



## Antonio Caruso CV

1992. Master's degree in Geology, University of Palermo

1999. PhD in Sedimentary Geology, University "Federico II" of Naples

2000-2004. Post-Doctoral Fellowship awarded by Italian Ministry of Research and University (MIUR) at University of Palermo.

2005. Researcher in Sedimentology and Stratigraphic Geology at Department of Earth Sciences, University of Pisa.

2008. Researcher in Palaeontology and Palaeoecology at Department of Geology and Geodesy, University of Palermo.

2015. Associate Professor in Paleontology and Paleocology at the Department of Earth and Sea Sciences, University of Palermo.

2019. Full Professor in Paleontology and Paleocology at the Department of Earth and Sea Sciences, University of Palermo.

He is a micropaleontologist and marine geologist specialized on foraminifera, in the last 30 years focused his research on bio-cyclostratigraphic, paleoceanographic, paleoecological and paleoclimatological fields. He began working on Mediterranean sections studying calcareous plankton, to obtain eco-biostratigraphic data from the Upper Pliocene-Lower Pleistocene. In the following years, he extended his study to the entire Neogene for obtaining a high resolution eco-biostratigraphy data, based on the foraminiferal assemblages of the Neogene and Quaternary intervals. In particular, he studied the response of calcareous plankton to the Milankovitch' astronomical cycles and how climate variations trigger changes on foraminiferal assemblages. Another part of his research was focused on the Messinian Salinity Crisis in collaboration with international teams, and he spent numerous periods as invited researcher/professor at the Museum National d'histoire Naturelle (MNHN, Paris) and at the Laboratoire d'Océanographie et du Climat (LOCEAN) in Paris. During those periods he had the opportunity to broaden his knowledge on geochemistry analyses for paleoclimatic and paleoenvironmental reconstructions with a

particular focus on stable isotopes and organic geochemistry. Further, in recent years he has continued his studies on Upper Cretaceous successions in collaboration with Iranian researchers. Part of his research was also focused on benthic foraminiferal assemblages from Southern Italy both in recent and fossil assemblages, to improve the knowledge on their distribution in coastal marine environments obtaining environmental and paleoenvironmental reconstructions. On this way, he also studied the response of benthic foraminifera in high polluted areas, analysing metal concentrations to determine the anthropogenic impact. Successively, he has also collaborated with teams specialized in genetic-molecular analyses performed on foraminifera. A part of this latter research is also linked to the study of exotic benthic foraminifera which are progressively colonizing the Mediterranean through Suez from the Indo-Pacific area.

He participated in several Italian Oceanographic Cruises with the Urania vessel to study the Holocene, in various research programs funded by Italy (MIUR and COFIN) and France (CNRS, ECLIPSE I and II). In 1994 he participated to a European project (Natural Environmental Markers in Present-Day and Fossil Restricted marine Environments, NETWORK 1994). He was local coordinator of the PRIN Project: **Evaluation of trace elements and crude oil contained in sediments and in the shells of benthic foraminifera from laboratory cultures**. He is also principal Investigator of ESR 4 unit **"Understanding the Mediterranean Salt Giant. Sicilian Basin Architecture funded by the EU on Horizon-2020 ETN-ITN Marie Curie funds (SALTGIANT, 765256)**. He is national PI of the MUR PRIN/PNRR project: **Response of Mediterranean marine calcifiers to CO<sub>2</sub> variability during time windows in the Plio/Pleistocene (ReMePP)**.

In the last year (2021-2022) he also coordinates an international team, under the INQUA-SACCOM umbrella for the study of the Gelasian GSSP. The research group met in Palermo in September 2021 and laid the basis for a research project submitted on 15 January 2022 to ICDP-IODP Panel. The proposal aimed for drilling various sequences of the Gelasian/ Calabrian interval located in southern Italy (co-investigators: Kennet Miller, Martin Head, Timothy Herbert, Isabel Cacho, Frits Hilgen, Patrizia Maiorano, Maria Marino).

He cooperates with AMUSED project (A MULTidisciplinary Study of past global climatE changes from continental and marine archives in the MeDiterranean region) funded by Istituto Nazionale di Geofisica e Vulcanologia (INGV). The unit of Palermo is responsible of stable isotopes measured on foraminifera with a special budget of 8,000 Euros.

Since 1993 he has been a highly experienced diver with more than 900 dives, during most of these dives he collected samples of marine sediments for the study of benthic foraminiferal assemblages and metal pollutants.

#### EXPERIENCES IN OTHER EUROPEAN UNIVERSITIES AND RESEARCH CENTERS

2001. Visiting researcher at the Laboratoire de Géologie, Museum National d'Histoire Naturelle (Paris), 2 months.

2004. Visiting researcher at the Laboratoire de Géologie, Museum National d'Histoire Naturelle (Paris), 3 months.

2006. Visiting researcher at the Laboratoire de Géologie, Museum National d'Histoire Naturelle (Paris), 2 months.

2007. Researcher at the Laboratoire de Géologie, Museum National d'Histoire Naturelle (Paris). Two months.

2009. Visiting professor at the Laboratoire d'Océanographie et du Climat - (LOCEAN), Université Pierre et Marie Curie - Paris), 1 month.

2013. Visiting professor at the Department d'histoire de la Terre (MNHN-Paris), 1 month.

#### MEMBERSHIP

- Member of Italian Paleontological Society Council, years 2011-2014
- component of the RCMNS secretariat (from 2018 to today)

- team leader for the Paleoclimate Environmental Research Group of the Earth and Sea Sciences department of the University of Palermo (from 2017 to today).
- President of the integrated study course in Earth Sciences at the University of Palermo (from 2019 to 2021)
- Member of the: Italian Association for the Study of the Quaternary (AIQUA)
- Member of the: Italian Society of Paleontology (SPI)
- Member of the: Italian Society of Geology (SGI)

#### PhD THESIS SUPERVISOR

- 2008-2011. COSENTINO, C. Palaeoecological and palaeoclimatic reconstructions of the last 36 kys using benthic and planktonic foraminifera in the sediments of the continental shelf of the Gulf of Termini (Southern Tyrrhenian). (University of Palermo) co-supervisor.
- 2016-2019. BONFARDECI, A. Paleoclimatic and paleoceanographic reconstruction of the Pleistocene-Holocene through the study of planktonic foraminifera of two sedimentary cores collected in the North Atlantic Ocean, southwest of the Azores Islands. (University of Palermo) supervisor.
- 2017-2021. TRIAS S. Changes in Western Mediterranean thermohaline circulation during the last 18ky. (University of Palermo). supervisor
- 2018-2022. TZEVAHIRTZIAN, A. (2019-2022). Understanding the Mediterranean Salt Giant. Sicilian Basin Architecture. (University of Palermo). supervisor
- 2020-2023. PERNICE, M. Reconstruction of CO<sub>2</sub> oscillations through the study of marine fossil records during the Neogene in the Mediterranean Sea. Boron isotopes in planktonic foraminifera as a tracer for palaeo-pH and pCO<sub>2</sub>. co-supervisor.
- 2023-2026. GUCCIONE, P. Response of Mediterranean marine calcifiers to CO<sub>2</sub> variability during time windows in the Plio/Pleistocene (ReMePP)

#### CONVENER, ORGANIZATION OF CONFERENCES, WORKSHOP AND FIELD TRIPS

2004. Member of the Scientific committee of the congress: The Messinian Salinity Crisis Revisited; Eclipse Project Meeting and RCMNS interim Colloquium (Corte, Corsica 10-14 July).
2006. Field Trip Leader in Sicily: The Messinian Salinity Crisis Revisited-II; RCMNS interim Colloquium (Parma, 2006).
2009. Field Trip Leader in Sicily, FIST 2009, Rimini 9-11 September (Italy).
2013. The 14th RCMNS Congress Istanbul (Turkey). Conveners: Caruso, A., Flecker, R., Gorini, C., Sierro, F. Towards new understanding of Late Miocene (Messinian Salinity Crisis), 8-12 September.
2014. S7: Evaporite basins: facies, diagenesis and sequences. The 87th Congress of the Geological Society. Conveners: Antonio Caruso & Agata Di Stefano, 10-12 September.
2015. President of "PALEODAYS" – Congress of the Italian Paleontological Society (Palermo, Italy), 1-3 June.
2016. Local Organizer of the workshop: MEDSALT Symposium COST ACTION (Palermo, Italy), 24-28 October.
2017. President of the workshop: The Fifth Plenary Meeting and Field Trip of INQUA-UNESCO-IUGS-IGCP610 project (Palermo, Italy), 1-9 October.
2018. Local Organizer of the first SaltGiant Workshop (Palermo, Italy), 26-29 November.
2019. Field trip leader of the first SaltGiant field course in Sicily (Palermo, Italy), 29th April-4th May.
2021. President of INQUA-SACCOM "GELSTRAT" Workshop (Palermo, Italy), 3-8 September.
2022. Local Organizer of AIQUA Workshop (Palermo, Italy), 13-15 Giugno.

#### REFeree FOR INTERNATIONAL SCIENTIFIC JOURNALS WITH IF

- Nature

- Scientific Reports (Nature)
- Communications Earth and Environments (Nature)
- Palaeogeography, Palaeoclimatology, Palaeoecology (Elsevier)
- Marine Pollution Bulletin (Elsevier)
- Marine Geology (Elsevier)
- Climate of the Past (Elsevier)
- Marine Micropaleontology (Elsevier)
- Science of the Total Environment (Elsevier)
- Estuarine Coastal and Shelf Sciences (Elsevier)
- Environmental Science and Pollution Research (Springer)
- Environmental and monitoring assessment (Springer)
- Rendiconti Lincei - Scienze Fisiche e Naturali (Springer)
- Journal of Earth Science (Springer)
- International Journal of Earth Science (Springer)
- The Holocene
- Geosciences (MDPI)
- PLOS ONE
- Geology (GSA)
- Geodiversitas (Muséum National d'histoire Naturelle)
- Stratigraphy (Micropress)
- Micropaleontology (Micropress)
- Bollettino della Società Paleontologica Italiana
- Journal of the Marine Biological Association (Cambridge University Press)
- Biological invasions (Springer)

He is also referee for PRIN and CNR research projects as well for the Italian VQR. He has and Hindex 31 with 2517 citations on Scopus, and Hindex 33 with 3160 citations on Google Scholar.