PERSONAL INFORMATION

Marco Gregnanin

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Skype marco.gregnanin1

Sex Male | Date of birth 09 June 1982 | Nationality Italian

POSITION

Senior Aerospace Engineer, Senior Software Developer, ICT Administrator, Project Manager, Product Manager

WORK EXPERIENCE

Feb 12 - Present

Research Fellow, Senior Consultant

Radio Science Laboratory - DIMA (Dept. of Mechanical and Aerospace Engineering) - Sapienza, Università di Roma
Via Eudossiana 18, 00184 Roma (Italy)
http://radioscience.dima.uniroma1.it

- Software development for orbit determination, simulation and scientific data analysis for interplanetary missions
- Modelling, software design, and development for open loop signal processing (PLL)
- Design of radio science experiment for the ESA AIM mission (ESA/GMV COPINS)
- Design of End-to-End simulation chains for planetary space missions (ESA/GMV SS-E2ES)
- Tracking systems performance assessment
- ICT administration
- Preparation of tender proposals (technical, managerial, and financial parts)
- R&D (orbit determination, orbital propagation, planetary geodesy, same beam interferometry, numerical techniques, tracking techniques, signal processing)

Business or sector Radio science, scientific missions consulting, deep space tracking techniques

Jan 13 - Present

Senior Aerospace Engineer, Senior Software Developer, Project Manager, Product Manager

ArpSoft S.r.l.
Via Bolsena 40, 00191 Roma (Italy)
http://www.arpsoft.it

- Project and product management (web products design and development, ESA RadioMetOP project)
- Software development and maintenance for radio tracking systems (ESA RadioMetOP project)
- Business development
- Preparation of tender proposals (technical, managerial, and financial parts)

Business or sector Spacecraft navigation and orbit determination, radio science, deep space tracking techniques, signal processing, web applications, GIS

Feb 15 - Sep 15
Feb 14 - May 14
Jul 12 - Feb 13

Space Mission Analyst

Kell S.r.l.
Via E. Q. Visconti 8, 00193 Roma (Italy)
http://www.kell.it

- Mission analysis for an EO mission (ESA - Reorientation of Phase 2 of the Definition & Experimental Validation Activities Study GMES Infrared Sensor System Definition and Development Study)
- Production of technical notes
- Presentation of results to customer (ESA)

Business or sector Earth observation, tele-medicine, GIS, navigation systems, satellite telecommunications

Nov 07 - Feb 12

Aerospace Engineer, Software Developer, Project Manager

GalileianPlus S.r.l.
Via Tiburtina 755, 00159 Roma (Italy)
http://www.galileianplus.it

- Project management (ESA SSA program - SN-III: ENEAS)
- Systems engineering (ESA SSA program SN-III: ENEAS, ASI SISMA projects)
- Observation planning and data management design (ESA SSA program SN-III: ENEAS project)
- Design, development and maintenance of WebGIS systems
- Earth Observation imagery processing and geo-localization (ASI SRV project)
- Software development for Flight dynamics and Mission analysis (ASI MAGIA mission)
- Payload preliminary design (ASI MAGIA gravimetric experiment)
- Preparation of several tender proposals
- ICT administrator
- R&D (orbit determination, orbital propagation, space debris, NEO, solar sail propulsion, lunar fundamental physics, same beam interferometry, numerical techniques, tracking techniques, support to ESA ESMO flight dynamics team)

Business or sector Mission analysis and design, Scientific experiments design for space missions, Systems engineering, GNSS solutions for precise positioning, GIS solutions.

EDUCATION AND TRAINING

Nov 11 – Apr 15

Dottorato di Ricerca in Tecnologia Aeronautica e Spaziale (PhD in Aeronautics and Space Technology)

EQF level 8

Sapienza, Università di Roma - DIMA, Roma (Italy)

Interplanetary Orbit Determination – Radio Science – Same Beam Interferometry – Tracking Stations and Devices

Jan 05 - Feb 08

Laurea Specialistica in Ingegneria Astronautica (Master's Degree in Astronautic Engineering)

EQF level 7

Sapienza, Università di Roma - Scuola di Ingegneria Aerospaziale (School of Aerospace Engineering), Roma (Italy)

Astrodynamics – Space flight dynamics – Orbital determination – Attitude control systems – Space mission design – Automatics and control of aerospace systems – Space environment and experiments – Thermal control – Electric propulsion – Gas dynamics – Chemical propulsion – Electronics and Telecommunications – Electrical power subsystems – Materials for space structures

Vote: 110/110 cum laude

Sep 01 - Dec 04

Laurea di Primo Livello in Ingegneria Aerospaziale (Bachelor's Degree in Aerospace Engineering)

EQF level 6

Sapienza, Università di Roma - Facoltà di Ingegneria Aerospaziale (Faculty of Aerospace Engineering), Roma (Italy)

Aerodynamics – Aerospace Propulsion – Aerospace Structures and Materials – Applied Mechanics – Chemistry – Economy – Electric Systems – Engine Calculation Laboratory – Experimental Physics Laboratory – Flight Mechanics – Heat Transfer – Informatics – Mathematics – Physics – Thermodynamics

Vote: 110/110 cum laude

PERSONAL SKILLS

Mother tongue(s) Italian, Sardinian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
French	A2	B1	A2	A2	A2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills

- Excellent communication and relationship skills, also in an international team, gained thanks to the interaction with international customers and commercial partners (Deimos, GMV, ASTOS, Telespazio, Thales Alenia, ACS, Kell, Leonardo), space agencies (ESA, NASA JPL, Roscosmos), and scientific institutions (INGV, INAF, CNR, Politecnico di Milano, Sapienza, Università di Roma, IKI, UCL)
- Ability to effectively work both autonomously, under supervision, and in an interdisciplinary team (industrial and scientific)

Organisational / managerial skills

- Project management for R&D projects and web applications development
- Project management (planning, scheduling, and negotiation) in ESA RadioMetOP, ESA SN-III, and ESA CO-II projects
- Technical responsible of data management and observation planning design, and software integration in ESRIN for ESA SN-III ENEAS project
- Industrial coordinator of ESA ESMO flight dynamics team (from February to September 2008)
- Team leading, planning and organising skills, acquired during the experience as team leader of a 14 students flight dynamics team, in the frame of ESA ESMO project (from November 2006 to February 2008)
- Experience in projects with stringent schedules

Job-related skills

- Strong problem solving attitude and proactive target oriented behaviour
- System-minded, self-motivated and disciplined, results oriented, customer and service oriented
- Experience in modelling and software development of signal processing tools
- Experience in architectural design of End-to-End simulators for planetary space missions
- Experience in modelling and simulating the performances of tracking systems
- Experience in design and development of web applications
- Experience in usage and development of plug-ins for ESRI ArcGIS software
- Technical responsible for requirements definition and architectural design support of SSA-NEO Early Precursor Services (ESA SN-III project)
- Participation to ESMO workshop about satellite operations and flight dynamics, coordinated by David Evans at ESOC (July 2008)
- Experience in the definition and specification of the flight dynamics system for ESA ESMO mission to the Moon
- Experience in developing simulation tools for orbital dynamics (propagation of complex physical models, ephemeris tools, optimization) and mission analysis
- Development of on board-software (real-time) for the PIC processor of the small rocket Arturo, at the School of Aerospace Engineering (Sapienza, Università di Roma)
- Experience with the on-board software (for a Rabbit processor) and electronics of the micro-satellite Unisat-4, at the School of Aerospace Engineering (Sapienza, Università di Roma)
- Experience in applied electronics, acquired through personal and academic studies and laboratory practice:
  - Small rocket Arturo data acquisition electronics AIV
  - Solid state launch controller for small rockets (design and AIV)
  - VHF Transmitter (design and AIV) for a pulsed tone, proportional to sensed temperature (in the frame of the didactical project “Astronautica in Classe” for high schools in Roma, as basic approach to telemetry transmission concept)

Computer skills

- Excellent programmer with object oriented languages (C++, PHP, Python, Java), C, FORTRAN, Matlab, IDL, shell/bash scripting, HTML, Javascript
- Experience in Test Driven Development (QTest for C/C++, SimpleTest for PHP, JUnit for Java)
- Developer of 2D and 3D OpenGL graphical applications for orbital scenarios visualization
- Excellent knowledge of the operative systems Linux (Ubuntu, Fedora, SLES, RedHat), Microsoft Windows XP, 7, 8, and 10, MAC OS X
- Usage and administration of MySQL and PostgreSQL DBMS
- Knowledge of the programs:
  Microsoft Office suite, Open Office suite, Simulink, ITT ENVI, Microsoft Visual Studio, Nokia QT, Netbeans IDE, Eclipse IDE, DIA, LATEX, UltraVNC, Putty SSH Client, VMWare virtualization products, Autodesk AutoCAD, Altium Protel, AGI STK

Other skills

- Experience in the usage and administration of version control systems (SVN, CVS)
- Experience in the usage of issue tracking systems (JIRA, TRAC)
- Good knowledge of ECSS norms (ground systems and operations, space software engineering and quality assurance, project management)
- Experience in project milestone preparation
- Flexibility and strong will to learn and to be up to date

Driving licence

B

ADDITIONAL INFORMATION

Publications

Jupiter gravity field estimated from the first two Juno orbits
W. M. Folkner, L. Iess, J. Anderson, S. Asmar, D. Buccino, D. Durante, M. Feldman, L. G. Casajus, M. Gregnanin, A. Milani, M. Parisi, R. Park, D. Serra, G. Tommei, P. Tortora, M. Zannoni, S. Bolton, J. Connerney, S. Levin
Submitted to Geophysical Research Letters on February 2017

Same beam interferometry as a tool for the investigation of the lunar interior
M. Gregnanin, B. Bertotti, M. Chersich, M. Fermi, L. Iess, L. Simone, P. Tortora, J. G. Williams
Planetary and Space Science, Volume 74, Issue 1, December 2012, pp 194–201
http://dx.doi.org/10.1016/j.pss.2012.08.027

The lunar gravity mission MAGIA: preliminary design and performances
M. Fermi, M. Gregnanin, M. Mazzolena, M. Chersich, M. Reguzzoni, F. Sansò
Experimental Astronomy, Volume 32, Issue 1, October 2011, pp 1-18
http://dx.doi.org/10.1007/s10686-010-9188-z

Mapping lunar mascons on the hidden side of the Moon: Gravitational field measurement through a micro-satellite mission
M. Gregnanin, R. Marson, F. Guarducci, A. Bolle, M. Bonerba, P. Berardino
Acta Astronautica, Volume 65, Issues 3–4, August–September 2009, pp 572–583
http://dx.doi.org/10.1016/j.actaastro.2009.01.067

Conferences, workshops, and reports

SS-E2E: mission performance simulators for space science missions
S. Centuori, et al.
Workshop on Simulation for European Space Programmes (SESP) 2015, 24-26 March 2015 - ESTEC, Noordwijk, The Netherlands

Estimation of Mars geophysical information through Same Beam Interferometry
M. Gregnanin, M. Yseboodt, V. Dehant, L. Iess, and T. Van Hoolst
European Planetary Science Congress (EPSC) 2014 – 7-12 September 2014 – Cascais, Portugal

Evaluation of deep space Ka-band data transfer using radiometeorological forecast models
M. Biscarini, et al.
8th European Conference on Antennas and Propagation (EuCAP) – 6-11 April 2014 – The Hague, The Netherlands

DEVA: a Thermal Infrared Optical Instrument for Earth Observation from Space with Unprecedented Performance
M. Esposito, et al.
International Astronautical Congress (IAC) 2013 – 23-27 September 2013 – Beijing, China

A branching method for ballistic trajectories and its application to JUICE mission
A. Longo, M. Gregnanin, G. Colasurdo
European Planetary Science Congress (EPSC) 2013 – 8-13 September 2013, London, United Kingdom

Same Beam Interferometry with a Lander Network on Mars
M. Gregnanin, et al.
TTC 2013, 6th ESA International Workshop on Tracking, Telemetry and Command Systems for Space Applications – ESA-ESOC – 10-13 September 2013 – Darmstadt, Germany

CDMA-Based Same Beam Interferometry for Future Deep Space Missions
W. Hao, M. Gregnanin, L.. Iess, L. Simone
International Symposium on Planetary Sciences – Shanghai Astronomical Observatory (SHAO) – 1-4 July 2013 – Shanghai, China

The Determination of Ganymede's Rotational State and Tides from Radio Tracking of a Lander
M. Gregnanin, L. Iess, A. Longo
International Colloquium and Workshop "Ganymede Lander: scientific goals and experiments" – Space Research Institute (IKI) – 4-8 March 2013 – Moscow, Russian Federation

Same Beam Interferometry for the analysis of the internal structure of celestial bodies
M. Gregnanin, S. Giuliani, L. Iess
International Astronautical Congress (IAC) 2012 – 1-5 October 2012 – Napoli, Italy

Librations and Tides of the Moon from Same Beam Interferometry of a Lander Network
M. Gregnanin, L. Iess
European Planetary Science Congress (EPSC) 2012 – 23-28 September 2012 – Madrid, Spain

Same Beam Interferometry on Mars for Obtaining Information on the Interior
M. Yseboodt, V. Dehant, L. Iess, M. Mitrovic, M. Gregnanin
European Planetary Science Congress (EPSC) 2012 – 23-28 September 2012 – Madrid, Spain

Dynamical Implications of MAGIA Mission to the Moon
A. Di Salvo, et al.
CELMEC V – 6-12 September 2009 – S. Martino al Cimino, Italy

MAGIA Phase-A Study Report
A. Coradini, et al.
December 2008

ASI-SRV general purpose modules for the preprocessing of remote sensed optical data
M. Musacchio, et al.
Use of Remote Sensing Techniques for Monitoring Volcanoes and Seismogenic Areas (USEReST 2008) – Napoli, Italy

Investigation of the lunar interior with a microwave interferometer
M. Fermi, P. Bender, B. Bertotti, M. Chersich, M. Gregnanin, L. Iess, L. Simone
37th COSPAR Scientific Assembly 2008 – Montreal, Canada