

SEPM-Field Conference on Sandy Microbial Mats from the Archean to Today, Denver, Colorado, USA, May 2010

While stromatolites are well known from carbonate sedimentology, much less work has been done on microbiota in sand and sandstone. The SEPM field conference in Denver was devoted to sedimentary structures caused by microbial mats in sandy settings.

The 45°-dipping Dakota sandstone beds close to Denver, Colorado, contain exceptionally well preserved microbial mats of Cretaceous age. The participants of the field conference investigate this rippled bedding surface. It is covered by planar microbial mats, visible as white, irregularly shaped patches.



The SEPM field conference follows the example of the 'Mini Microbial Mat Meetings' organized by Wolfie Krumbein and Gisela Gerdes in the 1980'ies, bringing together geo- and bioscientists to explore Earth's life and environments. The interest that started at the Mini Mat Meetings in Oldenburg, has now engaged the sedimentological and paleontological community worldwide. Not less than 50 working groups from 17 nations participated the SEPM conference in May – a truly international convention.

The field conference included two days of talk and poster presentations discussing the latest research on siliciclastic microbial mats. Pioneer workers like David Bottjer, Richard Castenholz, and Jim Gehling gave highly spirited insights into the development of the research field on modern and ancient microbial mats. Renata Netto, Luis Buatois, and other leading ichnologists reconstructed the interaction often bizarre traces of organisms with microbial mats. Patrick "Paddy" Friend specialized in biostabilization of modern microbial mats. Barbara Kremer's and Nora Noffke's talks were on the reconstruction of cyanobacterial evolution with the use of microfossils, or modern and Archean MISS. Greg Retallack reminded the participants that there is also a terrestrial system of microbial mats.

The highlight of this conference was the trip to Dinosaur Ridge, at the well known outcrop along Alameda Avenue in Denver. This outcrop displays tidal flat sandstones of Cretaceous age, and is famous for its dinosaur footprints. At this outcrop exceptionally well preserved, magnificent microbial mats cover the ancient tidal flat surfaces. Various sedimentary structures were discussed and their genesis explained to the participants.

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Nora Noffke