



UNIVERSITÀ
DI TORINO



Dipartimento di
Scienze della Terra

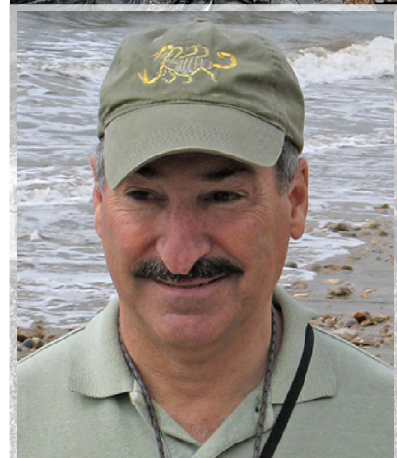


3 ECTS COURSE FOR PhD STUDENTS

Biogenic silica sedimentation through time

Prof. Richard Behl

Department of Earth Science
California State University Long Beach (USA)



The lecturer

Richard Behl is a marine sedimentologist, Professor Emeritus at CSULB (USA). Most of his work focuses on the wonderfully complex Miocene Monterey Formation of California and the spectacular Quaternary record of Santa Barbara Basin. Overall, his research is tied together by trying to unravel the tectonic, climatic, and oceanographic evolution of the California Margin and the Pacific Ocean. In particular, his research focuses on the sedimentology and paleoceanography of continental margins and deep-sea upwelling zones, and the diagenesis of siliceous sediments and other authigenic minerals associated with organic-rich sediments.

WHEN & WHERE

May 4th-5th and 11th-12th, 2026
Department of Earth Sciences - University of Turin
(Via Valperga Caluso 35, Torino - Italy)

COURSE DESCRIPTION & PROGRAM

This course will provide students with an overview of the sedimentology, depositional environment and diagenesis of marine biosiliceous sediments with emphasis on the Cenozoic era. Siliceous plankton have become the main primary producers (carbon fixers) in the modern ocean and perform a critical role in the global carbon cycle, while their unique characteristics influence large-scale phenomena in the subsurface like sedimentary basin dewatering, polygonal fracture systems, seismic reflections and rock mechanics.

May 4th (2-5 pm)

Significance of biosiliceous sediments and sedimentary rocks
Evolution of biosiliceous planktonic organisms
Environmental requirements & depositional environments
Sedimentary processes & sedimentary structures
Vertical settling, sedimentary reworking & lateral facies distribution

May 5th (2-5 pm)

Silica phases and diagenesis
Silica and fluid mobility
Significance of burial history
Composition & lithology
Ribbon bedding in chert and porcelanite

May 11th (2-5 pm)

Petrography & microfacies of siliceous sediments & rocks
Porosity and permeability
Physical properties of biosiliceous sediments and sedimentary rocks
Deformation and mechanical stratigraphy

May 12th (2-5 pm)

Significance and applications in petroleum geology
Sequence stratigraphy and biosiliceous sediments
Paleoceanography of biosiliceous sediments
Integration of seminar content and applications to individual research

REGISTRATION & CONTACTS

Registration form available at the following link:
https://www.phdearthsciences.unito.it/do/documenti.pl/Show?_id=psws
Send to: francesco.delapierre@unito.it and lu.pellegrino@unito.it

Registration deadline extended to April 30th, 2026
Early registration is recommended as class size is limited to 13
Notify any cancellations as soon as possible in order to allow substitutions