

# DST Workshop - Earth Sciences PhD students presenting their projects

4/02/2025

**9:00 Presentation (Ponzi 1)**

**Ponzi 1 / Session 1.a / 9:15-11:00 / Chairpersons: Michele Mauro, Vincenzo Moretto**

9:15 **Antonio Angellotti** - *Spatial distribution of nitrogen and hydrogen in natural peridotitic diamonds by in-situ synchrotron  $\mu$  infrared mapping*

9:30 **Michele De Solda** - *Probing shear zone evolution with ultrasonic measurements: FWI in laboratory experiments*

9:45 **Maria Eugenia Locchi** - *Including High-Frequency Content with Small-Scale Heterogeneities of Source Parameters in Kinematic Rupture Models: Application to the 2016 Mw 6.1 Amatrice Earthquake*

10:00 **Francesco Mosconi** - *Dynamics of a Decelerating Rupture Front: Insights from Mechanics and Seismic Radiation*

10:15 **Andrea Attolico** - *Improving Source Parameter Estimation Using 3D Attenuation Tomography*

10:30 **Gabriele Paoletti** - *Deep learning to investigate post-seismic evolution of fault zone elastic properties*

10:45 **Francesca Rossi** - *The role of structural complexity in seismicity distribution: L' Aquila 2009 seismic sequence (Central Apennines, Italy)*



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**Ponzi 2 / Session 1.b / 9:15-11:00 / Chairpersons: Greta Peruzzi, Elisa Villani**

9:15 **Riccardo Luppi** - *Study of color mechanisms in natural and treated gemstone tourmalines, with definition of a scientific protocol*

9:30 **Sara Capriotti** - *Deep Learning for ancient ceramic classification: Saliency maps as a tool for models interpretability*

9:45 **Marta Porcaro** - *Comparative archaeometric study of Etruscan and Nuragic bronzes using a multi-analytical approach*

10:00 **Susanna Milana** - *Archaeometric study of Etruscan metal and ceramic artefacts: reconstruction of the technological evolution*

10:15 **Ginevra Sbardella** - *Evaluation of the efficiency of synthetic carbonates in removing toxic metals from polluted waters*

10:30 **Francesca Benedetti** - *Protection and consolidation of the Stone Heritage: the role of Carbonatogenic Bacteria*

10:45 **Alice Marconato** - *Elongated mineral particles in biological fluids: a possible key for modelling their in vivo behaviour*

**Coffee Break 11:00-11:45**



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**Ponzi 1 / Session 2.a / 11:15-13:00 / Chairpersons: Francesca Rossi, Andrea Attolico**

11:15 **Michele Mauro** - *How structural and frictional properties control induced seismicity: insights from the Delaware Basin, Texas*

11:30 **Fabio Fabrizi** - *Exploring the potential of seismic wave modeling in volcanic areas: new insights from Campi Flegrei caldera*

11:45 **Luca Coppola** - *Mineralogy, structures and fluid injection role in fault stability: implications for CO2 storage*

12:00 **Giovanni Guglielmi** - *Rheology and fault slip behavior of Triassic Evaporites*

12:15 **Riccardo Maria Ridolfi** - *Evaluation of the hydrogen storage potential of porous-media depleted hydrocarbon reservoirs of Italy*

12:30 **Andrea Fiorini** - *Tectonic evolution of the transverse zones dissecting the Central Southern Alps*

12:45 **Vincenzo Moretto** - *A new approach for constraining temperature, fractionation processes, and fluid evolution in clay-rich fault zones: a case study from Lemnos Island (Greece)*



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**Ponzi 2 / Session 2.b / 11:15-12:45 / Chairpersons: Ginevra Sbardella, Andrea Cisternino**

11:15 **Eduardo Di Marcantonio** - *Stable isotopes techniques (CSIA) applied to monitoring contamination*

11:30 **Clothilde Biensan** - *In-flight fragmentation dynamics in explosive eruptions of low-viscosity magmas*

11:45 **Matteo Giaccari** - *Life in the cradle of civilisation: Bioarchaeological investigation in the Sumerian city of Abu Tbeirah*

12:00 **Vittoria Pinto** - *Clumped isotopes as geothermometers of sedimentary basins*

12:15 **Raffaella Pavese** - *Volatile influence in phase relations in K-phonolitic magmas: P-T constraints in peri-Tyrrhenian explosive volcanism*

12:30 **Francesca Iezzi** - *Active degassing and volcanic vortex rings: implications for the state of the volcano and its eruptive behaviour*

12:45 **Rengin Özsoy** - *Tephrochronological study on Ulukışla Caldera pyroclastic deposits (Hasandağ Volcanic Complex, Central Anatolia, Turkey) to reconstruct its explosive volcanic history*

**Lunch Time 13:00-14:00**



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**Ponzi 1 / Session 3 / 14:00-15:45 / Chairpersons: Annalisa Sannino, Eduardo di Marcantonio**

14:00 **Marco Bianchini** - *Grasping submarine landslides: employing geomorphological parameters and geostatistical analyses to assess the geohazard in Italian seas*

14:15 **Mar Selvaggi Mallorquí** - *Tracing Mediterranean Thermohaline Circulation since the last deglaciation: insights from benthic foraminifera and geochemical tracers.*

14:30 **Miriam Raimondi** - *Resilience of Mediterranean planktonic foraminifera to Plio-Pleistocene transition climatic impact*

14:45 **Leonardo Barbini** - *Neuroanatomy of the early alligatoroid crocodylian *Diplocynodon*: phylogenetic, ecological and biogeographical implications*

15:00 **Denise Petronelli** - *Multiscale geomorphological analysis of volcanic and erosive-depositional processes in submarine volcanic environments of the Aeolian Island*

15:15 **Riccardo Tomasini** - *Diachronic reconstruction of human-environmental relationship: archeobotany at UNESCO world heritage site of Butrint (Albania)*

15:30 **Costanza Borgognone** - *Paleopalynology of the Last Interglacial Complex at Valle di Castiglione (Rome)*

**Coffee Break 15:45-16:00**



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**Ponzi 1 / Session 4 / 16:00-17:30 / Chairpersons: Sara Capriotti, Susanna Milana**

16:00 **Greta Peruzzi** - *Polymer-based LSPR systems for trace detection in Environmental and Cultural Heritage applications*

16:15 **Adi Sela Wiener** - *CSMs | City Scope Materials and Materiality Redefining urban heritage materiality: a conceptual study of Jerusalem*

16:30 **Laura Giuliani** - *Highly viscous polymeric dispersion: innovative versatile soft matter for cleaning stone material*

16:45 **Beatrice Bartolucci** - *Conservative and Sustainable Methodologies for the Energy Renovation of Historic Buildings*

17:00 **Giulia Boccacci** - *Towards a new vision for the immovable heritage: preventive conservation and adaptive reuse*

17:15 **Maria Cristina Di Carlo** - *Understanding the behaviour of mineral fibres in simulated lung fluids: new insights for toxicity assessment*



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**5/02/2025**

***Ponzi 1 / Session 5 / 9:30-11:00 / Chairpersons: Antonio  
Molinari, Maria Elena di Renzo***

9:30 **Adriana Damato** - *Hydrogeological monitoring for assessing the interaction between changes in groundwater and tectonically active areas*

9:45 **Annalisa Sannino** - *10-years morphoevolution of a sub-humid badland through UAV-based monitoring*

10:00 **Rossana Napolitano** - *Set-up of a comprehensive framework for geo-hydrological hazard and risk assessment for statutory purposes*

10:15 **Matteo Ferrarotti** - *Quantitative time-dependent scenarios of geo-multihazard related to preparatory thermal factors applied to strategic infrastructures*

10:30 **Giorgia Berardo** - *Seismic risk assessment in industrial plants: new perspectives of analysis*

10:45 **Emna Hfaiedh** - *Contribution of hydrochemistry and isotope geochemistry to the study of hydrodynamics and mineralization of the Mornag aquifer system, Northeastern Tunisia.*

**Coffee Break 11:00-11:15**



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**Ponzi 1 / Session 6 / 11:15-12:45 / Chairpersons: Rossana Napolitano, Matteo Ferrarotti**

11:15 **Antonio Molinari** - *Understanding scale-dependent rockfall mechanisms: from small detachments to large rockfalls through remote sensing sensor integration*

11:30 **Maria Elena Di Renzo** - *An integrative approach to the multi-hazard assessment of linear infrastructures*

11:45 **Federico Feliziani** - *Modelling the dynamics of coastal cliff retreat*

12:00 **Simona Marano** - *Advanced non-invasive and high-resolution monitoring of ground instabilities in the perspective of multihazard scenarios*

12:15 **Giulia Felli** - *Development of an integrated 4.0 system for the management and remediation of a contaminated site*

12:30 **Valeria Ruscitto** - *Quaternary alluvial terraces and their response to climatic, lithologic and tectonic controls in low-rate tectonically active regions: a case study from the Marche Apennines (central Italy)*

12:45 **Alessandro Pascazio** - *Evaluation of the Geothermal potential in central Italy*

**Lunch Time 13:00-14:00**



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**Ponzi 1 / Session 7 / 14:00-15:30 / Chairpersons: Giulia Boccacci, Costanza Borgognone**

14:00 **Andrea Cisternino** - *Natural geochemical background levels and biogeochemical processes in groundwater of large-scale contaminated sites*

14:15 **Elisa Villani** - *Waterlogged Wood Conservation: Exploring Novel Products and Advanced NMR Protocols*

14:30 **Isabella Ercoles** - *Approaches in Provenance Studies; Pb-Sr Isotopic Analysis of Bronze Coinage from Elea/Velia in the Context of Ancient Metallurgical Networks*

14:45 **Matilde Kratter** - *Microorganisms in Cultural Heritage. Study and development of new green techniques*

15:00 **Chiara Cavasinni** - *Vegetational markers of climatic and hydrological impact vs. human resilience in coastal subsiding plains: present pattern and historical trajectories for a future management*

15:15 **Eleonora Cerafogli** - *An archaeobotanical study in the Holy Sepulchre Basilica (Jerusalem, Israel)*

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**15:30 Conclusion, Announcement of the Dissemination Travel Award Winner (Ponzi 1)**



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