Sequence stratigraphy of the Pliocene–Pleistocene infill in the southern part of the Adriatic foredeep system

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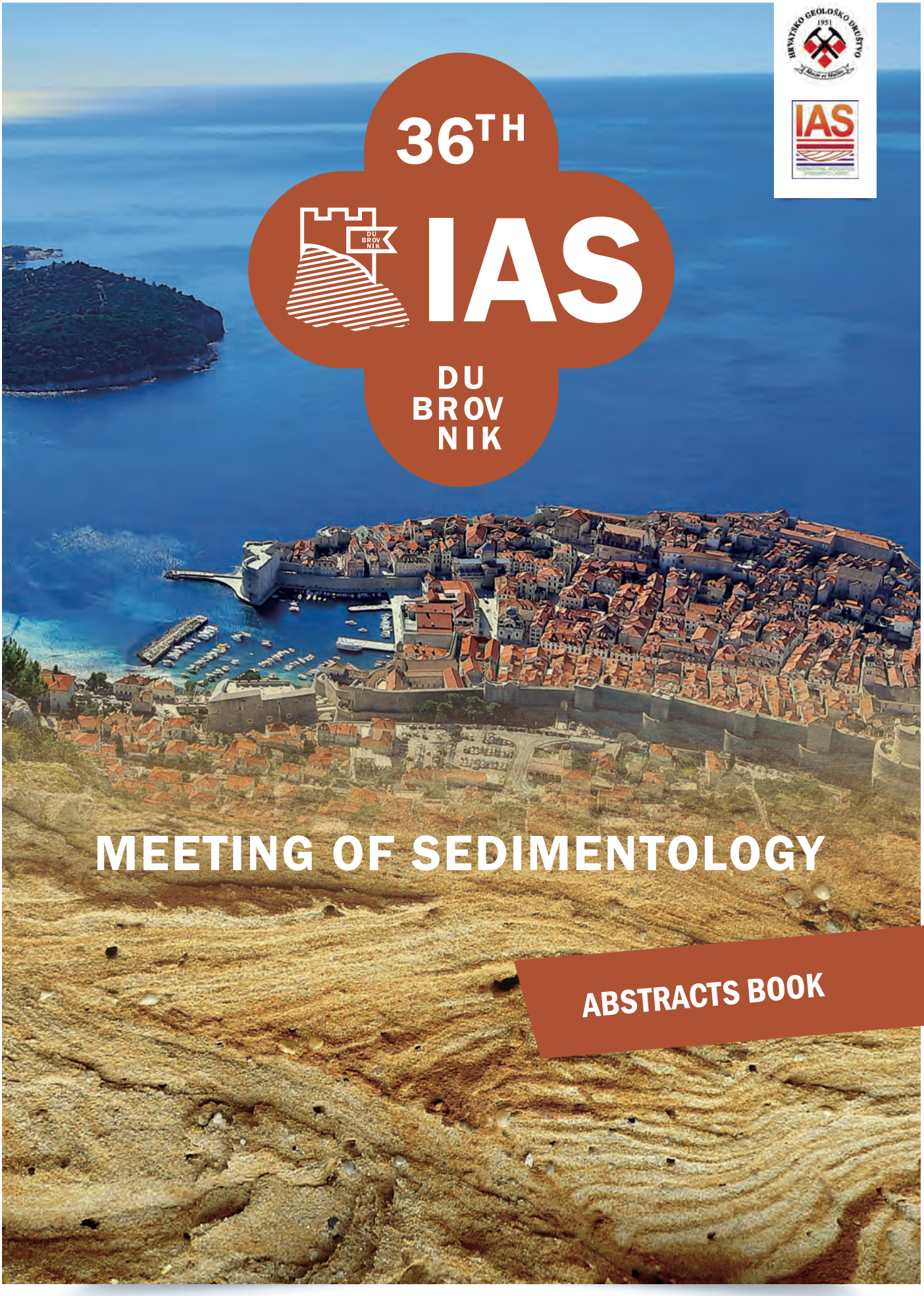

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ABSTRACTS BOOK

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ABSTRACTS BOOK

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Theme 14. Tectonics and sedimentation

General Session

Oral presentation

Sequence stratigraphy of the Pliocene–Pleistocene infill in the southern part of the Adriatic foredeep system

David Rukavina[1], Bruno Saftić[1], Iva Kolenković Močilac[1], Marko Cvetković[1]

[1]University of Zagreb, Faculty of Mining, Geology and Petroleum Engineering, Zagreb, Croatia
david.rukavina@rgn.unizg.hr

The evolution of the foreland basin sediments in the Adriatic (Messinian–Quaternary) foredeep system was controlled by the Meso and Neoalpine emersed chain. Croatia's southern part of this system comprises the Palagruža Trough and South Adriatic Basin filled with marine clastic succession. Our study, in this area, aims to reconstruct the shelf-edge trajectories and sequence stratigraphy to describe the migration of the depositional systems. The study integrates published geological maps, well logs and reports, and 2D seismic sections. Mappable seismic facies are defined and correlated with sedimentological facies and depositional processes. Both, ascending and descending shelf-edge trajectories are defined. Ascending trajectories are associated with transgressive and highstand system tracts. Descending trajectories are associated with forced regression and the presence of extensive erosional surface on the shelf. Overall progradation characterizes Pliocene and Pleistocene sediments, first filling the Palagruža Trough in the SW direction and then SE progradation towards the South Adriatic Basin. The progradation pattern is interrupted by a base-level rise at the end of the Pliocene. Analysing the main sediment transport directions, the two third-order unconformity-bounded stratigraphic units are interpreted. Especially interesting are results about nearby Pliocene–Pleistocene clastic depositional systems and processes that shaped the southern part of the Adriatic Sea. These results highlight the stratigraphic and tectonic evolution of the Adriatic foredeep's southern part, providing the records of the regional and global controls driven by the local tectonics and emersion, basin migration and subsequent basin infill.