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Foreword

Tõnu Meidla, David A. T. Harper and Thomas Servais

In 1984 Valdar Jaanusson provided a comprehensive overview of the characteristic features of the Ordovician Period in his introductory paper 'What is so special about the Ordovician' for the Fourth International Symposium on the Ordovician System in Oslo. He highlighted three key aspects: (1) the exceptionally high sea levels that led to the formation of extensive carbonate continental shelves, (2) significant changes in biodiversity, especially in groups that were rare or absent during the Cambrian Period and (3) notable biogeographical and climatic variation. While none of these features are entirely unique to the Phanerozoic eon, their simultaneous occurrence during the Ordovician Period continues to guide research on the Ordovician System, offering a wide array of phenomena to direct and synthesise new observations and theories.

Subsequent symposia have expanded on the list of these main topics, encompassing biodiversity studies on major groups of organisms and investigations of the glaciation event at the end of the period together with one of the 'Big Five' mass extinctions and its consequences; studies of impacts and the stable isotopic geochemistry of various elements, as well as palaeoceanography have advanced rapidly in the last 50 years. The upcoming 14th International Symposium on the Ordovician System, to be held in Tallinn, Estonia, on 15–26 July 2023, will continue to explore these and related aspects of the system. Additionally, the programme for the symposium includes a pre-conference excursion to the most spectacular Ordovician sections in Estonia and a post-conference excursion to the key Ordovician sections in Sweden, further enriching an already exciting programme.

The selection of Estonia as the venue for the upcoming global meeting on the Ordovician is compelling for several reasons. Firstly, approximately one third of Estonia's territory is occupied by outcrops of Ordovician rocks. Furthermore, these rocks are widely distributed throughout the country, encompassing a significant portion of one of the most extensively studied Ordovician palaeobasins, together with Latvia, Lithuania, northwestern Poland, Sweden, as well as parts of Denmark, Norway, and Russia.

The Ordovician rocks of this region have been the subject of intensive studies since the latter half of the 19th century. Over many decades, the sedimentary facies and stratigraphy of the Ordovician rocks in this area have been meticulously documented, providing a wealth of detailed information. Additionally, the extensive available documentation for the principal Ordovician fossil groups, based on superb preservation, further highlights the scientific value of this region. As a result, Estonia along with its neighbouring Baltoscandian countries is considered one of the key areas for global Ordovician studies.

The present volume serves as the proceedings of the 14th Symposium on the Ordovician System, published as a special issue of the *Estonian Journal of Earth Sciences*. This symposium is sponsored by the Subcommittee on Ordovician Stratigraphy of the International Union of Geological Sciences. Comprising 81 contributions, including 28 short papers and 53 abstracts, the volume covers a wide range of research areas such as chronostratigraphy, biostratigraphy, chemostratigraphy, palaeontology, regional geology, correlation issues, impacts, and many more – in fact, displaying a cross-section of contemporary research on the Ordovician System around the world.

This volume continues the long-standing tradition of former symposia arranged by the Ordovician Subcommittee to publish special books devoted to the Ordovician System. This tradition began in 1976 with the publication of the renowned volume 'The Ordovician System' (Cardiff, 1976), edited by M. G. Bassett. Since then, a substantial number of books and conference volumes, referenced in the research papers of this current volume, have been specially dedicated to the Ordovician System, its rocks and its fossils. The present volume includes contributions by authors from 20 countries summarising the results of current research, which will be presented as oral or poster presentations during the symposium.

A significant highlight of the programme for this meeting is an event to unveil the new two-volume opus on the Ordovician System of the world – including a global synthesis of successions in Europe (*Geological Society, London, Special Publications*, 532) and the rest of the world (*Geological Society, London, Special Publications*, 533). This is a monumental work that will remain an essential resource for many years to come. The classic Estonian succession with its detailed biostratigraphy, and its adjacent Baltic correlatives, will remain the core of Ordovician research. Publication of the volumes of the Geological Society has, however, highlighted the great diversity of the Ordovician System now known from virtually all corners of the world, a continued area of focus of the 14th ISOS. In addition, the close links of the Ordovician Subcommittee with IGCP programmes continue with IGCP 735 'Rocks and the Rise of Ordovician Life' focused on widening the global reach of the system and its researchers, and on the issue of de-colonisation of Ordovician data.

The organisers would like to express their gratitude to all contributors who have enriched this meeting with their valuable contributions. Special thanks are extended to the keynote speakers and the members of the Scientific Committee for their essential roles in shaping the event. The organisers would also like to extend their thanks to the institutions that have provided additional support for this gathering: Tallinn University of Technology, the University of Tartu, the Estonian Geological Survey, and the Estonian Museum of Natural History. Their support has been instrumental in making this meeting possible.