Preface

Wassim Jaziri*

Department of Computer Science,
College of Computer Science and Engineering,
Taibah University,
Madinah Munawarah, KSA
and
Miracl Laboratory,
Higher Institute of Computer Science and Multimedia,
Sfax University,
Sfax, Tunisia
Email: jaziri.wassim@gmail.com
*Corresponding author

Michel Mainguenaud

Institut National des Sciences Appliquees – Rouen/LITIS – EA4108,
BP08 165 Avenue de l'Universite,
F76801 Saint Etienne du Rouvray, France
Email: michel.mainguenaud@insa-rouen.fr

Biographical notes: Wassim Jaziri received his PhD in Computer Science in 2004 from INSA-Rouen, France. He received an accreditation to supervise research (French HDR, a required grade to be a Full Professor) in Computer Science in 2010 from Sfax University-Tunisia. Currently, he is a Professor in Computer Science at the College of Computer Science and Engineering, Taibah University, KSA. His main interests are geographic information systems, spatio-temporal databases, spatial decision aid, data and knowledge modelling, ontology and optimisation. He was involved in several international projects and has organised a number of international conferences/workshops.

Michel Mainguenaud is a Computer Science Engineer in 1985, and received his PhD from the Pierre et Marie Curie University, Paris, France in 1989. He was the Head of the Information System Engineering Department at the Institut National des Sciences Appliquées, Rouen, France and then the Dean for Education. He was the Director of the CNRS/GDR2340 SIGMA-Cassini research group. He was the Director of the P3 Unit (an ISO 9001:2008 certified unit oriented towards research and development applications). His main research subjects are multimedia databases (data models and languages) and geographical information science.

We are pleased to present this first issue of the *International Journal of Spatial, Temporal and Multimedia Information Systems* (*IJSTMIS*).

IJSTMIS is devoted to the gamut of new generation of information systems issues, from theoretical aspects to application-dependent studies. More specially, this journal was conceived as a forum for a communication channel between researchers and

practitioners working at the interface of spatial, temporal and multimedia studies as well as associated fields. It is our hope that this new journal will help break down barriers between investigators in the various disciplines relating to these research areas.

This issue comprises five manuscripts. Below, we shortly describe the contents of each one:

In the first article 'Dynamic multi-granularity semantic representations for navigation facility services', Geraldine Del Mondo and Michel Mainguenaud raise the research question: how to take into account the spatial relevance of alphanumeric attributes in navigation facility services. Providing several levels of abstraction leads to adapt alphanumeric attributes depending on the presented level.

In the second article 'F-perceptory: an approach for handling fuzziness of spatiotemporal data in geographical databases', Asma Zoghlami, Cyril de Runz and Herman Akdag propose an approach for modelling imprecise data in object and relational databases based on the representation of data using connected and normalised fuzzy sets stored via α-cuts. The approach is applied to geographical information systems in order to handle imprecise spatiotemporal data.

In their paper 'A neural network based on time series for spatiotemporal relationships prediction', Hana Alouaoui, Sami Yassine Turki and Sami Faiz address the evolution of spatiotemporal relationships between spatial objects. They predict the future behaviour of these relationships based on spatiotemporal association rules, using the concept of neural network based on a nonlinear time series technique.

Sukhjit Singh Sehra et al. refer in their article 'Analysing OpenStreetMap data for topological errors' to the detection of topological errors in OpenStreetMap data. To clean topological errors, map data have been processed using different algorithms of open source geographic information systems.

In the last article of this issue 'The impact of land-use and climate change in the centre region of France on the physico-chemical status of aquatic systems', Rachid Nedjai, Van-Tuan Nghiem, Thi-Phuong-Thao Do and Messaoud Nacer Nasredine introduce and discuss the direct impact of land-use and climate change on the aquatic systems.

We hope that our readers find these papers useful to their research. We are certain that this first issue will be followed by many others, reporting new developments in the computer science field. This issue would not have been possible without the great support of the editorial board members, and we would like to express our sincere thanks to all of them and we look forward to continue our collaboration to make *IJSTMIS* a successful publication and a pioneer in the rapidly advancing area of computer science. We would also like to express our gratitude to the peer reviewers as well as the authors who contributed to this issue.

Finally, we welcome all valuable comments and feedback for a prolific future for *IJSTMIS*.