

## MEMORIAL LECTURES

### TODARMAL MEMORIAL LECTURE

#### Modern Cartography according to the ICA: towards cartography 2.0

-Prof. László Zentai

Today, maps can be created and used almost for any purpose by any individual having only modest computing skills at any location on Earth. In this new mapmaking paradigm, which we can even call modern cartography or cartography 2.0, users are often present at the location of interest, and they produce maps that address the needs arising instantaneously.

The successful development of modern cartography requires integrated interdisciplinary approaches from domains such as information technology, communication science, human-computer interaction, telecommunication sciences, cognitive sciences, geospatial information management and cartography. It is those interdisciplinary approaches which make sure that we work towards human-centred application developments by applying innovative engineering methods and tools in a highly volatile technological framework. A number of important technology-driven trends have a major impact on what and how we create, access and use maps, creating previously unimaginable amounts of location-referenced information and thus put cartographic services in the centre of the focus of research and development. The paper focuses on the information technology background of this process and the effect of this development on the cartography and the International Cartographic Association itself.

While the above advances have enabled significant progress on the design and implementation of new ways of map production over the past decade, many cartographic principles remain unchanged; the most important one being that maps are abstractions or models of the reality. Visualization of selected information means that some features present in reality are depicted more prominently than others, while many features might not even be depicted at all according to the theory of generalization, which is well-known for experienced cartographers; however, this can be absolutely obscure for the ordinary users. Abstracting reality makes a map powerful, as it helps to understand and interpret very complex situations very efficiently. Maps are most efficient in enabling human users to understand complex situations. Maps can be understood as tools to order information by their spatial context.

Cartography is essential in many aspects of human societies. Modern cartography enables the general public to participate in the modelling and visualizing of the risks their neighbourhood may suffer from on a voluntary basis. Modern cartography also helps to quickly disseminate crucial information.

In this sense, cartography is most relevant. Without maps we would be "spatially blind". Knowledge about spatial relations and the location of objects is most important for handling disasters and crisis situations or just to be able to bring good decisions. Cartography is also most contemporary, as new and innovative technologies have an important impact on what cartographers are doing: they are inventing cartography 2.0.

#### About Prof. László Zentai



Prof. László Zentai is a Professor at the Department of Cartography and Geoinformatics, Eötvös Loránd University, Budapest, Hungary. Born in 1959, he pursued M.Sc. in cartography from Eötvös Loránd University, Budapest in 1984. He was awarded Ph.D. in cartography, Eötvös Loránd University, Budapest in 1995 and D.Sc. Hungarian Academy of Science in 2005.

He was a Lecturer at Eötvös Loránd University, Budapest from 1988–1992, Assistant Professor from 1992 to 1996, Associate Professor from 1996 to 2006 at the same university. He is the Head of Department since 2005 and Professor since 2006. He teaches the subjects of Digital cartography, Web cartography, Topographic maps, Representation of relief, Orienteering maps at his university. He is also a member of several associations such as Hungarian National Committee of ICA, Commission on Maps and the Internet (1999–2003), Commission on Education and Training (1999–).