

Curriculum Vitae

EDUCATION

- 2007 - Oct 2010 Ph.D. Remote Sensing, Earth Observation
Rome Tor Vergata University, Italy
“Validation and Extension of Emissivity and Reflectivity Models for Forests at Microwave, Application to ESA SMOS Satellite Mission”
- 2001 - 2002 M.Sc. Space Systems On Earth Observation, Application of Remote Sensing from Space, ISUFI, Lecce University, Italy
- 1998 – 2000 Diplôme des Etudes Supérieures Approfondies in Physics (Matter and Radiation) Option Astronomy & Astrophysics
HASSAII University of Casablanca, Morocco
- 1992 - 1997 B.Sc. Physics
HASSAII University of Casablanca, Morocco

Participation in Training Programs

November 2009, 25-27 ESA SAR NEST Toolbox Training Course (InSAR principles on the use of the GENESI-DR system for InSAR applications)
ESA/ESRIN, Frascati, Rome, Italy.

January 2008, 28-30 ESA Internal Training Course - Interferometric Aperture Synthesis Radiometry for Earth Observation, Soil Moisture And Ocean Salinity Mission.
ESA/ESTEC, Noordwijk, Netherlands.

28th May – 8th June 2007, *Extra-Solar Planets*: The detection, formation, evolution and dynamics of planetary systems, Sabhal Mor Ostaig, Isle of Skye, United Kingdom.

Academic Positions

- 01/03/2009 - present Research fellowship and PhD student "Testing algorithm for monitoring Soil Moisture using the radiometer of SMOS satellite, during the commissioning phase".
Department of Computer Science, Rome Tor Vergata University
- 04/2008 – 30/11/2008 Research fellowship and PhD student “Operative Methodology of the Vicarious Routine Calibration for the Soil Moisture and Ocean Salinity (SMOS) Mission ”.
Department of Computer Science, Rome Tor Vergata University

- 02/2006 – 02/2008 *Research fellowship “ development and validation of physically-based models describing the evolution of the morphology and the ecosystem of the Taranto Golf on the basis of information obtained through laboratory and field analysis, mathematical models and remote sensing techniques.”
Department of Physics, University and Politecnico of Bari.*
- 02/2005- 02/2006 *Research fellowship in "Application of the advanced Interferometric Technique for the land monitoring in the area of Corniglio (Italy) and Pititsa (Greece) " .
Department of Physics, University and Politecnico of Bari.*
- 01/2003- 01/2005 *Research fellowship in Interferometric Techniques for the generation of the Digital elevation Model using DORIS system with respect to the new request for the location of the permanent scatters.
Department of Physics, University and Politecnico of Bari.*

List of Participation in Research Projects

SMOS Soil Moisture And Ocean Salinity Mission

The Living Planet Program Soil Moisture and Ocean Salinity to prepare prototype for Soil Moisture and Sea Salinity algorithms to estimate the soil surface humidity for global circulation models and boundary conditions for large hydrological models.

I.M.C.A (Integrated Monitoring of Coastal Areas)

IMCA (Integrated Monitoring of Coastal Areas) is a service for Monitoring of Coastal Areas, based on integration of satellite data, numeric models and on-site sensed data.

Landslide Early Warning Integrated System

The LEWIS project U.E EVGI-CT-2001-00055 to develops a new integrated Earth Observation (EO) approach for producing landslide-warning maps.

SKIE/ASSIST in project PQF2000

Contributions to International Programs and Initiatives

Committee on Earth Observation Satellites (SMOS), Scientific Working Group on Algorithm validation for the SMOS Level 2 Soil Moisture Processor and contribution to the Commissioning Phase Plan.

Personal skills and competences

Mother tongue(s) Arabic

French	fluent	fluent	fluent	fluent	fluent
Italian	fluent	fluent	Advanced	Advanced	Advanced
English	fluent	fluent	Advanced	Advanced	Advanced

Computer skills and competences

- Programmation : Fortran, C/C++ , Matlab/Scilab, LaTeX, Visual Basic, Linux Shell Scripting, Makefiles compilation
- Software for GIS & Remote Sensing : ECOMSED/RCA ENVI/IDL(ESRI), ERMAPPER, ERDAS, ArcGIS, HDFLook, PROJ, Geotrans, EnviView, BEAM Toolbox, SeaDAS, DORIS, GAMMA, GRASS, POM/ECOMSED
- Grid Computing tutorial : Globus Toolkit 4, Condor-G, ASSIST v1.3, GridRPC, Glite.
- Operative Systems : UNIX, Linux, Mac/OS, Windows NT/2000/XP, MS-Dos.
 - Other Software : Pinnacle studio, Photoshop, Gimp, Microsoft Office, Openoffice.
- Internet e Rete : Traceroute, Netstat, nslookup, FTP, VNC, SCP, SSH, SSL, Web Service

AWARDS AND RECOGNITION:

- Second best research prize presented at the 11th Specialist Meeting on Microwave Radiometry and Remote Sensing of the Environment 1-4 March 2010, Washington, DC, USA
- Grant contribution from the National Aeronautics and Space Administration (NASA) within Microrad2010 at Washington 1-4 March 2010.
- Ph.D. Fellowship Award from the Italian Government
- M.S. Fellowship Award from the Italian Government

SCIENTIFIC AND PROFESSIONAL MEMBERSHIPS:

- Member, IEEE and IEEE society membership (IEEE transactions on Geoscience and Remote Sensing)
- Member, European Geoscience Union
- Reviewer, Journal of Electromagnetic Waves and Applications (JEMWA)

Publications:

[1] A.Della Vecchia, P. Ferrazzoli, L. Guerriero, R. Rahmoune, S. Paloscia, S. Pettinato, E. Santi, "Modeling the multi-frequency emission of broadleaf forests and their components", IEEE Trans. Geoscience and Remote Sensing, vol. 42, pp. 260-272, 2010, doi: 10.1109/TGRS.2009.2029343.

- [2] P. Ferrazzoli, R. Rahmoune, F.Moccia, F. Grings, M. Salvia, M. Barber, H. Karszenbaum, A. Soldano, D.Goniaski, G. Parmuchi, C. Montenegro, P. Kandus, M. Borro, "The effect of rain and flooding events on AMSR-E signatures of La Plata Basin, Argentina " IEEE Journal Of Selected Topics In Applied Earth Observations And Remote Sensing, March 2010, vol.3, n.1, pp. 81-90, 2010,doi:10.1109/JSTARS.2010.2040584.
- [3] P. Ferrazzoli, L. Guerriero, N. Pierdicca, R. Rahmoune, "Forest Biomass Monitoring with GNSS-R: Theoretical simulations" In press Journal of Advanced Space Research (2010), doi:10.1016/j.asr.2010.04.025
- [4] S.Pinori, R.Crapolicchio, M.Meloni, R.Rahmoune, P.Ferrazzoli, "Soil Moisture and Ocean Salinity (SMOS) mission: system overview and contribution to vicarious calibration monitoring" Italian journal of Remote Sensing, vol.40, n.1,2010.
- [5] R. Rahmoune, P. Ferrazzoli, L. Guerriero, "Development and refinement of a forest Emission Model comparisons & tests with SMOS signatures", URSI-F 2010 Microwave Signatures Meeting, Florence, Italy, 4-8 October 2010.
- [6] R. Chakraborty, R.Rahmoune, P. Ferrazzoli, "Monitoring flood events in Sundarban delta by microwave instruments", URSI-F 2010 Microwave Signatures Meeting, Florence, Italy, 4-8 October 2010.
- [7] P. Ferrazzoli, L. Guerriero, R. Rahmoune, "RECENT ADVANCES IN THEORETICAL STUDIES OF L-BAND ACTIVE AND PASSIVE REMOTE SENSING OF FORESTS", International Geoscience and Remote Sensing Symposium, Hawaii, USA, 25-30 July 2010.
- [8] M. Salvia, F. Grings, P. Ferrazzoli, R. Rahmoune, M. Barber, V. Douna, H. Karszenbaum, "MONITORING FLOODED AREA FRACTION IN FLOODPLAINS OF PARANÁ BASIN USING PASSIVE AND ACTIVE MICROWAVE SYSTEMS", International Geoscience and Remote Sensing Symposium, Hawaii, USA, 25-30 July 2010.
- [9] R. Rahmoune, P. Ferrazzoli, F. Grings, V. Douna, M. Salvia, H. Karszenbaum, "[Sensitivity to soil moisture variations of microwave radiometric signatures over the Argentinian Chaco Forest](#)", [ESA living planet symposium, bergen, Norway, 28 June to 2 July 2010.](#)
- [10] R. Rahmoune, P. Ferrazzoli, M. Salvia, F. Grings, V. Douna, H. Karszenbaum, "Monitoring flooded areas in floodplains of Paraná basin using microwave REMOTE SENSING", European Geosciences Union General Assembly, 02 – 07 May 2010, Vienna, Austria.
- [11] R. Rahmoune, P. Ferrazzoli, J.P. Walker, J.P. Grant, "L-BAND EMISSION FROM A EUCALYPTUS FOREST IN VARIOUS SOIL CONDITIONS DURING THE NAFE CAMPAIGN", 11th Specialist Meeting on Microwave Radiometry and Remote Sensing of the Environment, Washington, DC, USA, 1-4 March 2010.
- [12] P. Ferrazzoli, L. Guerriero, R. Rahmoune, A. Della Vecchia, "MODELING FOREST EMISSION: ELECTROMAGNETIC APPROXIMATIONS, TESTS, AND APPLICATION TO RETRIEVAL ALGORITHMS", 11th Specialist Meeting on Microwave Radiometry and Remote Sensing of the Environment, Washington, DC, USA, 1-4 March 2010.

- [13] P. Ferrazzoli, R. Rahmoune, F. Grings, V. Douna, M. Salvia, H. Karszenbaum, "AMSR-E observations of rain and flood events over vegetated areas of La Plata Basin ", 11th Specialist Meeting on Microwave Radiometry and Remote Sensing of the Environment, Washington, DC, USA, 1-4 March 2010.
- [14] R. Rahmoune, P. Ferrazzoli, F. Grings, M. Salvia, V. Douna, H. Karszenbaum, A. Soldano, D. Goniaski, G. Parmuchi, C. Montenegro, P. Kandus, M. Borro, "AMSR-E observations of La Plata Basin: interpretation using ancillary data and emission models", Earth Observation and Water Cycle Science Towards a Water Cycle Multi-mission Observation Strategy, 18 - 20 November 2009, ESA/ESRIN, Frascati, Italy.
- [15] P. Ferrazzoli, R. Rahmoune, F. Grings, V. Douna, M. Salvia, H. Karszenbaum, "Sensitivity to soil moisture variations of AMSR-E C-Band Polarization Index over Chaco Forest", 5th Aquarius/SAC-D Science Meeting, Buenos Aires, Argentina, 21- 23 October 2009.
- [16] R. Rahmoune, A. Della Vecchia, P. Ferrazzoli, L. Guerriero, F. Martin-Porqueras, " A Large Scale Microwave Emission Model For Forests Contribution to the SMOS Algorithm", Workshop on SMOS-BEC on SMOS post-launch activities, 5 June 2009, Barcelona, Spain.
- [17] P. Ferrazzoli, R. Rahmoune, F. Grings, M. Salvia, M. Barber, H. Karszenbaum, A. Soldano, D. Goniaski, G. Parmuchi, C. Montenegro, P. Kandus, M. Borro, "Monitoring Rain and Flooding Events In De LA PLATA Basin Using AMSR-E Signatures", International Geoscience and Remote Sensing Symposium, Cape Town, South Africa, July 13-17, 2009.
- [18] R. Rahmoune, A. Della Vecchia, P. Ferrazzoli, L. Guerriero, F. Martin-Porqueras, "Refinements and tests of Microwave Emission Model for Forests", International Geoscience and Remote Sensing Symposium, Cape Town, South Africa, July 13-17, 2009.
- [19] R. Rahmoune, A. Della Vecchia, P. Ferrazzoli, L. Guerriero, F. Martin-Porqueras, " A Large Scale Microwave Emission Model For Forests Contribution to the SMOS Algorithm", European Geosciences Union General Assembly 2009, 19 – 24 April 2009, Vienna, Austria.
- [20] R. Crapolicchio, S. Pinori, M. Meloni, R. Rahmoune, P. Ferrazzoli, "A contribution to the vicarious routine calibration monitoring for the Soil Moisture and Ocean Salinity (SMOS) mission", European Geosciences Union General Assembly 2009, 19 – 24 April 2009, Vienna, Austria.
- [21] S. Paloscia, P. Pampaloni, E. Santi, S. Pettinato, P. Ferrazzoli, R. Rahmoune, "The effects of forest canopies and of the underlying soil moisture on microwave emission", European Geosciences Union General Assembly 2009, 19 – 24 April 2009, Vienna, Austria.
- [22] R. Rahmoune, A. Della Vecchia, P. Ferrazzoli, L. Guerriero, "Analisi Parametrica Dell'Emissione di Foreste In Banda L", Riunione Nazionale di Elettromagnetismo, Lecce, 15-19 Settembre 2008.
- [23] R. Rahmoune, P. Ferrazzoli, " Monitoring of level 1c brightness temperatures measured over Finland, AMIRAS flight ", ESA/ESTEC Internal communication, 23rd SMOS SAG meeting, Noordwijk, Netherlands, 21-22 May 2008.

[24] A. Della Vecchia, P. Ferrazzoli, L. Guerriero, R. Rahmoune, S. Paloscia, S. Pettinato, E. Santi, "Modeling the multifrequency emission of forests and their components", International Geoscience and Remote Sensing Symposium, Boston (USA), July 6-11, 2008.

[25] A. Della Vecchia, P. Ferrazzoli, L. Guerriero, R. Rahmoune, S. Paloscia, S. Pettinato, E. Santi, "Modeling the emission of Mediterranean forests and comparisons with experimental data", 10th Specialist Meeting on Microwave Radiometry and Remote Sensing of the Environment, Florence, 11-14 March 2008.