

PERSONAL INFORMATION

Andrea Taramelli



<http://www.iusspavia.it/-/faculty-andrea-taramelli>
<https://www.researchgate.net/profile/Andrea-Taramelli>

Sex Male | Nationality Italian

Associate Professor

WORK EXPERIENCE

01/01/2015 – ongoing

Associate Professor

IUSS - University School of Advance Studies, Palazzo del Broletto, Piazza della Vittoria 15, 27100 Pavia, <http://www.iusspavia.it/home>

- Professor Associate in Remote Sensing and Surface Process Science at IUSS Advanced Study University. Research interests are on processes that link climate and geomorphology with remote sensing and geophysics analysis. These links range from the potential impacts of future climate change on surface process, to the study of how continental-scale weather patterns have influenced the development of surface process. Research is also focusing on technical & economical strategy applied to space economy.
- Representative of the IUSS faculty at the Academic Senate.
- Rector delegate for IUSS of the JoTTO Joint Technology Transfer Office (<http://www.jointto.it/en>).
- Scientific Director of Centro Interuniversitario di Ricerca (IUSS-Sant'anna) on Earth Observation.
- Member of the Understanding Managing Extreme PHD teacher's <http://www.iusspavia.it/en/ume>.
- Member of PhD in Sustainable Development and Climate change <http://www.iusspavia.it/phd-sdc>
- Chair of the Leadership Group Framework Partnership Agreement on Copernicus User Uptake FPCUP <https://www.copernicus-user-uptake.eu/>
- Coordinator of the Italian National User Forum Copernicus (2014-ong)
- Member of the Group European Hydrographic Offices and European Commission representatives - on coastal mapping using Lidar Bathymetry and Hyperspectral airborne acquisition (2012-2018)
- Member of the Group of Earth Observation GEO 2012-2015 Societal Benefit Area (SBA) EC-01-C2: Operational Monitoring of Key Ecosystems and Related Services
- Lead (Poc) of the Group of Earth Observation - DI-01-C2 (2014-2018): Geohazards Monitoring, Alert, and Risk Assessment
- **Educational Activity:**
- Master Programme: Global Assessment and Monitoring Using Remote Sensing;
- Bachelor Programme: Implementation, management and political strategies of space missions for earth observation. PhD Programme: GIS&Geomatics
- **Projects (most recent):**
- June 2021 – PI for PRISMASCIENZA ASI funding (Budget 300.000 €) with NASA on coastal risk.
- March 2021 – co-PI for NASA Science Team for the OCO Missions NRA NNH20ZDA001N Space-based Detection and Quantification of CO2 Point Sources.
- Sept 2020 – co-PI on the 'ECFAS H2020 (Budget 3.000.000 €) - The ECFAS project will contribute to the evolution of the Copernicus Emergency Monitoring Service by demonstrating the technical and operational feasibility of a European Coastal Flood Awareness System.
- Feb 2020 – co-PI on the NOCTUA (Lombardy Region POR Budget 7.000.000€) Landscape monitoring using small New Compact SAR Satellite.
- Sep 2019 - PI on the 'EFLIP - Economic impacts of flood risk in Lombardy and innovative risk mitigation policy project: will boost innovation and uptake of the DRR activities at Regional level in the face of climate variability and short-term climate change. Cariplo Funding: 250.000€.

Business or sector Public University

01/09/2007 – ongoing

Adjunct Associate Professor

ISPRA Italian Institute for Environmental Protection and Research, via Vitaliano Brancati 48, 00148 Rome <https://www.isprambiente.gov.it/en>

- Senior scientist of The Remote Sensing Group (surface processes, geomorphology and remote sensing). Projects manager and senior researcher in the field of image and signal processing, remote sensing, space, security, validation, environmental safety: focus area - coastal zone and Marine, Land, Agriculture and Air quality.
- ISPRA delegate to the PRISMA Advisory Group per la Data Exploitation (PAGE) of the National Hyperspectral Mission at ASI
- ISPRA Delegate to the Comitato di Sorveglianza della Space Economy at Ministry of Industrial Development (<https://www.mise.gov.it/index.php/it/impresa/competitivita-e-nuove-imprese/space-economy>)
- Italian Delegate to EU at Copernicus User Forum (2014 – ong) and at Copernicus Committee (2014-ong)
- Member of the ‘Technical Space Committee’ at Presidenza del Consiglio dei Ministri (2018-ong)
- Member of the Joint Scientific Committee of ASI-ISPRA (2016-2020)
- Head of the Space Economy implementation Group in ISPRA (managing 20 people of 4 different department for the Mirror Copernicus Master Plan)
- EU National expert for the Maritime Spatial Planning Framework Directive (2014-2018)
- **Projects (most recent):**
- January 2020 – July 2021: PI on ESA RFQ/3-15502/18/NL/IA – CHIME Mission Requirements Consolidation 250.000€. October 2018 – January 2020: PI CHIME Mission Requirements Consolidation: The objective is to assess if the development of a Copernicus hyperspectral satellite mission in the "Agriculture food security & raw materials" application domains. Funding: 350.000€.
- March 2017 – May 2021: Project scientist of two Operational Services implementation ASI-ISPRA projects on Habitat Mapping and Air Quality Funding: 6.000.000€.
- Dec. 2016 – Jan. 2018 (PI): Team Leader ISPRA ESA/AO/1-8579/16/I-SBo "HYPERSPETRAL IMAGING MISSION CONCEPTS. Funding: 500.000€. The user requirements for such new Copernicus hyperspectral mission addressing both institutional and private sector user communities.
- April 2016 – Ongoing (co-I ISPRA): EEA/IDM/15/026/LOT 2 Budget 400.000€ "Framework service contract for Services Supporting the EEA – Implementation of cross-cutting activities for coordination of the in situ component of the Copernicus Programme Services. Responsible Task Marine in-situ.
- June 2017 – September 2020: PI on the 'H2020-SC5-2016-2017 – CLARA – Climate forecast enabled knowledge services' project. The CLARA project will boost innovation and uptake of climate services based on front line seasonal and decadal forecasts and climate projections. Funding: 3.500.000€
- May 2015 – June 2019 (Co-I): DG GROW Contract Agreement -385/PP/2014/FC1 (Copernicus User Uptake Framework Contract) Support to the take-up of Copernicus services by users Lot1 and Lot2 (Budget 1.657.583,75€) Execution of the user uptake activities to prioritise engagement towards user communities. Responsible of the Coastal Marine.
- June 2015 – June 2018 (co-I): JMAP Coastal Mapping DG Mare Project (Budget 3.000.000 €). The project's objective is to analyse the needs and means in Europe for the acquisition of marine topobathymetrical data in coastal areas. and prepare future mapping programme to develop a Joint European Coastal Mapping Programme.
- June 2015 – October 2019 (co-I): Ecopotential H2020 Project (Budget 16.000.000 €). ECO-POTENTIAL focuses on internationally recognized PAs in Europe and beyond in a wide range of biogeographic regions, and it includes UNESCO, Natura2000 and LTER sites. Best use of Earth Observation (EO) and monitoring data is enabled by new EO open-access ecosystem data services (ECOPERNICUS).

Business or sector Public Research Governmental Agency for the Environment

01/09/2012 – ongoing

Adjunct Professor and Lecturer ‘GIS and Remote sensing’

Eucentre Via A. Ferrata, 1 – Pavia (Italy) - <https://www.eucentre.it/?lang=en>

- Jan 2017 – Dec 2019: Project Manager GREEN - Grant Agreement ECHO-SUB-2016-740172-PREV18 GREEN "Green Infrastructures for disaster risk reduction protection: evidence, policy instruments and marketability using Copernicus" (DG ECHO). Budget 500.000€:
- Jan 2014 – Jan 2017: Project Manager Ecological Coastal Strategies and Tools for Resilient European Societies ECOSTRESS (GA ECHO/SUB/2013/671461) Budget 500.000€: focused on the search of better-integrated strategies through the strengthening of the risk prevention and disaster management cycle of the coastal zones.

Business or sector Private non-profit foundation of the National Civil Protection that pursues a mission of research, training and service provision in the field of risk engineering

01/02/2004 – 31/12/2009

Adjunct Associate Research Scientist

Columbia University – New York - Lamont Doherty Earth Observatory - Private non-profit University, New York, NY 10027, Stati Uniti <https://www.ldeo.columbia.edu/>

Perugia University – Master Degree Course in Civil Protection Activities; **LaSapienza University** Rome, Master Degree course in Ecobiology

- 2006 – 2008 NSF Granted Proposal, Columbia University — INGV Rome: Project on uplifting and faulting at the transition from subduction to collision – a field and modelling study of the calabrian arc (3.000.000 \$).
- 2005 – 2006 Sino-Italian Collaboration Program For Environmental Protection Granted Proposal, Columbia University - Italian Ministry of Environment (International Environment Protection Branch) (co-PI): Project on Environmental Base Line Identification (Beijing and Alashan Area, China) for dust storm emission using remote sensing (Budget 380.000 €).
- 2005 - 2006 Granted Proposal, World Food Programme – University of Perugia (co-PI): project on “Strategy to delineate potentially affected areas by hurricane using a GIS approach” - Service Agreement No. SA/2006/08 (Budget 20.000 \$).

EDUCATION AND TRAINING

1/01/2002 – 1/01/2004

Postdoctorate

Lamont-Doherty Earth Observatory of Columbia University, New York, USA

- Assessing topography and surface changes using SAR techniques and multispectral imagery

1/01/1999 – 31/12/2001

PhD in Geomorphology, Hydrogeology, Engineering Geology

University of Perugia with 2 year visiting period at Lamont-Doherty Earth Observatory of Columbia University, New York, USA

- Ph.D. with (Prof. C. Cattuto) in collaboration with Ldeo of Columbia University (C.P. Stark and Prof. J.K. Weisse). Thesis on “Landslide Mechanisms and Hazard Assessment in central Apennines Italy

1/09/1998 – 31/12/1999

MBA “Business Administration of Environmental and Natural Resources”

University School of Advanced Studies Sant’anna, Piazza Martiri della Libertà, 33, 56127 Pisa

- Thesis on “Environmental emergencies management”.

1/09/1990 – 31/05/1996

Master degree in Geology

Università degli Studi di Perugia

- Thesis on “Landslides risk assessment”

PERSONAL SKILLS

Mother tongue(s)

Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
Spanish	B1	B1	B1	B1	B1

Peer Review, Evaluation/Validation, Monitoring of Project

- 2021: HE Civil Security for Society Calls Evaluations 2021 (FCT, BM, RI, DRS and SSRI)
- 2019 - 2020: NERC UK - SPF Constructing a Digital Environment Feasibility Studies Open Call
- 2017 Swedish National Space Board Call 2017
- 2016 Horizon 2020- Societal Challenge 2- 2016 calls - Expert contract number: CT-EX2006C132493-101.
- 2016 H2020 BONUS call 2015: Blue Baltc: Theme 5.1: Developing and improving scientific basis for integrated monitoring programmes for continuous assessment of ecological status and human pressures
- 2016 – 2018 STEREO III - Support to the Exploitation and Research of Earth Observation data" call for proposals 2016 and 2018 Belgian Science Policy Office.

Computer skills

- Operating systems: UNIX, Windows, MS-dos.
- Packages for graphics: AutoCAD 14, Corel Draw 11.
- Numerical toolkits and object-oriented programming: Matlab, IDL.
- Software for databases: SPSS, DB3-Plus, Access, and Excel.
- G.I.S. and Remote sensing: ArcGis9.x, ArcInfo 8, ArcView, ErMapper, Envi

ADDITIONAL INFORMATION

Consulting

01/07/2011 – 01/06/2012 **Senior Consultant** to UNDP: GIS and Vulnerability Assessment for the United Nations Development Program (UNDP) and GESP Joint Venture (Joint Venture between GESP S.r.l., GIS4C B.V. and CGS-EI of UWI) in the “Provision of Services to Caribbean OCTs. Lot1: GIS and Vulnerability Assessment”: EU project <http://r3i.gis-hmva.gesp.it/home>
 Feb. 2004 – July 2005 **Project Manager** at Sviluppo Italia, at the Italian Ministry of Environment (*Quality of life branch*). Projects: - *Modelling the Cecina river Basin, Tuscany, Italy, within the framework of the EU Water Directive, using multispectral and multitemporal imageries (Ikonos) within a GIS environment*; - Implementing the G.I.S. (ArcInfo 9.0) of the activities related to the risk management of national hazardous brownstone sites.
 Jan. 2002 – June 2003 **Project Officer** Ide@data, Rome for the Italian Ministry of Environment at UN and World Bank in New York (*Energy project assessment - report on various energy projects under climate change forcing led by International Bodies such as UN, World Bank and EPA*)

Feb.1998 – Feb.2000 **Project Officer** at Arca Consulting, Firenze (Research and drafting on international tender documentation and development of project in the field of natural resources management. Projects:

1. LIFE – Urgent Safeguard Actions for the Sites of Community Interest. 2. EU – E.I.A. of the Kosovo environmental emergency on Albania. 3.ADB. - *Capacity Building for Decentralization of the E.I.A. Process in Indonesia*

Jan. 1997 – Jan.1998 **Project Officer** ENEA, Rome (*National Nuclear waste deposit study using GIS*)

Publications (recent)

- Schiavon E, Taramelli A, Tornato A, (2021), Fuzzy Cognitive Mapping of Stakeholder Perceptions to Assess Green Infrastructures Potential in Agriculture: A Tool for Participatory Governance, in press, Environmental Development, 100671
 - Morelli, A. Taramelli A. Bozzeda F, Valentini E, Colangelo M, Rodriguez Cueto Y., 2021, The disaster resilience assessment of coastal areas: a method for improving the stakeholders’ participation, in press, Ocma. 214, 105867.
 - Schiavon E, Taramelli A, Tornato A, Pierangeli F, (2021), Monitoring environmental and climate goals for European agriculture: user perspectives on the optimization of the Copernicus evolution offer, Journal of Environmental Management 296 (2021): 113121.
 - De Peppo, M., Taramelli, A., Boschetti, M., Mantino, A., Volpi, I., Filippini, F., ... & Ragagnini, G. (2021). Non-Parametric Statistical Approaches for Leaf Area Index Estimation from Sentinel-2 Data: A Multi-Crop Assessment. Remote Sensing, 13(14), 2841.
 - Taramelli, A.; Valentini, E.; Piedelobo, L.; Righini, M.; Cappucci, S., (2021), Assessment of State Transition Dynamics of Coastal Wetlands in Northern Venice Lagoon, Italy. Sustainability 13, 4102.
 - Agrillo, E., Filippini, F., Pezzarossa, A., Casella, L., Smiraglia, D., Orasi, A., & Taramelli, A. (2021). Earth Observation and Biodiversity Big Data for Forest Habitat Types Classification and Mapping. Rem. Sen. 13(7), 1231.
 - Geraldini, S., Bruschi, A., Bellotti, G., & Taramelli, A. (2021). User Needs Analysis for the Definition of Operational Coastal Services. Water, 13(1), 92.
 - Taramelli, A., Valentini, E., Righini, M., Filippini, F., Geraldini, S., & Nguyen Xuan, A. (2020). Assessing Po River Deltaic Vulnerability Using Earth Observation and a Bayesian Belief Network Model. Water, 12(10), 2830.
 - Smiraglia, D., Filippini, F., Mandrone, S., Tornato, A., & Taramelli, A. (2020). Agreement Index for Burned Area Mapping: Integration of Multiple Spectral Indices Using Sentinel-2 Satellite Images. Remote Sensing, 12(11), 1862.
 - Taramelli, A.; Tornato, A.; Magliozzi, M.L.; Mariani, S.; Valentini, E.; Zavagli, M.; Costantini, M.; Nieke, J.; Adams, J.; Rast, M. (2020), An Interaction Methodology to Collect and Assess User-Driven Requirements to Define Potential Opportunities of Future Hyperspectral Imaging Sentinel Mission. Remote Sens., 12, 1286.
 - Valentini, E.; Taramelli, A.; Cappucci, S.; Filippini, F.; Nguyen Xuan, A. (2020), Exploring the Dunes: The Correlations between Vegetation Cover Pattern and Morphology for Sediment Retention Assessment Using Airborne Multisensor Acquisition. Remote Sens., 12, 1229.
 - Taramelli, A.; Cappucci, S.; Valentini, E.; Rossi, L.; Lisi, I. (2020), Nearshore Sandbar Classification of Sabaudia (Italy) with LiDAR Data: The FHyl Approach. Remote Sens., 12, 1053.
 - Piedelobo, L.; Taramelli, A.; Schiavon, E.; Valentini, E.; Molina, J.-L.; Nguyen Xuan, A.; González-Aguilera, D. (2019) Assessment of Green Infrastructure in Riparian Zones Using Copernicus Programme. Rem Sens., 11, 2967.
 - Taramelli, A., Lissoni, M., Piedelobo, L., Schiavon, E., Valentini, E., Xuan, A. N., & González-Aguilera, D. (2019). Monitoring Green Infrastructure for Natural Water Retention Using Copernicus Global Land Products. Remote Sensing, 11(13), 1583.

Invited Presentations (recent)

22/05/2021 Venice Biennial Architecture 2021 How will we live together? Title: Copernicus DataFrame
 20/05/2021 C3S General Assembly – ECMWF. Title: Copernicus Market Place – National Italian downstream activity in the Climate Change domain
 13/04/2021 ASI - Hyperspectral Remote Sensing Workshop 2021: PRISMA Mission and beyond - Title: Methods for hyperspectral user community requirements definition
 06/10/2020 CAMS USER WORKSHOP – ECMWF. Title: COMAP National Italian downstream activity
 26/10/2019 St. John’s College, University of Cambridge, Title: Environment and infrastructures: The role of Copernicus and Earth Observation in a Policy Context
 03/10/2019 EEA – European Commission (Brussels): Copernicus land monitoring service coastal zones - user consultation meeting. Title: Institutional user needs for coastal zones: the Italian approach
 02/10/2019 Mercator Ocean – European Commission (Brussels): COPERNICUS MARINE for MSFD. Title: EU Member State experience, needs and priorities in terms of Copernicus Marine data for MSFD: the case of Italy
 18/07/2019 Science Collaboration TEAM of the NASA Jet Propulsion Laboratory, Ho Chi Minh University of Technology, VN Space Technology Application Center. Title: Improving Future Ecosystem Benefits through Earth Observations
 11/07/2019 ESA – NASA Joint Meeting, Frascati International Cooperation in Spaceborne Imaging Spectroscopy. Title: CHIME project: potential value-added products of hyperspectral mission in the “Agriculture & food security” and “Raw materials exploration” application domain
 17/01/2018 Egyptian- Italian workshop on Blue Economy – Biblioteca di Alexandria. Title: Maritime Spatial Planning and Integrated Coastal Zone Management in the Mediterranean
 22/11/2017 DG GROW Space Week 2017: Copernicus International day. Title: Copernicus User Forum -The Support of Copernicus on Agricultural Policies: The Italian Case Studies
 29/06/2017 European Commission DG Grow. Title: European Policy Perspective, Copernicus for coastal zone monitoring and management
 11/10/2016 International Space Science Institute (ISSI), Bern, Switzerland KEY NOTE LECTURE. Title: Living deltas and use of EO data, 2016, ISSI FORUM “Monitoring coastal zones evolution under various forcing factors using space-based observing systems”