CURRICULUM VITAE ET STUDIORUM: Prof. Vittoria Scorpio

EDUCATION

- **12/2007** Degree in Geology at the University of Naples Federico II
- **01/2012** Ph. D. in Earth Science at the University of Naples Federico II

PRESENT and PREVIOUS POSITIONS or FELLOSHIPS

- From 02/2025. Associate Professor at the University of Modena and Reggio Emilia.
- From 02/2022 to 01/2025. Researcher at the University of Modena and Reggio Emilia.
- From 02/2020 to 01/2022. Researcher at EURAC Research (Bolzano, Italy). Project: 'CoupEvent, Hillslope - Channel coupling during extreme events in South Tyrol'.
- From 03/2019 to 14/2019. Researcher at CNRS (Centre National de la Recherche Scientifique Unité UMR 5600 EVS, Lyon, France). Project: 'Etude regionalisee de la retraction des lits fluviaux'.
- From 05/2017 to 01/2018. Postdoctoral position at Free University of Bolzano-Bozen (Bolzano, Italy). Project: 'FHARMOR Fish Habitat in Alpine Rivers: Integrating Monitoring, Modelling and Remote Sensing'.
- From 05/2015 to 04/2017. Postdoctoral position at Free University of Bolzano-Bozen (Bolzano, Italy). Project: 'Etsch-2000: Evolution of the Etsch River: Historical changes in channel morphology over 2 millennia'.
- From 03/2012 to 03/2015. Postdoctoral position at University of Molise (Isernia, Italy). Project: 'Analisi e caratterizzazione degli aspetti geologici e geomorfologici applicativi dei 32 comprensori comunali della provincia di Isernia a più elevata pericolosità sismica e redazione di cartografia tematica in ambiente GIS'.

MEMBERSHIPS AND APPOINTMENTS

- Member of the Doctorate School 'Models and methods for material and environmental sciences' of the University of Modena and Reggio Emilia (from the academic years 2022/2023 to 2023/2024)

ORGANISATION OF SCIENTIFIC MEETINGS AND SCHOOLS

- Organizer of the 2022 workshop 'Fluvial system 2022' at University of Modena and Reggio Emilia.

FUNDING AND PROJECTS

- 2023 (in progress). Vice-PI, and research unit project management in the project 'BAD2BED-BADland morphodynamics assessment and hillslope-channel BED coupling in the context of global change'.
- 2023 (in progress). PI the project 'Geomorphological analysis of the Serio River aimed at its integrated and sustainable management', project founded by Autorità di bacino distrettuale del fiume Po. University of Modena and Reggio Emilia (Italy).
- From 2022 to 2023. Participant in the project "Analisi dell'interazione tra dinamica fluviale e processi di versante ai fini dell'individuazione di situazioni di rischio geomorfologico", University of Modena and Reggio Emilia. Project founded by Agenzia regionale per la sicurezza territoriale e la protezione civile, Emilia Romagna. University of Modena and Reggio Emilia (Italy). PI: Mauro Soldati

- From 2020 to 2022. PI in the project 'CoupEvent, Hillslope - Channel coupling during extreme events in South Tyrol', project founded by Autonomous Province of Bolzano – Bozen. (Eurac Research, Italy).
- From 2018 to 2019. Participant in the project 'SEDIPLAN, Sediment budgeting and planning for rivers in South-Tyrol: from hazard mitigation to environmental restoration'. Free University of Bolzano - Bozen (Italy). PI: Francesco Comiti.
- From 2017 to 2018. Participant in the project 'FHARMOR, Fish Habitat in Alpine Rivers: Integrating Monitoring, Modelling and Remote Sensing'. Free University of Bolzano - Bozen (Italy). PI: Francesco Comiti.
- From 2017 to 2015. Participant in the project 'ETSCH-2000, Evolution of the Etsch River: Historical changes in channel morphology over 2 millenia'. Free University of Bolzano - Bozen (Italy). PI: Francesco Comiti.
- From 2012 to 2015. Participant in project 'Studio dell'area della Provincia di Isernia finalizzato alla conoscenza e caratterizzazione degli aspetti geologici e geomorfologici relative ai siti maggiormente antropizzati'. University of Molise (Italy). PI: Carmen Rosskopf.

ACTIVITIES IN REFERRED SCIENTIFIC JOURNALS.

Guest Editor for the Special Issue "Fluvial geomorphology: sediment transport, river management, and extreme events at different spatial and temporal scales". Journal: Geomorphology. (https://www.sciencedirect.com/special-issue/10HLXBL8C67)

Reviewer for: Catena, Earth surface Processes and Landforms, Geografia Fisica e Dinamica Quaternaria, Geomorphology, Global and Planetary Change, Hydrological Sciences Journal, International Journal of River Basin Management, Journal of Hydrology, Journal of Maps, Oxford Bibliographies in Environmental Science, Rendiconti online della Società Geologica Italiana, River Research and Applications, Science of Total Environment, Water, Water Resources Research, Natural Hazards.

SELECTED INVITED PRESENTATIONS

- Invited speaker at the 9th international Gravel Bed River Workshop, Integrated assessment of gravel-bed rivers, Villarrica, Chile, 09 - 14 January 2023. Title: Historical changes on long-impacted rivers. https://gbr9.udp.cl/scientific-program/
- keynote speaker at the 90th Italian Geological Society Meeting, session, "S13. Floods". Trieste, 14-16 September 2021. Title: Geomorphic effects of large floods: some examples from Italian river. https://www.geoscienze.org/trieste2021/BECong/sessione_programma.php?sessione2=16
- Invited speaker at the academic-stakeholder Workshop "Challenges in managing Fluvial Systems in Anthropocene innovations in analyzing Rivers Co-evolving with Human Activities". I.S. Rivers Conference 2018 - Integrative Sciences and Sustainable Development of Rivers. Lyon - 4-8 June 2018. Title: Historical channel changes of Alpine Rivers: some case study from South Tyrol (Italy).
- Seminar at the Universität Tübingen (Tübingen, Germania). GeoEnviron seminar. Geoscience Department of the Eberhard Karls University of Tübingen. Tübingen 13 July 2018. Title: Historical Changes in European Rivers.

AWARDS

- 09/2022: Best poster at the conference ASITA 2022, Il ruolo del monitoraggio nello studio e gestione del rischio idrogeologico per la tutela del territorio montano, Badia, Italia. Poster's title: Monitoring storm-induced morphological effects in a dolomitic catchment of the Italian Alps.
- 07/2010: Best oral presentation, Liviu Constantinescu Award, at the10th edition of the international summer school, Environmental Hazards and sustainable development in mountain regions. Prize released by the Institute of Geography Romania, Romanian Academy, and the National Committee for global environmental change.
- 2018: National Scientific Enabling (ASN) for the position of Associate Professor in the sector 04/A3 Applied Geology, Physical Geography and Geomorphology

SUPERVISION OF PhD STUDENTS AND POSTDOCTORAL FELLOWS

- 2023-2024. Supervisor of the post-doctoral fellow, Dr. Sharon Pittau, for the project'Geomorphological analysis of the Serio River aimed at its integrated and sustainable management'.
- 2024-2025. Supervisor of the post-doctoral fellow, Dr. Pavani Misra for the project PRIN2022- 'BAD2BED- BADland morphodynamics assessment and hillslope-channel BED coupling in the context of global change'.

TEACHING ACTIVITIES

- Teacher of the course: 'Hydraulic risk' at the master's degree course in Geosciences, Geohazard and Geo-resources of the University of Modena and Reggio Emilia. (from the academic years 2022/2023 to 2023/2024)
- Teacher of the course: 'Geographic Information Systems' at the bachelor's degree course in Geological Sciences of the University of Modena and Reggio Emilia (from the academic years 2023/2022 to 2024/2025)
- Teacher of the course: 'Physical Geography' at the bachelor's degree course in Natural Sciences of the University of Modena and Reggio Emilia (academic years 2022/2023)
- Teacher of the course: 'Basics of Geology and Geomorphology' at the bachelor's degree course in Agricultural, Food and Mountain Environmental Sciences of the Free University of Bolzano-Bozen. (academic year 2021/2022).
- Teacher of the course: 'Vertiefung der Physiogeografie' (Physical Geography) at the bachelor's degree course in Geography of the Alpen- Adria Universität, Klagenfurt, Austria. (academic years 2019/2020)
- Teacher of the course: 'Interdisziplinäre Regionalstudien I für BA Geographie als Vorbereitung zur Südtirol-Exkursion' at the bachelor's degree course in Geography of the Alpen- Adria Universität, Klagenfurt, Austria. (academic years 2018/2019 and 2020/2021)
- Teacher of the course: 'Hydromorphology' at the master's degree course in Civil Engineering for Mitigation of Risk from Natural Hazards of the University of Pavia (from the academic years 2017/2018 to 2020/2021)

BRIEF DESCRIPTION OF THE RESEARCH ACTIVITY

(1) Fluvial Geomorphology
(2) Flood hazard scenarios
(3) Human impact on the fluvial system
(4) Hillslope - channel coupling
(5) Sediment connectivity

LIST OF SCIENTIFIC PUBLICATIONS ON INTERNATIONAL JOURNALS WITH IF.

1. **Scorpio V**., Comiti F. (2024). Channel changes during and after extreme floods in two catchments of the Northern Apennines (Italy). Geomorphology, 109355. https://doi.org/10.1016/j.geomorph.2024.109355

2. **Scorpio V.,** Comiti F., Liébault F., Piégay H., Rinaldi M., Surian N. (2024a). Channel changes over the last 200 years: A meta data analysis on European rivers. Earth Surface Processes and Landforms, 1–26. https://doi.org/10.1002/esp.5848

3. Engel M., Coviello V., Savi S., Buter A., Andreoli A., Miyata S., Marchetti G., **Scorpio V.**, Rathburn S., Nicholson L., Comiti F. (2024). Meltwater-driven sediment transport dynamics in two contrasting alpine proglacial streams. Journal of Hydrology, 635, 131171. https://doi.org/10.1016/j.jhydrol.2024.131171

4. **Scorpio V.**, Andreoli A., Dinkelaker N., Marchese E., Coviello V., Gems B., Vignoli G., Comiti F. (2024b). Multi-decadal quantification of interactions between coarse sediment fluxes and channel management in South Tyrol, Eastern European Alps. Earth Surface Processes and Landforms, 1–21. Available from: https://doi.org/10.1002/esp.5804

5. Pitscheider F., Steger S., Cavalli M., Comiti F., **Scorpio V**. (2024). Areas simultaneously susceptible and (dis-)connected to debris flows in the Dolomites (Italy): regional-scale application of a novel data-driven approach. Journal of Maps, 20:1, 1-14. DOI: 10.1080/17445647.2024.2307549 https://www.tandfonline.com/doi/full/10.1080/17445647.2024.2307549

6. Ruiz-Villanueva V, **Scorpio V.**, Bachmann A., Brousse G., Cavalli M., Comiti F., Crema S., Fernández E., Furdada G., Hajdukiewicz H., Hunzinger L., Lucia A., Marchi L., Moraru A., Piégay H., Piton G., Rickenman D., Righini M., Surian N., Yassine R., Wyżga B. (2023) Channel widening in mountain and foothills areas during floods: insights from a European meta-analysis. Science of Total Environment 903, 166103. https://doi.org/10.1016/j.scitotenv.2023.166103

7. Parenti C., Rossi P., Mancini, F., **Scorpio, V.**, Grassi F., Ciccarese G., Lugli F., Soldati M. (2023). Multitemporal Analysis of Slow-Moving Landslides and Channel Dynamics through Integrated Remote Sensing and In Situ Techniques. Remote Sens. 2023, 15, 3563. https://doi.org/10.3390/rs15143563

8. Ferrer-Boix, C., **Scorpio V.**, Martín-Vide, J.P., Núñez-González, F., Mora, F. (2023) Massive incision and outcropping in a former braided river due to mining and training. Geomorphology, 108774. https://doi.org/10.1016/j.geomorph.2023.108774.

9. Steger S., **Scorpio V.**, Comiti F., Cavalli M. (2022). Data-driven modelling of joint debris flow release susceptibility and connectivity. Earth Surf. Process. Landforms, 1-25. Available from: https://doi.org/10.1002/esp.5421

10. **Scorpio V.**, Cavalli M., Steger S., Crema S., Marra F., Zaramella M. et al. (2022). Storm characteristics dictates sediment dynamic and geomorphic changes in mountain channels: A case study in the Italian Alps. Geomorphology, 403, 108173. Available from: https://doi.org/10.1016/j.geomorph.2022.108173

11. Filocamo F., Leone N., Rosskopf C.M., **Scorpio V.**, Giralt S., Aucelli P.P.A. (2021). Quaternary Evolution of the Lower Calore and Middle Volturno Valleys (Southern Italy). Water, 13, 741. https://doi.org/10.3390/w13050741

12. **Scorpio V.**, Piégay H. (2021). Is afforestation a driver of change in italian rivers within the Anthropocene Era? Catena 198, 105031. https://doi.org/10.1016/j.catena.2020.105031

13. **Scorpio, V.**, Andreoli, A., Zaramella, M., Moritsch, S., Theule, J., Dell'Agnese, A., Muhar, S., Borga, M., Bertoldi, W., Comiti, F. (2020). Restoring a glacier-fed river: Past and present morphodynamics of a degraded channel in the Italian Alps. Earth Surf. Process. Landforms 45: 2804 – 2823. https://doi.org/10.1002/esp.4931.

14. Aucelli P.C.C., Valente E., Di Paola G., Amato V., Cesarano M., Cozzolino M., Pappone G., **Scorpio V.**, Rosskopf C.M. (2020). The influence of the geological-geomorphological setting on human settlements and historical urban development: the case study of Isernia (southern Italy). Journal of Maps. https://doi.org/10.1080/17445647.2020.1794989

15. Zerbe S., Rohrmoser O., **Scorpio V.**, Comiti F. (2019). Vegetationsentwicklung nach einer Flussrenaturierung in den Alpen. WasserWirtschaft 11, 18 - 23

16. **Scorpio V.**, Surian N., Cucato M., Dai Prá E., Zolezzi G., Comiti F. (2018). Channel changes of the Adige River (Eastern Italian Alps) over the last 1000 years and identification of the historical fluvial corridor. Journal of maps 14(2): 680-691. DOI: 10.1080/17445647.2018.1531074

17. **Scorpio V.**, Crema S., Marra F., Righini M., Ciccarese G., Borga M., Cavalli M, Corsini A., Marchi L., Surian N., Comiti F. (2018). Basin-scale analysis of the geomorphic effectiveness of flash floods: a study in the northern Apennines (Italy). Science of Total Environment 640–641, 337–351. DOI: 10.1016/j.scitotenv.2018.05.252

18. Aucelli PPC, Di Paola G, Valente E, Amato V., Bracone V, Cesarano M., Di Capua G., **Scorpio V.**, Capalbo A, Pappone G, Ravera F., Rosskopf CM (2018). First assessment of the local seismic amplification susceptibility of the Isernia Province (Molise Region, Southern Italy) by the integration of geological and geomorphological studies related to the first level seismic microzonation project. Environmental Earth Sciences 77(4), 118. DOI: 10.1007/s12665-018-7319-4

19. **Scorpio V.**, Zen S., Bertoldi W., Surian N., Mastronunzio M., Dai Prá E., Zolezzi G., Comiti F. (2018). Channelization of a large Alpine River: what it is left of its original morphodynamic? Earth Surface Processes and Landforms 43(5), 1044-1062 DOI: 10.1002/esp.430

20. Marchese E., **Scorpio V.**, Fuller I., McColl S., Comiti F. (2017). Morphological changes in Alpine rivers following the end of the Little Ice Age. Geomorphology 295, 811-826. DOI: 10.1016/j.geomorph.2017.07.018

21. De Vincenzo A., Molino J.A., Molino B., **Scorpio. V.** (2017). Reservoir Rehabilitation: the new methodological approach of Economic Environmental Defence. International Journal of Sediment Research 32, 288-294. DOI: 10.1016/j.ijsrc.2016.05.007

22. **Scorpio V.**, Rosskopf C.M. (2016). Channel adjustments in a Mediterranean river over the last 150 years in the context of anthropic and natural controls. Geomorphology 275, 90-104. DOI: 10.1016/j.geomorph.2016.09.017

23. **Scorpio V.**, Loy A., Di Febbraro M., Rizzo A., Aucelli P. (2016). Hydromorphology meets mammal ecology: morphological quality index, recent channel adjustments and otter resilience. River Research and Applications 32, 267- 279. DOI: 10.1002/rra.2848

24. **Scorpio V.**, Santangelo N., Santo A. (2016). Multiscale map analysis in alluvial fan flood-prone areas. Journal of Maps 12/2, 382-393. DOI: 10.1080/17445647.2015.1027155

25. **Scorpio V.**, Rosskopf C., Aucelli P.P.C., Pisano L. (2016). Ongoing channel changes in some major rivers in southern Italy. Rendiconti online Soc. Geol. It. 41, 73-75 DOI: 10.3301/ROL.2016.96

26. **Scorpio V.**, Aucelli P.P.C., Giano I., Pisano L., Robustelli G., Rosskopf C.M., Schiattarella M. (2015). River channel adjustment in Southern Italy over the past 150 years and implications for channel recovery. Geomorphology 251, 77-90. DOI: 10.1016/j.geomorph.2015.07.008

27. Santo A., Santangelo N., Di Crescenzo G., **Scorpio V.**, De Falco M., Chirico G.B. (2015). Flash flood occurrence and magnitude assessment in an alluvial fan context: the October 2011 event in the Southern Apennines. Natural Hazard. DOI: 10.1007/s11069-015-1728-4

28. Rosskopf C.M., **Scorpio V.** (2013). Geomorphological map of the Biferno river valley floor system (Molise, Southern Italy). Journal of Maps 9/1, 106-114. DOI: 10.1080/17530350.2012.755385

29. Santangelo N., Daunis-i-Estadella J., Di Crescenzo G., Di Donato V., Faillace P., Martin-Fernandez J.A., Romano P., Santo A., **Scorpio V.** (2012). Topographic predictors of susceptibility to alluvial fan flooding, Southern Apennines. Earth Surface Processes and Landforms 37, 803–817. DOI: 10.1002/esp.3197.

30. Chirico G.B., Di Crescenzo G., Santangelo N., Santo A., **Scorpio V.** (2012). Alluvial fan flooding hazard: the study case of Teglia (San Gregorio Magno, Salerno). Rendiconti online Soc. Geol. It. 21, 456-458.

31. Aucelli P.P.C., Amato V., **Scorpio V.**, Bracone V., Rosskopf C. (2012). Palaeo-landscape reconstruction and assessment of long-term erosion rates through DEM analysis: preliminary results from the Molise Apennine (Central-Southern Italy). Rendiconti online Soc Geol. It. 21, 1105-1107.

32. Santangelo N., Santo A., Di Crescenzo G., Foscari G., Liuzza V., Sciarrotta S., **Scorpio V.** (2011). Flood susceptibility assessmnet in a highly urbanized alluvial fan: the case of Sala Consilina (southern Italy). Nat. Hazards Earth Syst. Sci. 11, 2765-2782. DOI: 10.5194/nhess-11-1-2011.

33. Aucelli P.P.C., Fortini P., Rosskopf C. M., **Scorpio V.** and Viscosi V. (2011). Recent channel adjustments and riparian vegetation: some examples from Molise (Italy). Geografia Fisica e Dinamica Quaternaria 34, 161-173.

BOOK CHAPTERS AND MANUSCRIPTS IN JOURNALS WITHOUT IF.

1. Amato V, Aucelli P.P.C., Bracone V., Cesarano M., Di Paola G., Filocamo F., Rosskopf C.M, **Scorpio V**. (2014). Evoluzione geomorfologica di lungo termine del settore molisano dell'Appennino meridionale. In: Aucelli P.P.C, Rosskopf C.M. (eds) Evoluzione geomorfologica di lungo termine del paesaggio nell'Italia Meridionale. Arti Grafiche la Regione Editrice. SBN 978-88-98248-17-9