Research Seminar

Generating and Updating Lane-based Road Network Information for Navigation from Road Markings

Prof. Anthony G.O. YEH
Department of Urban Planning and Design
The University of Hong Kong

Wednesday, 15 October 2014 (12:45 -14:00)
Room 829, Knowles Building
The University of Hong Kong

Abstract:
Lane-based road network information, such as lane geometry, destination, lane changing, and turning information, is important in vehicle navigation, driving assistance system, and autonomous driving. Such information, when available, is mainly input manually. However, manual methods for creating and updating data are not only costly but also time-consuming, labor-intensive, and prone to long delays. A hierarchical polygonization method is developed for automatic generation and updating of lane-level road network data for navigation from a road marking database that is managed by government department created by digitizing or extraction from aerial images. The proposed method extends the hierarchy of a road structure from “road–carriageway–lane” to “road–carriageway–lane–basic lane”. Basic lane polygons are constructed from longitudinal road markings, and their associated navigational attributes, such as turning information and speed limit, are obtained from transverse road markings by a feature-in-polygon overlay approach.

About the Speaker:
Prof. Anthony G.O. Yeh is Chair Professor of the Department of Urban Planning and Design and Director of GIS Research Centre of the University of Hong Kong. He is an Academician of the Chinese Academy of Sciences and Academy of Social Sciences in the UK and a Fellow of the World Academy of Sciences for the Developing World, Hong Kong Institute of Planners, Royal Town Planning Institute (RTPI), Planning Institute of Australia (FPIA), Royal Institution of Chartered Surveyors (RICS), and Chartered Institute of Logistics and Transport (CILT). He is the Secretary General of the Asian Planning Schools Association and President of Asia GIS Association. His research interests are in urban planning and development in Hong Kong and China and the applications of GIS as planning support system. He has published over 30 books and monographs and over 180 international journal papers and book chapters.

ALL INTERESTED ARE WELCOME

Please visit our website www.hku.hk/cusup, click on ‘Events’ for Seminar Series.
Enquiries: 2859 2721

CENTRE OF URBAN STUDIES AND URBAN PLANNING
THE UNIVERSITY OF HONG KONG