

## An Interdisciplinary Insight in to Biostratigraphy and Palaeoecology around the Albian–Cenomanian Boundary in the Levant: A Case Study in the Mount Carmel Region

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**B**iostratigraphic analysis was based on the study of the calcareous nannoplankton and planktic foraminifera from a 225-m deep borehole CT8, Mount Carmel Region, NW Israel, which penetrates the Yagur, Isfiye, Tavasim Tuff and Arqan formations.

The entire succession belongs to (sub)zones NC9b (Upper Albian), NC9b&UC0a–b (Upper Albian), UC0a–b (Upper Albian), UC0c (Upper Albian – Lower Cenomanian), UC1 (Lower Cenomanian), UC2 (Lower Cenomanian), and UC3 (Middle – Upper Cenomanian). The first occurrence (FO) of *Thalmaninella globotruncanoides*, preceded by the FO of *Th. brotzeni* and followed by the FO of *Corollithion kennedyi*, places the Albian–Cenomanian boundary in the lower part of the Arqan Fm, about 52 m above the top Tavasim Tuff. The 98.2 Ma age of Tavasim Tuff at the bottom third of Arqan Fm and 96.7 Ma age of Raqefet Basalt at the center of Arqan Fm reliably constrain the absolute age of the Albian–Cenomanian boundary in the region.

The whole Late Albian/Cenomanian succession in NW Israel was deposited under temperate (23–21°C) to quite warm (up to 32°C), open marine, unstable, oligotrophic conditions with poor nutrient supply. Several palaeoecological phases are recognized on the basis of the quantitative analysis of the calcareous nannoplankton, the Productivity Index and  $\delta^{18}\text{O}$  values, with warming/cooling events of various scale and fluctuations of eutrophication/oligotrophication during each phase.

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### Biography:

Dr. Maria Ovechkina is a micropaleontologist specializing in the calcareous nannoplankton. She has a rich experience working with the Cretaceous and Cainozoic nanofossils and provided identifications, biozonation and palaeoreconstructions based on the quantitative analysis of nanofossils for numerous collaborative projects spanning from the Western Siberia to South Africa, and from the Cretaceous to Holocene.