

REPORT ON SGI-SIMP 2024:

Congress of the Italian Geological Society (SGI) and the Italian Society of Mineralogy and Petrology (SIMP)

(Bari, Italy, 03/05 September 2024)



Dear SEPM MEMBERS, as SEPM Ambassador for Italy, I am pleased to present a short report on SGI-SIMP joint Congress of the Italian Geological Society (SGI) and the Italian Society of Mineralogy and Petrology (SIMP) Congress titled **Geology for sustainable management of our Planet**, held at the Bari University Campus (Italy) from **3 to 5 September 2024** organized by the Società Geologica Italiana (SGI) and Società Italiana di Mineralogia e Petrologia (SIMP).



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The number of registered delegates was 1200. The meeting was attended by researchers and students from universities and research institutes, of both Italy and other countries, as well as professionals from industries like oil and natural gas and many others. Many thanks are due to the Organizing Committee in the persons of: professors Luisa Sabato (SGI) and Emanuela Schingaro (SIMP), PRESIDENTS OF THE CONGRESS, Marcello Tropeano (SGI), VICEPRESIDENT OF THE CONGRESS, and Sandro Conticelli (University of Florence, Italy), SCIENTIFIC COMMITTEE COORDINATOR.

Three plenary lectures were introduced by prof. Luisa Sabato and were held by prof. **F. Javier Hernández Molina** (Andalusian Earth Sciences Institute, Spanish Research Council, Granada, Spain) "*Contourites and mixed depositional systems: a paradigm for deepwater sedimentary environments*", prof. **Karen Hudson-Edwards** (Camborne School of Mines and Environment and Sustainability Institute, University of Exeter, Penryn, United Kingdom) "*Sustainable mining of critical raw materials: opportunities and obstacles for geoscientists*" and prof. **Elisabetta Erba** (Dipartimento di Scienze della Terra "A. Desio", Università di Milano) "*The birth of the modern ocean and its first 180 million years of crises, speciations and extinctions*".

The activated field trips were two and organized as follow:

FT1. *Exploring the cultural heritage of Bari* by Eramo G., Monno A., Mastroilli M. & Fioretti G. and **FT2.** *Vulture: Exploring the Volcanic Geology, Igniting Tourism, and Savoring the Wines of a Unique Region* by Giannandrea P., Mele D., Dioguardi F. & Neglia F.

During a IODP event meeting – convened by professors E. Erba, N. Zitellini, R. Lucchi and F. Florindo, many researchers had the opportunity to share some of the numerous experiences made in the past, with important scientific implications of the project.

The PhD Day "*From Student to Scholar: the evolution of problem-solving skills in Geoscience PhD candidates*" had as central theme "*Problem Solving in Geosciences research*". SGI and SIMP provided two awards for the best oral presentation and best posters.

The scientific sessions were 53. I report - for SEPM - attendance from the session S40 entitled "*Source-to-sink processes and genesis of resources in sedimentary deposits: advances in understanding of geologic and environmental dynamics through a multidisciplinary perspective*" I participated as convener and chairperson with professors Francesca Micheletti (University of Bari "Aldo Moro"), Anna Chiara Tangari (University of Chieti-Pescara, G. D'Annunzio), Sara Criniti (University of Calabria), Fabio Matano (National Research Council of Italy) and Massimo Moretti (University of Bari "Aldo Moro").

This session brought together many researchers working on sedimentary provenance and its mainstream geological disciplines (petrography, geochemistry, geochronology, sedimentology, stratigraphy). The session focused on the location and nature of sediment source areas, the pathway

by which sediment is transferred from source to depositional basin, and the factors that influence the composition of sedimentary rocks (e.g., relief, climate, tectonic setting, transport and diagenesis). The quantitative assessment of *source to sink systems* has been achieved through multidisciplinary approaches, with contributions focusing on I) numerical landscape modelling, II) mass balance – sediment budget – erosion rates, III) chemical weathering, IV) mechanical wear, V) transport dynamics (partitioning and sorting) and VI) depositional controls on diagenesis.

Many presentations, both oral and as posters, included:

1) field-based description and interpretation of siliciclastic sediments and related processes both in modern and ancient realms, with presentations held by S. Andò entitled *From the micro to the macro-scale: the contribution of the "Provenance Centre" (Unimib) in the study of sedimentary archives*, by F. Arboit entitled *The importance of being multi-proxy, trivial provenance analyses for serious tectonic reconstructions*, by S. Criniti entitled *Detrital modes of the Pennsylvanian-Permian sandstones in Central-Eastern Sardinia (Italy)*, by M. Martìn-Martìn entitled *Detrital modes of the Culm facies in the Betic-Rifean chain*, by F. Pavano F. entitled *Tectonic forcing encoding in the geomorphic and stratigraphic records of a tight source-to-sink system (Northeastern Sicily, Italy)*, L.A. Dimuccio entitled *Integrated paleoenvironmental multi-proxy analysis of Late Quaternary fluvial sediments in the Côa Valley (northeast Portugal)*, by De Luca entitled *Sedimentological features of sandy sediments trapped in Sabellarian bioconstructions along the Apulian Coastline (Southern Italy)*, by F. Micheletti entitled *The Jurassic climate change in the northwest Gondwana (External Rif, Morocco): A probable control of successive mega-monsoons through the African Inter-Tropical Convergence Zone* and by F. Alvisi entitled *The disappearance of sand: just a false alarm or a global emergency?*

2) provenance studies that highlight the influence of volcanic activity on sedimentary basins with interesting talks held by S. Gallicchio entitled *Late Paleogene syn-sedimentary volcanoclastic deep-sea succession of the Candela Gorges (Southern Italy). New constraints for the evolution of the Southern Apennines*, and by V. Amato entitled *Using a large dataset of field-based measurements to statistically estimate thickness of fallout pyroclastic deposits in the peri-volcanic areas of Campania region, southern Italy*

3) studies on the characterization of physico-chemical processes that lead to the generation and weathering of siliciclastic particles through time such those by E. Pugliese entitled *Heavy Minerals analysis of fluvial sand in the Crati River (Northern Calabria)*, by F. Scarciglia entitled *Weathering and erosion rates at different timescales in a granitic area of the Mediterranean (Sila Massif, Calabria, southern Italy): An overview on recent advances*, and by A.C. Tangari entitled *Weathering processes and soil formation in Sila Massif and Catena Costiera (Calabria, southern Italy): insight from heavy minerals* and by P. De Cesare entitled *Integrated study of erosion rates using cosmogenic and fallout radionuclides (^{10}Be and $^{239+240}\text{Pu}$) in a pilot stream catchment of Calabria, southern Italy;*

4) studies on significance of diagenesis in modifying detrital grain assemblages, such that held by M. Civitelli entitled *Diagenetic and hydrothermal changes in submarine quartzofeldspathic turbidite sandstones of the Butano Sandstone, central California, USA*, by H. Kairouani entitled *Early Jurassic phosphatic sandstones (External Rif, Northern Morocco): evidence of mineralogical and biogeochemical processes related to the Early Toarcian Oceanic Anoxic Event*, by A. Fornelli entitled *Crystallization of Mn-hydroxides for interaction between limestones and clay minerals in the*

Apulian karst (southern Italy) and by myself entitled (Paleo)weathering or diagenesis as the principal control factor of sand(stone) framework grains dissolution?



Tireless helpers team of the SGI-SIMP Congress

Many thanks are due to the delegates. The Geological Society of Italy Organizing Committees decided that the next meeting will be held at Padova (Italy) next 14 to 17 September 2025.

Rende (Cs), December 09, 2024

Best regards,

Emilia Le Pera

