

Mattia Crespi - Curriculum Vitae

Mattia Crespi was born in Milan, December 6, 1963.

He received his degree in Civil Engineering Summa cum Laude in 1987 at Politecnico di Milano (Milan, Italy) and his PhD in Geodesy and Surveying in 1992 at Politecnico di Torino (Turin, Italy) (Supervisor: Em. Prof., DDDr. H.C. Fernando Sansò).

He is **professor** of Positioning and Geomatics at the Sapienza University of Rome since 2005 (where he was Associate Professor in the same disciplines since 1998), and **director** of the Sapienza School for Advanced Studies (since 2021), where he is **senior fellow** (since 2015) and was coordinator of the Academic Class in Science and Technology (2018-2021). He is **coordinator** of the National PhD Course in Earth Observation (since 2022).

He is **serving for Sapienza** as member of the Patent Commission (since 2021) and as representative in the Council for Doctoral Education of the European University Association (since 2021). He served for Sapienza as Dean of the BSc and MSc Courses in Environmental Engineering (2007-2013), as Coordinator of the PhD Course in Infrastructures and transports (2007-2013), as member of the PhD Governing Board (2014-2021), and as representative in the Council for Doctoral Education of the European University Association (2016-2019).

He is **author** and co-author of more than 300 **publications** (more than 130 internationally peer-reviewed). His investigation topics are: computational problems in geodesy and photogrammetry; geodetic positioning, navigation and monitoring; GNSS seismology, ionosphere sounding and meteorology; optical and SAR image processing; 3D objects and terrain modeling; geodesy and Earth observation for geohazards; geospatial big data analysis; geomatics versus other sciences (urban climatology, glaciology, archaeology).

His **main recent scientific achievements** are focused on:

- GNSS seismology and ionosphere sounding (real-time variometric approaches: VADASE, VARION, TVA);
- optical and SAR image processing (image matching approaches in object space for digital terrain modeling);
- geodesy and Earth observation for geohazards (geodesy contribution to understanding and prediction of earthquakes);
- geospatial big data analysis (urban land surface temperature monitoring with Landsat time series, 3D land cover change detection with optical image time series and deep learning approaches, glacier surface velocity monitoring with Sentinel-1 time series)

He is **serving in international associations** as President of the Inter-Commission Committee on Theory of the International Association of Geodesy (IAG) (since 2015), Italian Delegate within IAG Council (since 2016), Vice-president of the European Association of Remote Sensing Laboratories (EARSeL) (since 2021), Italian Delegate within EARSeL Council (since 2018).

He is **fellow** of the International Association of Geodesy (since 2019) and **member** of the Copernicus Academy (since its foundation in 2016)

He is **chairman/co-chairman of international study groups** within the International Association of Geodesy (IAG) (since 2015), the European Association of Remote Sensing Laboratories (EARSeL) (since 2009) and the International Society for Photogrammetry and Remote Sensing (ISPRS) (since 2012).

He is **serving as editor** for international peer-review journals (Journal of Geodesy, Satellite Navigation, European Journal of Remote Sensing, Remote Sensing, Geospatial Information Science, NDT; EiC for Engineering Remote Sensing section of Remote Sensing), and served as guest editor international for peer-review journals and proceedings (International Association of Geodesy Symposia - 3 vols.; International Journal of Remote Sensing - 1 special issue; Remote Sensing - 3 special issues; Rendiconti Lincei - 2 special issues; Measurement Science and Technology - 1 special issue).

He has served as **reviewer** for more than **30 international peer-review journals** of Q1 and Q2 quartiles and for **international and national Funding Agency**: Austrian Science Fund, US National Science Foundation, German Fund, Luxembourg Research Fund, French National Agency for Research, and Italian Agency for University and Research System evaluation.

He was **visiting professor** at University of South Pacific, Fiji (MUNDUS ACP Project 2012), National Cheng Kung University, Taiwan (2013), Universidad Nacional del Sur, Argentina (2015), Wuhan University, China (2018), and **visiting scientist** at Université Paris Diderot - Institut de Physique du Globe de Paris, France (2020).

He was recipient of the following **awards**: DLR Special Topic Prize and Audience Award of the European Satellite Navigation Competition in 2010 (VADASE approach); Success Story of the European Satellite Navigation Competition in 2012 (VADASE approach); ESA (European Space Agency) Certificate for Galileo In-Orbit-Validation in 2014; COSPAR (Committee on Space Research) Outstanding Paper Award in 2018; Accademia Nazionale dei Lincei Prize of the Ministry of Culture for Astronomy, Geodesy and Geophysics in 2018.

He is the coordinator of the **Positioning and Image Analysis Groups** at Sapienza Geodesy and Geomatics Division; these Groups **are recipient of more than 30 national and international awards** (among them: 10 Google Grants within Google Summer of Code in 2012 to 2016, one NASA Space Apps Challenge Global Award in 2016, one 1 AXA UNESCO PostDoc Fellowship, 3 Italian Scientists and Scholars of North American Foundation Internships, 1 URSI Young Scientist Award, 8 Italian Association of Professors in Geomatics (AUTeC) Best PhD Thesis of the year, 2 Italian Society for Photogrammetry and Surveying (SIFET) Prize for Young Scientist of the year).

He has been active in **third mission activities**:

- he is **co-inventor of two patents**, supported by the Sapienza University of Rome, in the frame of GNSS positioning (VADASE, 2010) and optical and SAR satellite imagery processing (matching strategy, 2013)
- VADASE was licensed to Leica Geosystems AG and it has been implemented in the firmware of GR GNSS receivers since 2015
- he was **co-founder and scientific advisor of *Kuaternion***, start-up of Sapienza; *Kuaternion* was **recipient of two national awards** (Research Stock Market Awards 2018 from IBM Italia and Leonardo).