MARCO FRANCESCHI

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CURRENT POSITION

Nov 2022 – present: Associate Professor in Stratigraphy and Sedimentology Università di Trieste, Italy, Department of Mathematics, Informatics and Geosciences.

INTERNATIONAL PROFESSIONAL EXPERIENCE

Nov – Dec 2019: Visting Professor (1 month), Chengdu University of Technology, Chengdu, PRC.

Sept – Oct 2018: Visting Professor (1 month), Chengdu University of Technology, Chengdu, PRC.

Nov 2017–Apr 2018: Fulbright Research Fellow (6 months), George Mason Univeristy, Department of Atmospheric, Oceanic, and Earth Sciences, Fairfax, VA, USA: Cyclostratigraphic calibration of organic carbon sequestration in marginal marine sedimentary systems: Late Triassic carbonates of the Southern Alps, Italy

Feb 2010–Apr 2010: Visiting Research Scholar (2 months), Johns Hopkins University, Department of Earth and Planetary Sciences, Baltimore, MD, USA. Laser scanner cyclostratigraphy of Italian Mesozoic series

HONORS

2017–2018: Fulbright Research Scholarship.

RESEARCH PROJECTS

Research Projects as Principal or co-Principal Investigator:

Since December 2023 – Definition of an updated stratigraphy for the Friuli Venezia Giulia Region and realization of the relative digital lithoteque. Accordo Attuativo (Agreement) between the Direzione Centrale Difesa dell'Ambiente, Energia e Sviluppo and the MIGe.
Funding: 100,000 EUR – status: ongoing

Since October 2022 –PRIN project: *CPE drilling project: digging into Triassic extreme climate change*. P.I. Piero Gianolla (University of Ferrara).
Funding: 249,302 EUR – status: ongoing

2017 – *Early Jurassic carbon isotope perturbations in the Southern Alps (Italy) and Sichuan Basin (China) and their effects in marine and lacustrine sedimentary systems* – Open Research Program funded by the State Key Laboratory of Geological Processes and Mineral Resources, China University of Geosciences, Wuhan, Hubei, China.
Funding = EUR 12,600 – status: finished

2015 – *Quantification of the organic carbon mineralization potential of a Triassic marginal marine sedimentary system: a key to understand the role of authigenic carbonates in the global carbon cycle* – Senior Research Grant funded by Università degli Studi di Padova.
Funding = EUR 42,608 – status: finished

2011 - *GEO3DMAP – Three-dimensional Modeling of the Jurassic Calcari Grigi Platform* – funded in the frame of the Project "Trentino" – post doc 2010 - Incoming – PCOFUND-GA-2008-226070 – cofounded by the European Union.
Funding = EUR 144,500 – status: finished

2011 - *Astronomical calibration of Early Jurassic cyclostratigraphy by terrestrial laser scanning*. High Atlas, Rich, Morocco – Bando Giovani Studiosi 2010 – Università degli Studi di Padova.
Funding = EUR 80,952 – status: declined

Research Projects as member of the research team:

Since January 2022 - Participant to the ITALY-SLOVENIA INTERREG project KRAS-CARSO II - *Joint management and sustainable development of the classical Karst area*. Specific role: realization and study of a drill-core across the K/Pg boundary in the carbonate platform succession of the Karst area.
Funding: 334,200 EUR – status: ongoing

01-02-2013 - 01-02-2016 - Participant to the research program PRIN 2010 - 2011 *Crisi e ripresa di sistemi carbonatici e potenziale per la formazione di reservoir: i ruoli di clima, tettonica e magmatismo*. Project Coordinator: Carminati Eugenio Ambrogio Maria, Coordinator of Research Unit: Preto Nereo; Ateneo: Università di Padova.
status: finished

22-03-2010 - 22-09-2012 - Participant to the research program PRIN 2008 *Stratigrafia integrata del triassico superiore del sudalpino e confronti con le aree tipo dei GSSP proposti in italia*. Project Coordinator: Balini Marco, Coordinator of Research Unit: Rigo Manuel; Ateneo: Università di Padova.
status: finished

Mapping Projects

Since September 2022 – Scientific Director for the mapping of the bedrock. Geological mapping for the realization of the Sheets 88 Gorizia of the Geological Map of Italy at 1:50000 scale. Scientific Coordinator: Lorenzo Bonini
Funding: 638,000 EUR – status: ongoing

November 2020 – February 2025 – Scientific Director for the mapping of the bedrock. Geological mapping for the realization of the Sheets 110 Trieste and 130-131-150-151 Caresana of the Geological Map of Italy at 1:50000 scale. Scientific Coordinator: Lorenzo Bonini
Funding: 380,000 EUR – status: finished

SELECTED PUBLICATIONS

Jiang, H., **Franceschi, M.**, Yin, R., Petranich, E., Pavoni, E., Barago, N., Preto, N., Covelli, S., Bonini, L., Jin, X., *in press*. Large-scale volcanogenic Hg enrichment coincided with the Sinemurian Pliensbachian Boundary Event.
Bulletin of the Geological Society of America.
https://doi.org/10.1130/B37640.1

Du, Y., Preto, N., Zanetti, A., Rigo, M., **Franceschi, M**., Guo, B., Jin, X., 2025. The rare earth elements and yttrium (REY) geochemistry of the upper Carnian (Upper Triassic) carbonates from northwestern Sichuan Basin (South China).
Marine and Petroleum Geology 171. https://doi.org/10.1016/j.marpetgeo.2024.107164

Křížová, B., Consorti, L., Cardelli, S., Schmitt, K.E., Brombin, V., **Franceschi, M.**, Tunis, G., Bonini, L., Frijia, G., 2024. Late Cretaceous (Cenomanian-Turonian) temperature evolution and biotic response in the Adriatic Carbonate Platform region of Friuli, northeast Italy
Palaeogeography, Palaeoclimatology, Palaeoecology 637.
https://doi.org/10.1016/j.palaeo.2023.111995

Jin, X., Tomimatsu, Y., Yin, R., Onoue, T., **Franceschi, M.**, Grasby, S.E., Du, Y., Rigo, M., 2023. Climax in Wrangellia LIP activity coincident with major Middle Carnian (Late Triassic) climate and biotic changes: Mercury isotope evidence from the Panthalassa pelagic domain.
Earth and Planetary Science Letters, 607. https://doi.org/10.1016/j.epsl.2023.118075

Jin X., **Franceschi M.**, Martini R., Shi Z., Gianolla P., Rigo M., Wall C.J., Scmitz M.D., Lu G., Du Y., Huang X., Preto N., 2022. Eustatic sea-level fall and global fluctuations in carbonate production during the Carnian Pluvial Episode.
Earth and Planetary Science Letters 594, https://doi.org/10.1016/j.epsl.2022.117698

Franceschi M., Jin X., Shi Z., Chen B., Preto N., Roghi G., Dal Corso J., Han L., 2022. High-resolution record of multiple organic carbon-isotope excursions in lacustrine deposits of Upper Sinemurian through Pliensbachian (Early Jurassic) from the Sichuan Basin, China.
Bulletin of the Geological Society of America, https://doi.org/10.1130/B36235.1

Han Z., Hu X., He T., Newton R.J., Jenkyns H.C., Jamieson R.A., **Franceschi M.**, 2022. Early Jurassic long-term oceanic sulfur-cycle perturbations in the Tibetan Himalaya.
Earth and Planetary Science Letters 578, https://doi.org/10.1016/j.epsl.2021.117261

Jin X., Baranyi V., Caggiati M., **Franceschi M.**, Wall C.J., Liu G., Schmitz M.D., Gianolla P., Ogg J.G., Lu G., Shi Z., Preto N., 2021. Middle Triassic lake deepening in the Ordos Basin of North China linked with global sea-level rise.
Global and Planetary Change 207 (103670).
https://doi.org/10.1016/j.gloplacha.2021.103670

Han Z., Hu X., BouDagher-Fadel M., Jenkyns H.C., **Franceschi M.**, 2021. Early Jurassic carbon-isotope perturbations in a shallow-water succession from the Tethys Himalaya, southern hemisphere.
Newsletters on Stratigraphy 54/4. DOI: 10.1127/nos/2021/0650

Cesare B., Parisatto M., Mancini L., Peruzzo L., **Franceschi M**., Tacchetto T., Reddy S., Spiess R., Nestola F., Marone F., 2021. Mineral inclusions are not immutable: Evidence of post-entrapment thermally-induced shape change of quartz in garnet.
Earth and Planetary Science Letters 555, https://doi.org/10.1016/j.epsl.2020.116708.

Franceschi, M., Penasa, L., Massironi, M., Naletto, G., Ferrari, S., Fondriest, M., Bodewits, D., Güttler, C., Lucchetti, A., Mottola, S., Pajola, M., Toth, I., Deller, J., Sierks, H., Tubiana, C., 2020. Global-scale brittle plastic rheology at the cometesimals merging of comet 67P/Churyumov-Gerasimenko.
Proceeding of the National Academy of Sciences of the United States of America 117(19), pp. 10181-10187. https://doi.org/10.1073/pnas.1914552117

Jin, X., Gianolla, P., Shi, Z., **Franceschi, M.**, Caggiati, M., Du, Y., Preto, N. 2020. Synchronized changes in shallow water carbonate production during the Carnian Pluvial Episode (Late Triassic) throughout Tethys.
Global and Planetary Change 184, https://doi.org/10.1016/j.gloplacha.2019.103035

Franceschi, M., Preto, N., Caggiati, M., Gattolin, G., Gianolla, P., Riva, A., 2020. Drowning of microbial mounds on the slopes of the Latemar platform (middle Triassic).
Italian Journal of Geosciences 139(1), DOI: 10.3301/IJG.2019.23.

Franceschi, M., Dal Corso, J., Cobianchi, M., Roghi, G., Penasa, L., Picotti, V., Preto, N., 2019. Tethyan carbonate platform transformations during the Early Jurassic (Sinemurian-Pliensbachian, Southern Alps): Comparison with the Late Triassic Carnian Pluvial Episode.
Bulletin of the Geological Society of America 131(7-8), pp. 1255-1275, DOI: 10.1130/B31765.1

Dal Corso, J., Gianolla, P., Rigo, M., **Franceschi, M**., Roghi, G., Mietto, P., Manfrin, S., Raucsick, B., Budai, T., Jenkyns, H.C., Raymond, C., Caggiati, M., Gattolin, G., Breda, A., Merico, A., Preto, N., 2018. Climatic, depositional and biotic effects of multiple negative carbon-isotope excursions during the Carnian Pluvial Episode (Late Triassic).
Earth Science Reviews 185, pp. 732-750, DOI: 10.1016/j.earscirev.2018.07.004

Jin, X., Shi, Z., Rigo, M., **Franceschi, M**., Preto, N., 2018. Carbonate platform crisis in the Carnian (Late Triassic) of Hanwang (Sichuan Basin, South China): insights from conodonts and stable isotope data.
Journal of Asian Earth Sciences 164, pp. 104-124, DOI: 10.1016/j.jseaes.2018.06.021

Franceschi, M., Preto, N., Marangon, A., Gattolin, G., Meda, M., 2016. High precipitation rate in a Middle Triassic carbonate platform: Implications on the relationship between seawater saturation state and carbonate production.
Earth and Planetary Science Letters 444, pp. 215-224, DOI: 10.1016/j.epsl.2016.03.053

Franceschi, M., Penasa, L., Coccioni, R., Gattaceca, J., Smit, J., Cascella, A., Mariani, S., Montanari, A., 2015. Terrestrial Laser Scanner imaging for the cyclostratigraphy and astronomical tuning of the Ypresian-Lutetian pelagic section of Smirra (Umbria-Marche Basin, Italy).
Palaeogeography, Palaeoclimatology, Palaeoecology 440, pp. 33-46, DOI: 10.1016/j.palaeo.2015.08.027

Franceschi, M., Martinelli, M., Gislimberti, L., Rizzi, A., Massironi, M., 2015. Integration of 3D modeling, aerial LiDAR and photogrammetry to study a synsedimentary structure in the Early Jurassic Calcari Grigi (Southern Alps, Italy).
European Journal of Remote Sensing 48, pp. 527-539, DOI: 10.5721/EuJRS20154830

Dal Corso, J., Gianolla, P., Newton, R.J., **Franceschi, M**., Roghi, G., Caggiati, M., Raucsik, B., Budai, T., Haas, J., Preto, N., 2015. New Carnian (Late Triassic) carbon isotope records reveal synchronicity between carbon cycle perturbation and increased rainfall, seawater oxygen depletion and carbonate production crisis in the Tethys realm.
Global and Planetary Change 127, pp. 79-90, DOI: 10.1016/j.gloplacha.2015.01.013

Franceschi, M., Dal Corso, J., Posenato, R., Roghi, G., Masetti, D., Jenkyns, H.C., 2014. Early Pliensbachian (Early Jurassic) C-isotope perturbation and the diffusion of the Lithiotis Fauna: insights from the western Tethys.
Palaeogeography, Palaeoclimatology, Palaeoecology 410, pp. 255-263, DOI:10.1016/j.palaeo.2014.05.025

Franceschi, M., Massironi, M., Franceschi, P., Picotti, V., 2014. Spatial analysis of thickness variability applied to an Early Jurassic carbonate platform in the central Southern Alps (Italy): a tool to unravel syn-sedimentary faulting.
Terra Nova 26, pp. 239-246, DOI: 10.1111/ter.12092

Franceschi, M., Preto, N, Hinnov, L., A. Huang, C., Rusciadelli, G., 2011. Terrestrial laser scanner imaging reveals astronomical forcing in the Early Cretaceous of the Tethys realm.
Earth and Planetary Science Letters 305, pp. 359-370. DOI 10.1016/j.epsl.2011.03.017

Franceschi, M., Teza, G., Preto, N., Pesci, N., Galgaro, A., Girardi, S., 2009. Discrimination between marls and limestones in a lithological sequence using terrestrial laser scanner.
ISPRS Journal of Photogrammetry and Remote Sensing 64, pp. 522-528, doi:10.1016/j.isprsjprs.2009.03.003

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