

## **Invitation of: Professor Timos Sellis, RMIT University, Australia**

**Invitee: Dimitris Kotzinos**

### **Management of structured and unstructured spatiotemporal data using cloud computing**

The last few years spatiotemporal data have become mainstream mainly thanks to the advancement of Location Based Services and their popularization due to their incorporation in popular services like Google Maps. Given that, many of the data created nowadays are spatiotemporal by nature and thus need to be managed as such. Moreover with the rise of cloud computing we have environments where we deal with a mixture of structured and unstructured data, and the management of both, especially in terms of volume, velocity (change), variety (different formats and themes) and veracity (accuracy) i.e. big data, is becoming really challenging.

Professor Sellis has a lot of experience and contributions in the area of spatial data management and has also recently published papers on using cloud computing to support querying spatiotemporal datasets (as an indication please refer to publications C133 and C136 and publications J19, J23, J24, J30, J35, J49 from his attached CV). Also his work falls under the general description of "Big Data Management", a field that is of high interest for the ETIS Lab.

Dimitris Kotzinos has also recent activity in the area of geospatial services in cloud computing environments (e.g. work under the INGEOCLOUDS project – [www.ingeoclouds.eu](http://www.ingeoclouds.eu)) and other members of the MIDI team of ETIS Lab have also being involved in the past in related research activities.

The invitation will allow Prof. Sellis to work together with Dimitris Kotzinos and other members of the MIDI team in order to propose:

- New storage schemes for spatiotemporal data on the cloud
- New indexing schemes for spatiotemporal data on the cloud
- Advanced geospatial query processing on NoSQL databases by extending current capabilities and/or proposing new operators
- Query processing for streaming spatiotemporal data on the cloud

Professor Sellis can highly contribute to the before mentioned research and engage with the researchers in the ETIS Lab in order to advance the collaborative work in this area. This is a new collaboration from which we expect high-end scientific contributions.

#### **A short bio of Professor Timos Sellis follows:**

*Timos Sellis received his diploma degree in Electrical Engineering in 1982 from the National Technical University of Athens (NTUA), Greece. In 1983 he received the M.Sc. degree from Harvard University and in 1986 the Ph.D. degree from the University of California at Berkeley, both in Computer Science. In 1986, he joined the Department of Computer Science of the University of Maryland, College Park as an Assistant Professor, and became an Associate Professor in 1992. Between 1992 and 1996 he was an Associate Professor at NTUA, where he served as a Professor till January 2013. He is currently a Professor at the School of Computer Science and Information Technology of RMIT University in Australia. Prof. Sellis was also the Director of a new research institute he founded in Greece, the Institute for the Management of Information Systems (IMIS) of the "Athena" Research Center ([www.imis.athena-innovation.gr](http://www.imis.athena-innovation.gr)) between 2007 and 2012.*

*His research interests include big data, data streams, personalization, data integration, and spatio-temporal database systems. He has published over 200 articles in refereed journals and international conferences in the above areas, has over 10.000 citations to his work and has been invited speaker in major international events. He has also participated and co-ordinated several national and european research projects. Prof. Sellis is a recipient of the prestigious Presidential Young Investigator (PYI) award given by the President of USA to the most talented new researchers (1990), and of the VLDB 1997 10 Year Paper Award in 1997 (awarded to the paper published in the proceedings of the VLDB 1987 conference that had the biggest impact in the field of database systems in the decade 1987-97). He was the president of the National Council for Research and Technology of Greece (2001-2003). In November 2009, he was awarded the status of IEEE Fellow, for his contributions to database query optimization, and spatial data management, and in November 2013 the status of ACM Fellow, for his contributions to database query optimization, spatial data management, and data warehousing.*