

PERSONAL  
INFORMATION

Cristina Re

 265, Strada Martinella, Parma, 43124, Italy

 +39 0498293412  +39 3478146388

 cristina.re@oapd.inaf.it

Sex F | Date of birth 27/03/1984 | Nationality Italian

## WORK EXPERIENCE

01/02/2014 - Present

**INAF-OAPD Post-Doctoral Fellowship**

Italian National Institute for Astrophysics (INAF) - Osservatorio Astronomico di Padova, Padova, Italy

02/01/2011 – 31/12/2013

**PhD Fellowship**

Center for Studies and Activities for Space “G. Colombo” – University of Padova, Italy

Sciences Technologies and Measures for Space, field Astronautics and Satellite Sciences

17/04/2013 to 2/09/2013

**Visiting Student – DLR, German Aerospace Centre**

Planetary Research Institute @ German Aerospace Centre – Berlin, Germany

Generation of Digital Terrain Models from high resolution satellite images under the supervisor Klaus Gwinner.

15/03/2010 to 15/09/2010

**Visiting Student – UCL, University College of London**

Civil, Environmental and Geomatic Engineering @ University College of London- London, UK

Comparisons between laser scanning acquisitions (ARIUS3D and FARO system) and stereo photogrammetric reconstructions (Socet Set workstation) under the supervisor Stuart Robson

EDUCATION AND  
TRAINING

02/01/2011 – 16/04/2014

**PhD in Astronautics and Satellite Sciences**

Center for Studies and Activities for Space “G. Colombo” – University of Padova, Italy

3D reconstruction of planetary surfaces from stereo satellite images, image matching algorithm development, photogrammetric pipelines development

2007-2010

**Master Degree in Environmental and Territory Engineering**

Department of Civil and Environmental Engineering and Architecture -- University of Parma, Italy

Photogrammetry, geotechnical and hydraulic engineering

March 2009

**Advanced course of Geotechnics (GEOTACO)**

"Faculty of Civil Engineering- Technical University of Mining and Metallurgy"-- Ostrava (Czech Republic)

1/10/2007 to 25/02/2008.

**Erasmus**

"Universidad Alfonso X el Sabio" -- Madrid

2003-2007

**Bachelor Degree in Environmental and Territory Engineering**

Department of Civil and Environmental Engineering and Architecture -- University of Parma, Italy

Mathematics, chemistry, physics, applied physics

**PROFESSIONAL EXPERIENCES**

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May 2012

**Topographic survey** with cinematic GPS and drone-photogrammetric image processing of a mountain slope at the Astronomic Observatory of Turin for the landslide evaluation

September 2011

**Topographic survey** with total station and GPS with aereo-photogrammetric image processing of the rock slope at Pellaud (AO) in Italy

July 2011

**Topographic survey** with total station and GPS with aereo-photogrammetric image processing of the Navelli borg (AQ)

March 2011

**Topographic survey** with total station and GPS and photogrammetric image processing of a series of rock facades to support the project of a rail way in West Bengala (Sikkim-India)**AWARDS - GRANTS**

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Winner of the "ISPRS Author Grant" for the XXIIInd Congress of the International Society for Photogrammetry and Remote Sensing. Melbourne, Australia, 25 August – 1 September 2012

Winner of a grant for the International Mobility project named "Innovative 3D Modelling" offered by the Spinner Consortium in 2010.

## SPACE MISSION AND INTERNATIONAL INVOLVEMENT

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- 2016 - Present                      Key Person for the STC/SIMBIO-SYS data pipeline on the BepiColombo mission
- 2016 - Present                      Key Member of the International Society for Photogrammetry and Remote Sensing (ISPRS) for the inter-commission working group III/II "Planetary Remote Sensing and Mapping" (2016-2020)
- 2016 - Present                      Col of SIMBIO-SYS on board the MPO for the BepiColombo mission
- 2015 - Present                      Associate of CaSSIS, the camera on board Exomars TGO mission
- 2015 - Present                      Associate of Janus, the camera on board the ESA mission JUICE

## INVITED TALKS

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- 01/11/2016                              JAXA/ISAS, Sagamihara-city, Japan.  
Title: "The stereo cameras and 3D images of the Mars surface"
- 5/11/2012                                Faculty of Engineering and Built Environment, University of Newcastle, Australia  
Title: "Automated Digital Terrain Model Generation from HiRISE & LROC Imagery"

## ACCADEMIC EXPERIENCES

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- 2011- 2012                              Correlator of the Master thesis of Dall'Asta E. – Performance analysis of correlation image algorithm for the planetary DTM generation.– Relator: Prof. R. Roncella – Università degli Studi di Parma – A.A. 2011-2012
- 2010 - 2012                              Practical Lessons of Photogrammetry and Topography at the Università degli Studi di Parma A.A. 2010-2011; 2011-2012

## PERSONAL SKILLS

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Mother tongue(s)

Italian

Other language(s)

English  
Spanish

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C2	C2	C2	C2	C2
C1	C1	C1	C1	B2

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

**FIELD OF EXPERTISE:**

- Photogrammetry: image processing, matching techniques and generation of Digital Terrain Models (DTM).
- Close range photogrammetry: topographic surveys, laser scanning technology.
- Application of commercial photogrammetric software (Ames Stereo Pipeline, Socet Set, PhotoModeler) to planetary data and contributions in the improvements of self-developed photogrammetric tools.
- Calibration of stereo cameras for space missions
- 3D reconstruction of planetary surfaces
- Development of planetary image processing software for DTM generation.

**Computer skills**

Visual Studio; 3D Modelling software: Polyworks, Meshlab, Blender; GIS sw: Grass Gis, QGis, Image Matching software: Ames StereoPipeline, Socet Set; ISIS