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Post-Doc Researcher

P.I. of DEFENS (FIS project)



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CNR-IGAG (National Research Council - Istituto di Geologia Ambientale e Geoingegneria)



Date of birth: September 13th, 1990 – Citizenship: Italian



Languages: Italian (native language) – English (advanced) – French (basic)



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CRUST member <https://www.crust.unich.it/>



Publications (on Scopus): **20** – h-index: **11** – citations: **507** – ID:57201214924



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Remote Pilot Certificate ITA-RP-016241



CV online: https://www.crust.unich.it/sites/st17/files/cv_simone_bello.pdf

«Don't tell me how educated you are, tell me how much you have travelled» "Muhammed".

Albania, Austria, Belgium, Croatia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Malta, Montenegro, Morocco, Slovakia, Slovenia, Spain, Switzerland, United States (Arizona, Arkansas, California, Colorado, Delaware, Idaho, Kentucky, Louisiana, Maryland, Mississippi, Nevada, New Jersey, New Mexico, New York, Pennsylvania, Tennessee, Texas, Utah, Virginia), Turkey, United Kingdom (England, Northern Ireland, Scotland).

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1. Scientific interests

My research focuses on Structural Geology, Seismotectonics, Active Tectonics, and High-Resolution Topography. I adopt a multidisciplinary approach, integrating field-based structural-geological observations (classic and modern techniques), with insights from geophysics, remote sensing, modeling and geochemistry to contribute to a comprehensive exploration of the dynamic processes shaping the Earth's crust, its deformation and evolution.

2. Academic Training and Qualifications

23/05/2023: National Scientific Qualification as Associate Professor in the Italian higher education system, for the disciplinary field of 04/A2 -Valid until 23/05/2034 (**Abilitazione Scientifica Nazionale** – ASN - al ruolo di Professore Universitario di Seconda Fascia - *Settore 04/A2 - 04/GEOS-02*- Valida fino al 23/05/2034).

30 Nov 2021: Graduation to Professional Geologist - Italian legislation license to practice as geologist (Abilitazione all'esercizio della **Professione di Geologo**).

23 Jun 2021: **Ph.D.** (*cum laude*) in Earthquake & Environmental Hazards with the Additional Title of “**International Doctor of Philosophy**”- School of Advanced Studies “G. D’Annunzio” – Via dei Vestini 31, 66100 Chieti (Italy) <https://www.disputer.unich.it/eeh-phd>;

Supervisor: Prof. Giusy Lavecchia; Co-supervisor: Prof. J Ramon Arrowsmith.

Title of the thesis: “*High-resolution surface faulting data analysis and interpretation of normal active fault earthquakes: case studies from the Apennines of Italy and from the Basin and Range Province of USA.*”

09 Oct 2017: **Master’s degree** in Geological Sciences & Technologies - full mark 110/110 *cum laude* - Department of Engineering & Geology - Università G. d’Annunzio, Chieti – Pescara (Italy) <https://www.ingeo.unich.it/>;

Title of the thesis: “*The Irpinia 1980 earthquake: a 3D interpretation from new field evidence and seismological data*”.

Supervisor: Prof. Giusy Lavecchia;

08 Oct 2014: **Bachelor’s degree** in Geological Sciences - Department of Engineering & Geology - University G. d’Annunzio, Chieti – Pescara (Italy).

3. Employment

01 Mar 2021 – present: **Research Fellow** GEOS-02/C

Project: “High-resolution morphotectonic and structural analysis of active faults in southern Apennines for the reconstruction of geometric and kinematic quantitative models”.

Affiliation: DiSPuTer - University G. d’Annunzio, Chieti – Pescara (Italy).

Financial support: 2021-2023: PRIN-2017 (scientific research Programs of Relevant National Interest)

2023-2024: DPC (Civil Protection Department, Presidency of the Council of Ministers)

Funds responsible: 2021-2023: Prof. Giusy Lavecchia

2023-2024: Prof. Rita de Nardis

4. Digital skills

Unmanned Aerial Vehicles data acquisition, Microsoft Office, Corel, Adobe, Move (Petex Ltd), ArcMap Gis, ArcGis Pro, QGis, Agisoft Metashape, WinTensor.

5. National/international research projects

2025 – 2027: FIS-2 (Fondo Italiano per la Scienza – Italian Ministry of University and Research)

Title of the Project: “DEFENS: 3D gEology-constrained seismic rupture dynamic models: a new interdisciplinary strategy For Earthquake forecastiNg and reSilience”

Specific role: **Principal Investigator**

Funded: € 1.328.314,90

Jun 2023 – present: project in collaboration with the CNR-IGAG (Centro Nazionale delle Ricerche – Istituto di Geologia Ambientale e Geoingegneria) after a scientific collaboration agreement between DiSPuTer-CRUST (University d’Annunzio) and CNR.

Title of the Project: “SEISMICAS: Studying sEISMogenic faults by structural, geochemical, and topographic AnalyseS”.

Specific role: **Principal Investigator** (Co-Coordination with Dr. Edoardo Peronace).

Funded: € 3.000,00

Nov 2022 – present: project admitted for funding on November 9, 2022, by the USGS (United States Geological Survey) on the basis of a competitive call with peer review (P.I. Chelsea Scott).

Title of the Project: "Constraining Coseismic Surface Displacement and Fault Slip from Topographic Differencing for the 1983 M6.9 Borah Peak, Idaho, Earthquake".

Specific role: **Scientific Coordinator** of the "Topographic Differencing" Work-Package.

Funded: \$ 54.534,00

Mar 2018 – 2023: PRIN (scientific research Programs of Relevant National Interest) project (P.I. Giusy Lavecchia).

Title of the Project: "Overtime tectonic, dynamic and rheologic control on destructive multiple seismic events - Special Italian Faults & Earthquakes: from real 4D cases to models".

Specific role: member and **WG Referent** (<https://www.crust.unich.it/node/7057>).

Funded: € 617.552,00

6. Teaching activities

6.1. Ph.D. Courses

2022/2024: Lecturer (10 hours/year), taught at the Ph.D. course in "Geosciences" at the School of Advanced Studies G. d'Annunzio (Italy).

2020/2022: Lecturer (10 hours/year), taught at the Ph.D. course in "Earthquake and Environmental Hazards" at the School of Advanced Studies G. d'Annunzio (Italy).

6.2. Bachelor's and master's degree courses

2022/2024: 30 hours/year teaching, class of Structural Geology, Department of Engineering & Geology - University G. d'Annunzio Chieti – Pescara (Italy).

2019/2022: 30 hours/year teaching, class of "Tectonics", Department of Engineering & Geology - University G. d'Annunzio Chieti – Pescara (Italy).

2019/2020: 30 hours teaching, class of Geologic mapping, taught at the Department of Engineering & Geology - University G. d'Annunzio, Chieti – Pescara (Italy) by Prof. Francesco Brozzetti.

May – June 2019: field teaching assistant, tectonic structures related to the volcanic complexes of Lanzarote island (Spain) - Class of Volcanology, Department of Engineering & Geology - University G. d'Annunzio Chieti – Pescara (Italy).

2018/2019: 30 hours teaching, class of Tectonics, Department of Engineering & Geology - University G. d'Annunzio Chieti – Pescara (Italy).

Mar 2016 – Feb 2017: teaching, class of Geologic mapping, taught at the Department of Engineering & Geology - University G. d'Annunzio Chieti – Pescara (Italy) by Prof. Francesco Brozzetti.

6.3. Master and Ph.D. students' supervision

Nov 2020 – Feb 2024 - Co-supervisor for Ph.D. Candidate, Dr. Carlo Andrenacci
University of Chieti

Thesis title: Integrated geometric, kinematic and dynamic multi-scale analysis of quaternary potentially seismogenic structures in peninsular Italy

June 2024 - Co-advisor for M.S. Camillo de Novellis
University of Chieti

Thesis title: Integrated structural-geological and geophysical analyses for the geometric-kinematic reconstruction of post-LGM deformation along the normal fault system of the Middle Aterno Valley, Abruzzo (Italy).

7. Visiting positions and research experiences abroad

Oct 2023: European Earthquake Geology Task Force (EuQuaGe) experience in Turkey. The goal was to acquire detailed field observations of the **February 2023 Turkish seismic sequence** effects on the landscape. EuQuaGe team was composed of 18 researchers from Italy, France, Portugal and Turkey.

Sep 2019: Fieldwork to collect field data along the coseismic rupture of the 2019 Ridgecrest earthquake (California).

Jan – Dec 2019: Visiting researcher, School of Earth and Space Exploration – Arizona State University (SESE-ASU); research on Basin and Range normal faulting and earthquakes.

8. Honors and Awards

Jan 2024: “Geosciences 2023 Outstanding Reviewer Award” - € 500.00 and a voucher of € 2500.00 to publish a paper in 2024 after peer review. The two winners were announced by Professor Olivier Lacombe at the EGU 2024 Award Ceremony (Vienna, Austria, 14–19 April 2024)

(https://www.mdpi.com/journal/geosciences/awards.pdf/0/pdf/79_2023_1_award_65bb2b8696495.pdf;
<https://www.mdpi.com/journal/geosciences/announcements/7678>)

2022-2024: Nominated “Subject Expert” (“Cultore della Materia”) at the Faculty of **Seismotectonics, Structural Geology, and Geological Survey** (by the Department of Engineering & Geology - University G. d'Annunzio, Chieti – Pescara (Italy).

Jan 2023: Winner of the "Fabrizia Arduini" Award - economic contribution of € 2,000.00, for highly qualified Ph.D theses of the 33rd and 34th cycle judged “cum laude” by the final Examining Committee. The award is granted by the Department of Psychological, Health and Territory Sciences (DiSPuTer) of the G. d'Annunzio University.

Jul 2019: Awarded with the second place at the Best Poster Competition – CRUST workshop in memory of Giampaolo Piali – Perugia 9–10 July 2019; Abstract title: “The 1983 Borah Peak earthquake (M_w 7.3, Io IX MCS) (Idaho - USA) - 3D architecture and seismotectonics”.

Sep 2018: Awarded with a scholarship from the Italian Geological Society for the participation at the Joint Conference SGI-SIMP Catania 2018, for the presentation of the work: “3d fault model of the Campania-Lucania (southern Italy) 1980 earthquake from new field evidence and seismological data” (Bello S., Lavecchia G., Scarpa R., Brozzetti F., Cirillo D. & Ferrarini F.)

09 Oct 2017: Awarded for the performance of a CRUST Master's Thesis, full mark 110/110 *with Honors*.

9. Service

9.1. Outreach and University public roles held

28 Nov 2023: UNDRR (United Nations Office for Disaster Risk Reduction) report on the 2023 Türkiye earthquake - <https://www.preventionweb.net/news/first-field-exercise-european-earthquake-geology-task-force-euquake-performed-turkiye-surface>

02 Oct 2023: Participation to the XI edition of the “Settimana del Pianeta Terra” event (Earth Planet week) with the production of the documentary: “The Abruzzo Apennines between natural disasters and climate crisis”, by Bello S., Brozzetti F., Cipressi G., Cirillo D. Palmucci A., Pietrolungo F., & Talone D.

22 Mar 2023 – present: member of the “Internationalization” committee - degree course in Geological Sciences.

22 March 2023 – present: member of the “Relations with schools” committee - degree course in Geological Sciences.

2022 – present: member of the Social Media and WEB Working Group - degree course in Geological Sciences.

03 Mar 2021 – present: member of the educational guidance committee for schools - degree course in Geological Sciences.

22 Nov 2022: member of the organizing committee of the 30th anniversary of the Degree Course in Geology at the G. d'Annunzio University of Chieti.

2017 – 2021: member of the faculty board as Ph.D. student's representative for the Ph.D. Course in Earthquake and Environmental Hazards – EEH (Art. 1.2.1. - EEH Internal Regulation - <https://www.disputer.unich.it/eeh-phd/eeh-internal-regulation>)

2017 – 2021: Ph.D. students' representative in the Department of Psychological, Health and Territorial Sciences (DiSPuTer - <https://www.disputer.unich.it>)

9.2. Editorial Roles and Peer Reviewing

- Editor of “Open Geosciences” journal (<https://www.degruyter.com/journal/key/geo/html#editorial>)
- Academic Editor of PLOS ONE (<https://journals.plos.org/plosone/static/editorial-board>)
- Reviewer for (~70 reviews to date): Applied Sciences, Frontiers in Earth Sciences, Geomorphology, Geosciences, Journal of Asian Earth Sciences: X, Journal of Structural Geology, Lithosphere, Minerals, Natural Hazards and Earth System Sciences, Open Geosciences, Remote Sensing, Scientific Reports, Tectonics, Tektonika, Tectonophysics

10. Membership to Research Groups or Societies

- Affiliated with National Research Council - Istituto di Geologia Ambientale e Geoingegneria (CNR-IGAG)
- Member of the “European earthquake Geology Task Force” (EuQuaGe)
- Member of CRUST – (InterUniversity Center for 3D-SeismoTectonics) <https://www.crust.unich.it/>
- Member of Geological Society of America <https://www.geosociety.org/>
- Member of Società Geologica Italiana <https://www.socgeol.it/>
- Member of the Open EMERGE Working Group (Active during the 2016 – 2017 Seismic Sequence in Central Italy)

11. Training courses and activities

17-19 Ju 2019: Lectures on «Active faulting and topographic analysis» taught by Professor J Ramón Arrowsmith (School of Earth and Space Exploration - Arizona State University, Tempe, U.S.A.) and Professor Federica Ferrarini (University G. d'Annunzio Chieti – Pescara, Italy).

2019 Spring semester: Advanced Structural Geology (SES 598) taught by Dr. Chelsea Scott and Prof. J Ramon Arrowsmith – Arizona State University (AZ – USA).

31 Jul 2018: Acquisition certificate 24 CFU for FIT registration - credits for teaching.

11-16 Jun 2018: Advanced English Course - Academic writing and speaking - Nazareth College of Rochester (USA) - Chieti (Italy).

23-24 Apr 2018: Training course H2020 - ERC and MSCA Marie Skłodowska-Curie Actions - Scrittura di un progetto - APRE - Agenzia per la Promozione della Ricerca Europea.

Aug 2017 – Dec 2017: digital mapping of the surface faulting produced by the Central Italy seismic sequence.

12. Collaborations

12.1. Major foreign collaborations

Prof. *Arrowsmith J Ramon*, Arizona State University (USA); Prof. *Faure Walker Joanna*, University College London (UK); Dr. *Mouslopoulou Vasiliki*, Institute of Geodynamics, National Observatory of Athens (Greece); Dr. *Reitman Nadine*, United States Geological Survey (USGS), Colorado (USA); Prof. *Roberts Gerald*, University College London (UK); Prof. *Scott Chelsea*, Arizona State University (USA)

12.2. Major Italian collaborations

Prof. *Barchi Massimiliano R.*, University of Perugia; Prof. *Brozzetti Francesco*, University G. d'Annunzio, Chieti-Pescara; Dr. *Galli Paolo*, Dipartimento Protezione Civile - Presidenza del Consiglio dei Ministri; Dr. *Messina Paolo*, CNR; Prof. *Monaco Carmelo*, University of Catania – INGV Osservatorio Etneo; Prof. *de Nardis Rita*, University G. d'Annunzio, Chieti-Pescara; Prof. *Lavecchia Giusy*, University G. d'Annunzio, Chieti-Pescara; Prof. *Orecchio Barbara*, University of Messina; Dr. *Peronace Edoardo*, CNR; Prof. *Presti Debora*, University of Messina; Prof. *Scarpa Roberto*, University “E.R. Caianiello”, Salerno

13. National and International Conferences and Workshops

13.1. Organization

SGL SIMP Joint Congress 2024 – (3-5 Sept 2024, Bari, Italy)

Role: **Convener**

Session Title (Session S49): “Multidisciplinary approaches to the geometric and kinematic definition of seismogenic faults” – Conveners: A. De Matteo (UNIPV), F. E. Maesano (INGV), **S. Bello** (UNICH), D. Maestrelli (UNIFI)

CRUST Plenary Workshop 2024 (23-25 June 2024, Chieti, Italy)

Role: **Organizing Committee**

Title: “tools, data, and models for 3d seismotectonics: the Italian over time laboratory - II edition” (<https://www.crust.unich.it/node/7132>)

SIMP, SGI, SOGEL, AIV Joint Congress 2023 – (19-21 Sept 2023, Potenza, Italy)

Role: **Convener**

Session Title (Session S41): “Data and Questions on the deformation history of the southern Apennines of Italy: from long-term tectonics to seismogenic faulting” – Conveners: F. Brozzetti (UNICH), **S. Bello** (UNICH), C. Monaco (UNICT), B. Orecchio (UNIME), L. Valoroso (INGV)

Fieldtrip: MUSE 4d Itinerant Workshop (12-16 Jul 2022, Southern Apennines)

Role: **Main Leader**

Title: “A geological tour across some of the most destructive southern Apennines's earthquakes (Italy) from Campania-Lucania to Calabria”. <https://www.crust.unich.it/node/7110>

Participating institutions: CRUST, UNICH, UNICT, INGV, UNINA, UNIURB, UNIME, UNIPG.

13.2. Participation

(*= speaker; ***= invited speaker)

AGU 2024 – (9-13 Dec, Washington D.C., USA):

- C. Scott*, N. Reitman, M. Bunds, C. Brigham, M. Schwarz, **S. Bello**, N. Toke. “Insights on Remote Sensing Dataset Quality and Resolution Needs from Several Past Studies on Solid Earth Deformation”

PATA 2024 - (6-11 Oct, Los Andes, Chile):

- S. Pucci*, K. Kuterderm, B. M. Tekin, C. Erkmén, T. S. Köksal, R. Azzaro, R. Nappi, R. Nave, R. Ressurreição, E. Peronace, C. Varone, L. Schiliro*, S. Baize, L. Piccardi, A. M. Blumetti, P. Di Manna, V. Commerci, F. Ferrarini, **S. Bello**, M. Caciagli, R. Civico, P. M. De Martini, O. Tatar. “Documenting the surface rupture of 06 February 2023 Elbistan (Kahramanmaraş) Earthquake (Türkiye): the European Earthquake Geology Task Force (EuQuaGe).”

SGI-SIMP 2024 (3-5 Sep, Bari, Italy):

- Andrenacci C., **Bello S.***, Lavecchia G. “Get to Know the QUIN Database: Applications and potential insights from fault traces and over 8000 structural-geological data points in the Quaternary Extensional Belt of Italy”
- Andrenacci C.*, Lavecchia G., **Bello S.**, Pietrolungo F., de Nardis R. “Quaternary stress and strain patterns in the Italian peninsula from QUIN's data”
- Lavecchia G.*, Cirillo D., Andrenacci C., Pietrolungo F., **Bello S.**, Brozzetti F., de Nardis R., Valoroso L., Diaferia G., De Landro G., Presti D., Totaro C., Scolaro S., Orecchio B. “Field and seismic reflection constraints for the geometric and kinematic characterization of the Quaternary Extensional Fault System in the Campania-Lucania Arc (Southern Apennines, Italy)”
- Palmucci A.*, Brozzetti F., Akimbekova A., **Bello S.**, Ercoli M., Pauselli C., Carboni F., Barchi M.R., Lavecchia G., Cirillo D. “Field and seismic reflection constraints for the geometric and kinematic characterization of the Quaternary Extensional Fault System in the Campania-Lucania Arc (Southern Apennines, Italy)”
- Pietrolungo F.*, Palano M., Madarieta-Txurruka A., Srivastava E., Sparacino F., Sulli A., Parrino N., Andrenacci C., Cirillo D., **Bello S.**, Lavecchia G. “Strain-rate estimation and focal mechanism stress inversion in Himalaya-Tibet region”

CRUST Plenary Workshop 2024 (23-25 June 2024, Chieti, Italy)

- Lavecchia G.*, Cirillo D., Andrenacci C., Pietrolungo F., **Bello S.**, Palmucci A., Brozzetti F., de Nardis, Valoroso L., Diaferia G., De Landro G., Presti D., Totaro C., Scolaro S., Orecchio B. “Building a 3D Curvilinear Fault Model for the Potentially Seismogenic High-Angle and Low-Angle Interconnected Faults within the Campania-Lucania-Calabria Extensional Belt”
- Pucci S.*, Kuterderm K., Tekin B.M., Erkmén C., Köksal T. S., Azzaro R., Nappi R., Nave R., Ressurreição R.; Peronace E., Varone C., Schiliro* L., Baize S., Piccardi L., Blumetti A.M., Di Manna P., Commerci V., Ferrarini F., **Bello S.**, Caciagli M., Civico R., De Martini P. M., Tatar O. “Documenting the surface rupture of 06 February 2023 Elbistan (Kahramanmaraş) Earthquake (Türkiye): the European Earthquake Geology Task Force (EuQuaGe)”
- Palmucci A.*, Brozzetti F., Akimbekova A., Bello S., Ercoli M., Pauselli C., Carboni F., Barchi M.R., Lavecchia G., & Cirillo D. “Extensional Quaternary Fault System in the Campania-Lucania Arc (Southern Apennines, Italy): Field and Seismic Reflection data constraints”.

- Pietrolungo F.*, Palano M., Madarieta-Txurruka A., Srivastava E., Sparacino F., Sulli A., Parrino N., Andrenacci C., Cirillo D., **Bello S.**, Lavecchia G. *“Crustal strain-rate and stress field in the Himalaya-Tibet Region”*.

GNGTS 2024 (13-16 Feb. Ferrara, Italy):

- Lavecchia G.*, Andrenacci C., **Bello S.**, Pietrolungo F., Cirillo D., Carducci A., Ferrarini F., Brozzetti F., de Nardis R. *“From field geology to strain and stress inversion: multi-scale variations throughout peninsular Italy”*

SIMP, SGI, SOGEL, AIV Joint Congress 2023 (19-21 Sept. Potenza, Italy)

- Andrenacci C., **Bello S.**, Barbano M.S.*, de Nardis R., Pirrotta C., Pietrolungo F. & Lavecchia G. *“Revision and analysis of macroseismic data of some strong Calabria earthquakes (Italy) for seismotectonic purposes”*
- Andrenacci C.*, **Bello S.**, de Nardis R., Carducci A. & Lavecchia G. *“Evaluations and processing of kinematic classifications for the integration of seismological and geological-structural data in active tectonic contexts”*
- **Bello S.***, Brozzetti F., de Nardis R., Cirillo D., Andrenacci C., Pietrolungo F. & Lavecchia G. *“The 1857 Basilicata earthquake (M_w 7.2): is the Trans-Ridge Caggiano-Montemurro en-echelon normal fault the responsible?”*
- **Bello S.**, Perna M.G.*, Consalvo A., Brozzetti F., Galli P., Cirillo D., Andrenacci C., Tangari A.C., Carducci A., Menichetti M., Lavecchia G., Stoppa F. & Rosatelli G. *“Studying fault scarps with geochemical and topographic analyzes to understand past earthquakes: an example from the southern Apennines of Italy”*
- Cirillo D.*, Cerritelli F., Agostini S., **Bello S.**, Lavecchia G. & Brozzetti F. *“Structural-Geological Analysis through Integration of PPK-UAV Photogrammetry and Digital Field Mapping”*
- De Matteo A.*, Toscani G., **Bello S.**, Lavecchia G. & Seno S. *“The Campania-Lucania Extensional Fault System, Southern Italy: an analog modeling perspective”*
- Ferranti L.*, Akimbekova A., Carboni F., Bacchiani A., Ercoli M., Diaferia G., Valoroso L., **Bello S.**, Brozzetti F. & Toscani G. *“Crustal structure and last 15 years instrumental seismicity distribution in the Marzano-Irpinia area”*
- Ferranti L.*, Akimbekova A., Carboni F., Bacchiani A., Ercoli M., Diaferia G., Valoroso L., **Bello S.**, Brozzetti F. & Toscani G. *“Structural architecture and tectonic evolution of the west-central Campania-Lucania arc (Southern Apennines, Italy): constraints from seismic reflection profiles, well data and structural-geologic analysis”*
- Lavecchia G.*, **Bello S.**, Andrenacci C., Cirillo D., Pietrolungo F., Faure Walker J., Sgambato C., Talone D., Menichetti M., Monaco C., Gambino S., De Guidi G., Barreca G., Carnemolla F., Giuffrida S., Ferranti L., Carboni F., Valoroso L., de Nardis R., Roberts G. & Brozzetti F. *“Quaternary fault strain INDicators database (QUIN 1.0 and 2.0) – a release of more than 7000 fault/slip data with strain parameters from the Extensional Belt of Peninsular Italy”*
- Palmucci A.*, Brozzetti F., Akimbekova A., **Bello S.**, Ercoli M., Pauselli C., Carboni F., Barchi M.R., Lavecchia G. & Cirillo D. *“Extensional Quaternary faulting and basin development in the southern Campania-Lucania arc (Italy): architecture and kinematics constrained by field and seismic reflection data”*
- Peronace E.*, Cirillo D., Brozzetti F., **Bello S.**, Messina P. & Galli P. *“UAV photogrammetry for geomorphological and stratigraphic application in active tectonics perspective: The the case of the Vallone della Fornaca fan system”*

MUSE 4D Workshop (23-24 May 2023, INGV, Roma, Italy):

- Bello S.* *“Geochemical and high-resolution topographic analyses of fault scarps to infer past earthquake events: a case study from the Lucanian Apennines”*

EGU 2023 (23-28 Apr. Vienna, Austria):

- de Nardis R.*, Pandolfi C., Cattaneo M., Monachesi G., Cirillo C., Ferrarini F., **Bello S.**, Brozzetti F., & Lavecchia G. *“Geometry and stress interaction of a complex lithospheric-scale thrust system as unveiled by background seismicity and moderate seismic sequences - the Marche-Adriatic case (eastern Central Italy)”*.

GNGTS 2023 (07-09 Feb. Bologna, Italy):

- **Bello S.***** *“The Borah Peak Earthquake and the Lost River Fault (Idaho, M_w 6.9): A Case Study for Earthquake Geology and Seismogenesis”*
- **Bello S.***, Perna M. G., Consalvo A., Brozzetti F., Galli P., Cirillo D., Andrenacci C., Tangari A. C., Carducci A., Menichetti M., Lavecchia G., Stoppa F., Rosatelli G. *“Investigating past earthquakes with Rare Earth Elements and high-resolution topography: a multidisciplinary approach applied along the Caggiano fault (southern Apennines, Italy)”*
- de Nardis R., Pietrolungo F., Pandolfi C., **Bello S.**, Talone D., Lavecchia G. *“The 2022 compressional seismic sequence (M_w 5.5): another piece of information to the 3D seismotectonic fault model of the Marche-Adriatic offshore area (Italy)”*

TSG 2023 (10-12 Jan. Leeds, United Kingdom):

- **Bello S.*** *“Morphotectonic anatomy and segmentation pattern of the 1983, M_w 6.9 Borah Peak earthquake (Idaho, USA)”*
- Pietrolungo F.*, Lavecchia G., Pandolfi C., **Bello S.**, Talone D., & de Nardis R. *“The November 9, 2022, compressional seismic sequence (M_w 5.5)- another piece of information to the 3D seismotectonic fault model of the coastal Marche-Adriatic offshore area (Italy)”*

GeoEarth-2022 (22-23 Sept. Barcelona, Spain):

- **Bello S.***** “QUIN 1.0: a QUaternary fault strain INDicators database from Italy.”

SGI-SIMP 2022 (19-21 Sep, Turin, Italy):

- Adinolfi G.M.*, De Matteis R., **Bello S.**, Garofalo A. & Lavecchia G. “A recent, low-magnitude seismic sequence in the epicentral area of Ms 6.9, 1980 Irpinia earthquake”
- Andrenacci C.*, **Bello S.**, Barbano M.S., Carducci A., Pirrotta C., Pietrolungo F. & Lavecchia G. “A reappraisal of macroseismic data with statistical analysis for the strongest Calabrian earthquakes of the XVIII to XX centuries (southern Italy)”
- Cirillo D.*, Totaro C., Lavecchia G., Orecchio B., de Nardis R., Presti D., Ferrarini F., **Bello S.** & Brozzetti F. “3D fault model building and seismic potential in the Pollino area (Calabria–Basilicata, southern Italy)”
- Lavecchia G., **Bello S.***, Andrenacci C., Cirillo D., Ferrarini F., De Nardis R. & Brozzetti F. “QUaternary fault strain INDicators database - QUIN 1.0 - first release from the Apennines of central Italy”

GNGTS 2022 (27-29 Jun, Trieste, Italy):

- **Bello S.***, Lavecchia G., Andrenacci C., Ercoli M., Cirillo D., Carboni F., Barchi M. R. & Brozzetti F. “Unveiling trans-ridge en-echelon fault patterns possibly responsible for the 1857 Basilicata earthquake (Mw 7.2)”
- Lavecchia G., **Bello S.***, Andrenacci C., Cirillo D., Ferrarini F., De Nardis R. & Brozzetti F. “A regional collection of fault/slip data and associated strain parameters for the intra-Apennine extensional belt of central Italy”

BeGeo Scientists 2021 (7-10 Oct, Naples, Italy):

- **Bello S.***, Andrenacci C., Cirillo D., Scott C.P. “Segmentation pattern and morphotectonic anatomy of the 1983, Mw 6.9 Borah Peak earthquake (Idaho, USA)”

SGI 2021 (16 Sept, “Geology without borders”):

- **Bello S.***, Andrenacci C., Cirillo D., Scott C.P., Brozzetti F., Arrowsmith J.R. & Lavecchia G. “High detail fault segmentation: deep insight into the anatomy of the 1983 Borah Peak earthquake rupture zone (Mw 6.9, Idaho, USA)”

INGV, 23 Nov 2020:

- **Bello S.***** - invited speaker at the “TERREMOTO80: scienza, memoria, testimonianza” Webinar – Istituto Nazionale di Geofisica e Vulcanologia (INGV) with the video “Il terremoto Campano-Lucano del 1980 - il video dei risultati di una ricerca dell’Università di Chieti, a cura di Simone Bello” (<http://terremoto80.ingv.it/terremoto-e-scienza/>).

Webinar, 23 Nov 2020:

- **Bello S.***** - invited speaker at the “FATE PRESTO: 40 anni dopo” – Salerno.

GSA – Geological Society of America – 2020 (26-30 Oct, Connects Online):

- **Bello S.***, Scott C., Ferrarini F., Lavecchia G., Arrowsmith J R. “Dense surface faulting data for the study of coseismic and long-term extensional rupture: the case of the Lost River Fault (Idaho, USA)”

GSA – Geological Society of America 2019 (22-25 Sep, Phoenix, Arizona, USA):

- **Bello S.***, Lavecchia G., Arrowsmith J R., De Nardis R., Brozzetti F., Cirillo D., Ferrarini F. “A new 3D interpretation of the Irpinia 1980 earthquake (M_w 6.9, Italy) fault system: 40 years later”

SCEC (Southern California Earthquake Center) 2019 (7-11 Sep, Palm Springs, California, USA):

- **Bello S.***, Arrowsmith J R, Scott C., Lavecchia G., Scott T., Cirillo D., De Nardis R., Ferrarini F. “The 1983 Borah Peak earthquake (M_w 6.9, Io IX MCS) (Idaho - USA) - 3D architecture and seismotectonics from field observations and high-resolution topography integrated with seismological data along the Lost River fault (LRF)”

CRUST workshop 2019 (in memory of Giampaolo Piali) - (9-10 Jul, Perugia, Italy):

- **Bello S.***, Arrowsmith J R., Scott C., Scott T. “The 1983 Borah Peak earthquake (M_w 7.3, Io IX MCS) (Idaho - USA) - 3D architecture and seismotectonics”

SGI-SIMP 2018 (12-14 Sep, Catania, Italy):

- **Bello S.***, Lavecchia G., Scarpa R., Brozzetti F., Cirillo D. & Ferrarini F. “3d fault model of the Campania-Lucania (southern Italy) 1980 earthquake from new field evidence and seismological data”
- Scarpa R.*, Lavecchia G., Di Lieto B., Romano P., **Bello S.** & Brozzetti F. “Rupture mechanism of the Campania-Lucania (southern Italy) 1980 earthquake inferred from seismological and geodetic data”
- Brozzetti F.*, Cirillo D., Boncio P., Ferrarini F., de Nardis R., Testa A., **Bello S.** & Lavecchia G. “Field image of a foreshock-mainshock pair: the Amatrice (M_w 6.0) - Norcia (M_w 6.5) 2016 earthquakes case (central Italy)”

EGU 2017 (23-28 Apr, Vienna, Austria):

- D. Pantosti & the Open EMERGEO Working Group Team (2017) “*The Surface faulting produced by the 30 October 2016 Mw 6.5 Central Italy earthquake: the Open EMERGEO Working Group experience*”. Geophysical Research Abstracts Vol. 19, EGU2017-14161-2, 2017 EGU General Assembly 2017.

SGI 2016 (7-9 Sep. Naples, Italy):

- Lavecchia G.*, Brozzetti F., De Nardis R., Cirillo D., Ferrarini F., Boncio P., **Bello S.**, Minafra A., Vicentini N. “*The Accumuli 2016 Earthquake: Coseismic surface fractures and seismotectonic framework*”.

14. Publications

14.1 Refereed publications

(* = corresponding author/s)

- 2025** Scott C.P.*, Reitman N., **Bello S.*** “Unveiling coseismic surface deformation by integrating legacy aerial photography and modern lidar topography: The 1983 Borah Peak earthquake, Idaho, USA” **Geophysical Research Letters** (in prep)
- 2025** Lavecchia G., **Bello S.***, Brozzetti F., de Nardis R. “From faults' roots to surface: 3D seismotectonic models derived from earthquake swarms and field geology in Central Apennines (Italy)” **Terra Nova** (in prep)
- 2025** Lavecchia G., Andrenacci C., **Bello S.***, Pietrolungo F., Cirillo D., Brozzetti F., de Nardis R. “First geology-based multi-scale Quaternary deformation and stress map along peninsular Italy's seismic heartland” **Nature Communications** (in prep)
- 2025** Pietrolungo F.*, Lavecchia G., Madarieta-Txurruka A., Sparacino F., Sriva-stava E., Cirillo D., de Nardis R., Andrenacci C., **Bello S.**, Parrino N., Sulli A., Palano M. “Crustal stress and strain fields in the Himalaya-Tibet region” **Remote Sensing** (minor revisions)
- 2025** **Bello S.***, Galli P., Perna M.G.*, Peronace E., Messina P., Rosatelli G., Andrenacci C., Lavecchia G., Pietrolungo F., Consalvo A., Mouslopoulou V., Brozzetti F. “Paleo-Earthquake Fingerprints and Along-Strike Slip Variation of the Silent Mt. Morrone Normal Fault (Central Italy): a Structural-Geochemical Approach” **Geochemistry, Geophysics, Geosystems** (minor revisions)
- 2024** **Bello S.***, Brozzetti F., Andrenacci A., Pietrolungo F., Cirillo D., de Nardis R., Menichetti M., Monaco C., Ferranti L., De Guidi G., Barreca G., Pirrotta C., Gambino S., Giuffrida F., Carnemolla F., Lavecchia G., “A structural-geological tour across the Campania-Lucania potentially seismogenic extensional fault system” **Geological Field Trips and Maps**, 16 - 2.3, 1-40 <https://doi.org/10.3301/GFT.2024.08>
- 2024** Ferranti L.*, Carboni F., Akimbekova A., Ercoli M., **Bello S.**, Brozzetti F., Bacchiani A., Toscani G. “Structural architecture and tectonic evolution of the Campania-Lucania arc (Southern Apennines, Italy): constraints from seismic reflection profiles, well data and structural-geologic analysis” **Tectonophysics**, 879, 230313. <https://doi.org/10.1016/j.tecto.2024.230313>
- 2024** Lavecchia G., **Bello S.*** (co-first author), Andrenacci A., Cirillo D., Pietrolungo F., Talone D., Ferrarini F., de Nardis R., Galli P., Faure Walker J., Sgambato C., Menichetti M., Monaco C., Gambino S., De Guidi G., Barreca G., Carnemolla F., Brighenti F., Giuffrida F., Pirrotta C., Carboni F., Ferranti L., Valoroso L., Toscani G., Barchi M.R., Roberts G., Brozzetti F. “QUIN 2.0 - new release of the Quaternary fault strain INDicators database from the Southern Apennines of Italy” **Sci. Data**, 11:189. <https://doi.org/10.1038/s41597-024-03008-6>
- 2024** Lavecchia G., Pietrolungo F., **Bello S.**, Talone D., Pandolfi C., Andrenacci C., Carducci A., de Nardis R.* “Slowly deforming megathrusts within the continental lithosphere: a case from Italy” **GSA Today**, 34, 4-10, <https://doi.org/10.1130/GSATG573A.1>
- 2023** **Bello S.***, Perna M.G., Consalvo A., Brozzetti F., Galli P., Cirillo D., Andrenacci C., Tangari A.C., Carducci A., Menichetti M., Lavecchia G., Stoppa F., Rosatelli G. “Coupling rare earth elements analyses and high-resolution topography along fault scarps to investigate past earthquakes: a case study from southern Apennines (Italy)” **Geosphere**, <https://doi.org/10.1130/GES02627.1>
- 2023** Andrenacci C., **Bello S.***, Barbano M.S., de Nardis R., Pirrotta C., Pietrolungo F., Lavecchia G. “Reappraisal and analysis of macroseismic data for seismotectonic purposes: the strong earthquakes of southern Calabria (Italy)” **Geosciences**, 13, 212. <https://doi.org/10.3390/geosciences13070212>

- 2023** Falcone F., Di Valerio E., La Salvia V., Rosatelli G.*, Perna M. G., **Bello S.**, Francis R.E., Stoppa F. “Geo-archaeology, archaeometry, and history of a seismic-endangered historical site in central Apennines (Italy)” **Heritage Science**, 11:68. <https://doi.org/10.1186/s40494-023-00906-7>
- 2023** Rosatelli G.*, Castorina F., Consalvo A., Brozzetti F., Ciavardelli D., Perna M. G., Bell K., **Bello S.**, Stoppa F. “Elemental abundances and isotopic composition of Italian limestones: glimpses into the evolution of the Tethys” **Journal of Asian Earth Sciences: X**. <https://doi.org/10.1016/j.jaesx.2023.100136>
- 2022** de Nardis R.*, Pandolfi C., Cattaneo M., Monachesi G., Cirillo D., Ferrarini F., **Bello S.**, Brozzetti F., Lavecchia G. “Lithospheric double shear zone unveiled by microseismicity in a region of slow deformation” **Scientific Reports** 12, 21066. <https://doi.org/10.1038/s41598-022-24903-1>
- 2022** Cirillo D.*, Cerritelli F., Agostini S., **Bello S.**, Lavecchia G., Brozzetti F. “Post-Processing Kinematic (PPK)–Structure-from-Motion (SfM) with Unmanned Aerial Vehicle (UAV) Photogrammetry and Digital Field Mapping for Structural Geological Analysis” **ISPRS Int. J. Geo-Inf.** 11, 437. <https://doi.org/10.3390/ijgi11080437>
- 2022** **Bello S.***, Lavecchia G., Andrenacci C., Ercoli M., Cirillo D., Carboni F., Barchi M. R., Brozzetti F. “Complex trans-ridge normal faults controlling large earthquakes” **Scientific Reports** 12, 10676 <https://doi.org/10.1038/s41598-022-14406-4>
- 2022** Lavecchia G., **Bello S.***, Andrenacci C., Cirillo D., Ferrarini F., Vicentini N., de Nardis R., Roberts G., Brozzetti F. “QUaternary fault strain INDicators database - QUIN 1.0 - first release from the Apennines of central Italy,” **Scientific Data** 9, 204. <https://doi.org/10.1038/s41597-022-01311-8>
- 2022** **Bello S.***, Andrenacci C., Cirillo D., Scott C.P., Brozzetti F., Arrowsmith J R., Lavecchia G. “High-detail fault segmentation: Deep insight into the anatomy of the 1983 Borah Peak earthquake rupture zone (M_w 6.9, Idaho, USA)”, **Lithosphere** 2022 (1): 8100224. <https://doi.org/10.2113/2022/8100224>
- 2022** Cirillo D.*, Totaro C., Lavecchia G., Orecchio B., de Nardis R., Presti D., Ferrarini F., **Bello S.**, Brozzetti F.* “Structural complexities and tectonic barriers controlling recent seismic activity in the Pollino area (Calabria-Lucania, southern Italy) - constraints from stress inversion and 3D fault model building”, **Solid Earth**. Vol. 13, No. 1, 205 – 228. <https://doi.org/10.5194/se-13-205-2022>
- 2021** **Bello S.***, Scott C.P., Ferrarini F., Brozzetti F., Scott T., Cirillo D. de Nardis R., Arrowsmith J R., Lavecchia G. “High-resolution surface faulting from the 1983 Idaho Lost River Fault Mw 6.9 earthquake and previous events”, **Scientific Data** 8, 68. <https://doi.org/10.1038/s41597-021-00838-6>
- 2021** **Bello S.***, de Nardis R., Scarpa R., Brozzetti F., Cirillo D., Ferrarini F., di Lieto B., Arrowsmith J R., Lavecchia G. Fault Pattern and Seismotectonic Style of the Campania – Lucania 1980 Earthquake (Mw 6.9, Southern Italy): New Multidisciplinary Constraints. **Front. Earth Sci.** 8:608063. <https://doi.org/10.3389/feart.2020.608063>
- 2018** Villani F.*... **Bello S.**, et al. A database of the coseismic effects following the 30 October 2016 Norcia earthquake in Central Italy. **Scientific Data** 5:180049. <https://doi.org/10.1038/sdata.2018.49>
- 2018** Civico R.* ... **Bello S.**, et al. Surface ruptures following the 30 October 2016 Mw 6.5 Norcia earthquake, central Italy. **Journal of Maps**, 14, 2, 151–160. <https://doi.org/10.1080/17445647.2018.1441756>

14.2. Refereed Book Chapters

(* = corresponding author)

- 2021** Lavecchia G., de Nardis R.*, Ferrarini F., Cirillo D., **Bello S.**, Brozzetti F. “Regional seismotectonic zonation of hydrocarbon fields in active thrust belts: a case study from Italy” in *Building knowledge for geohazard assessment and management in the Caucasus and other orogenic regions*. Editors F. L. Bonali, F. Pasquaré Mariotto, N. Tsereteli (the Netherlands: Springer). <https://doi.org/10.1007/978-94-024-2046-3>

14.3. Data and Tools publications

(* = corresponding author)

- 2023** Lavecchia G., **Bello S.***, Andrenacci C., Cirillo D., Pietrolungo F., Talone D., Ferrarini F., de Nardis R., Galli P., Faure Walker J., Sgambato C., Menichetti M., Monaco C., Gambino S., De Guidi G., Barreca G., Carnemolla F., Brighenti

- F., Giuffrida S., Carboni F., Ferranti L., Valoroso L., Toscani G., Barchi M. R., Roberts G. & Brozzetti F. (2023) *QUIN 2.0 - new release of the QUaternary fault strain INDicators database from the Southern Apennines of Italy*. Zenodo. <https://doi.org/10.5281/zenodo.8414734>
- 2023 Lavecchia G., **Bello S.***, Cirillo D., Pietrolungo F., Brozzetti F. (2023) *Quaternary-Host Faults Database 2.0 (Southern Italy)*. Zenodo. <https://doi.org/10.5281/zenodo.8414480>
- 2021 Andrenacci C., **Bello S.***, de Nardis R., & Lavecchia G. (2021) *FAULT-STRIATION PAIR ANALYSIS (F-SPA) Tool*. Zenodo. <https://doi.org/10.5281/zenodo.5603992>
- 2021 Lavecchia G., **Bello, S.***, Andrenacci C., Cirillo D., Ferrarini F., Vicentini N., de Nardis R. & Brozzetti F. (2021). *Host Faults Database of central Italy [Data set]*. Zenodo. <https://doi.org/10.5281/zenodo.5603004>
- 2021 Lavecchia G., **Bello, S.***, Andrenacci C., Cirillo D., Ferrarini F., Vicentini N., de Nardis R., Brozzetti F. (2021). *QUaternary fault strain INDicators database: QUIN 1.0 - first release from the Apennines of central Italy*. PANGAEA, <https://doi.pangaea.de/10.1594/PANGAEA.934802>
- 2020 Scott, C., **Bello, S.***, & Ferrarini, F. (2020): *Matlab algorithm for systematic vertical separation measurements of tectonic fault scarps*. Zenodo. <http://doi.org/10.5281/zenodo.4247586>
- 2020 **Bello, S.***, Scott, C. P., Ferrarini, F., Brozzetti, F., Scott, T., Cirillo, D., De Nardis, R., Arrowsmith, J R., Lavecchia, G. (2020): *Database of vertical separation measurements along the Lost River Fault (Idaho - USA) from 1983 Mw 6.9 earthquake ruptures and Quaternary fault scarps*. Pangaea <https://doi.org/10.1594/PANGAEA.921027>
- 2020 **Bello, S.***, Scott, C., Arrowsmith, R., Scott, T. (2020). *High-Resolution Topography along the Lost River Valley, Idaho 2019*. OpenTopography. <https://doi.org/10.5069/G94M92Q1>
- 2020 Scott, C.*, Scott, T., Arrowsmith, R., Brigham, C., **Bello, S.**, Xu, J., Ferrarini, F., Milliner, C., Donnellan, A. (2020). *Topography of Normal Faults in the Volcanic Tablelands, CALIFORNIA 2019*. OpenTopography. <https://doi.org/10.5069/G97S7KXT>
- 2017 Villani, F.*, Civico, R., Pizzimenti, L., Pucci, S., De Martini, P. M., Nappi, R., Open EMERGEO Working Group (2017): *Coseismic surface geological effects following the 30 October 2016 Mw 6.5 earthquake, central Italy*. PANGAEA. <https://doi.org/10.1594/PANGAEA.879469>

14.4. Other Contributions

- 2023 Participation to the XI edition of the “Settimana del Pianeta Terra” event (Earth Planet week) with the production of the documentary: “The Abruzzo Apennines between natural disasters and climate crisis”, by Bello S., Brozzetti F., Cipressi G., Cirillo D. Palmucci A., Pietrolungo F., & Talone D.
- 2023 UNDRR (United Nations Office for Disaster Risk Reduction) report on the 2023 Türkiye earthquake - <https://www.preventionweb.net/news/first-field-exercise-european-earthquake-geology-task-force-euquake-performed-turkiye-surface>
- 2022 de Nardis R.*, Talone D., Bello S., Lavecchia G. (2022). *Terremoto del 9 marzo 2022: Umbertide - proposta geometria rete temporanea RAN area Valtiberina (Earthquake of 9 March 2022: Umbertide - proposed geometry of the temporary network RAN in the Valtiberina area)*. Civil Protection Department (Presidency of the Council of Ministers) report
- 2020 Pierce, I.*, Williams, A., Koehler, R. (2020). *2019 Ridgecrest, CA M6.4 Earthquake structure from motion data (off base)*. OpenTopography. <https://doi.org/10.5069/G9KD1W2C> (PI – Khoeler, R.; Field staff – Pierce, I., Williams, A., Chupik, C.; Additional team members – Bormann, J., Akciz, S., Scott, C., Carlson, G., **Bello, S.**).

Privacy

In compliance with the GDPR and Italian Legislative Decree no. 196 dated 30/06/2003, I hereby authorize the recipient of this document to use and process my personal details for the purpose of recruiting and selecting staff and I confirm to be informed of my rights in accordance to art. 7 of the above-mentioned Decree.

December 17th, 2024

A handwritten signature in black ink, reading "Simone Bello". The signature is written in a cursive style, with the first name "Simone" and the last name "Bello" clearly distinguishable.