), Phase A. Science Program Manager. System Engineer (requirements engineering).

Past Programs:

- COSMO-Skymed (Radar Constellation for Earth Observation).

Phases D and E: Verification and Validation Engineer. End-to-End System Operational Validation (Pre-launch). In-Orbit Testing, E2E chain.

- F-DUGS, Defense User Ground Segment: System Operational Validation plans and Test Specifications.

- SABRINA (ASI), interferometric radar formation flying Mission.

Phase A: Design and Development Plan; Verification and Validation Plan

- MIOSAT (Microsatellite Platform for Earth Observation).

Phase A: System Engineer: Requirements engineering.

- Study for an Optical payload for a Precursor Mission to the Moon.

- Date: Feb 2006 - Giu 2006.

**Dataspazio** S.p.A. (Finmeccanica Group).

At ASI (Italian Space Agency) Scientific Data Center, ESA-ESRIN establishments (Italy). Programs: SWIFT (NASA) and AGILE. Software Engineer, Development and maintenance of the SW processing pipeline for the mission's data and archive. Integration within the NASA HEASARC software package for Scientific Missions Support. Support to the Scientific User's community.

Programme: Sicral 1B (IT DEFENSE, TLC). System Engineer. Verification and Validation procedures for the Satellite Control Center (CCS).

- Date: Feb 2005 - Gen 2006

**Telespazio** S.p.A., (Finmeccanica Group)

Programme: COSMO-SkyMed. Phases C/D. Responsible, Ground Segment's Dependability and Safety analyses ( RAMS ). Quality Assurance Engineer ( ISO-9001 , ECSS and NATO AQAP 160/2100 Standards ). Responsible, Code Inspection activities on the Ground Segment. Configuration Control: development of Software Tools and procedures for Software Problem Reporting and Management.

Programme: "MARISS" (ESA/GMES - for Maritime Security). Quality Assurance Manager. Configuration Manager.

Development of algorithms for error detection in GPS signals.

- Date: Nov 2003 - Jan 2005

**University of Porto** (PT), Applied Mathematics. Research position.

Interplanetary medium; Solar Wind. Data analysis.

- Date: Nov 2001-Nov 2003

**NASA Jet Propulsion Laboratory**, Earth and Space Sciences Division (USA).

Guest Investigator, NRC (USA) post-doctoral Associate. Solar Dynamo, Solar magnetism. Planetary magnetism.

- Date: 1999 - 2001

**Politecnico di Milano** (IT), Department of Mathematics, Engineering Faculty. Post-doc and lecturship appointment.

Termo-fluid dynamics and Combustion. CFD modelling and simulations of fast combustion processes. Sub-grid scales modeling of turbulence, for CFD simulations.

Lecturer in Rational Mechanics, (60 hours courses, exercises classes).

### **ASSOCIATIONS**

Since Dec. 2006: INAF (National Institute for Astrophysics) Associate.

Since 2004: COSPAR Delegate.

### **TEACHING**

1999-2000 Lecturer, Rational Mechanics, Exercise classes (60 hrs.), Politecnico di Milano

1998-1999 Lecturer, Rational Mechanics, Exercise classes (60 hrs.), Politecnico di Milano

### **LANGUAGES**

Mother tongue: Italian

English: fluent, both in writing and speaking.

French: good understanding. Fair speaking.

Portuguese: good understanding. Fair speaking.

## EDUCATION

- Date: Gen 2005 - Gen 2006
- **Master's Degree** (*M.Eng*), “Advanced Satellite Communication and Navigation Systems”, Department of Electronic Engineering, University of Tor Vergata, Rome, Italy.  
Main curriculum subjects: Satellite Systems Electronics: microwave and radio-frequency systems; antennas.  
Signal Processing: channel coding, modulation, link budget, communication payloads.  
Satellite Navigation: radio navigation, GPS, GALILEO. Augmentation systems. Air Navigation and Traffic Control.  
Space Project planning and management: business plans, investment analysis, project management.
- Date: March 1999
- **PhD in Physics**, University of L'Aquila (IT). Supervisors: Prof. Axel Brandenburg (Newcastle). Prof. U. Villante (L'Aquila)  
Subject: Astrophysical magnetic fields and fluid dynamics;
- Date: 1996-1999
- Postgraduate student, University of Newcastle upon Tyne (UK). Hydromagnetic turbulence. Plasmas in Astrophysics. High Performance and parallel coding for Supercomputers.
- Date: February 1995
- **Laurea degree in Physics**, Università di Roma (IT) “La Sapienza”, final grade 110/110.  
Thesis Subject: Statistical Mechanics, disordered systems (Spin glasses, Neural Networks).  
Key curriculum subjects: Solid State Physics, Micro electronics, Superconductivity, Atomic and particle Physics, Probability and Statistics.

## SELECTED PRESENTATIONS

- 07/2008  
Berrilli,F., Bigazzi A. Roselli,L., Velli,M. and the ADAHELI Team  
*ADAHELI: Investigating the structure of Sun lower atmosphere* 37th COSPAR Scientific Assembly, Montreal (CA).
- 11/2007  
F.Berrilli, A.Bigazzi, F.Manni, A.Ruzmaikin, N.Murphy, 2007  
*The Moon as a Platform for High Resolution Solar Imaging* , ILEWG 9th International Conference on Exploration and Utilization of the Moon - ICEUM9/ILC2007 - Sorrento, Italy - 22/26 October 2007.
- 06/2007  
Bigazzi et al., 2007  
*Anisotropy and universality in Solar Wind turbulence. Ulysses spacecraft data*, 11th EU-ROMECH European Turbulence Conference, June 25-28, 2007, Porto, Portugal
- Nov 2006, Moscow Academy of Sciences  
Invited Talk. Bigazzi et al. *Rationale for a Solar Telescope oon the Moon*  
Third Moon-Base Conference - A Challenge for Humanity. Moscow, 16-17 Nov 2006
- Oct 2004, Nice Observatory  
Bigazzi A. *Preferred Longitudes and the Solar Dynamo*. Invited Talk
- Jul 2004, COSPAR Assembly  
Bigazzi A., Ruzmaikin A.A. "Preferred longitudes and the solar dynamo."  
COSPAR Scientific Assembly Paris, France, 18 - 25 JULY 2004