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# Conférence de M. Rui Zhu, candidat au Ph.D. de la Hong Kong Polytechnic University

30/11/2015 / dans [Activités du Centre](#), [Nouvelles](#), [Séminaires](#) /

Vous êtes invités à assister à la conférence de Monsieur Rui Zhu, candidat au doctorat à la Hong Kong Polytechnic University et actuellement en stage d'étude sous la supervision de Éric Guilbert.

**Mardi le 1er décembre**

**12h00 à 12h45**

**Salle 1516 du Pavillon Casault**

**\*en anglais**

**Tracking thematic and spatiotemporal dynamic behaviors of urban heat islands**

Rui Zhu<sup>a</sup>, Eric Guilbert<sup>b</sup> and Man Sing Wong<sup>a</sup>

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Temperatures in the urban area that significantly higher than the rural area has increasingly become a more serious problem of urban development. Previously developed models to investigate the urban heat island phenomenon at fixed time instant cannot track its dynamic behavior in spatial (i.e. shape and topological variation) and thematic (i.e. temperature changing) through continuous time. To solve this problem, this study conceptualizes each urban heat island as an object that has its own dynamic behavior to trigger the state transition in the life cycle, and proposes a spatiotemporal model to track the dynamic behavior of urban heat islands both in spatial and thematic. The model is implemented in an object-relational database, and air temperatures collected from a sufficient number of weather stations are interpolated as thermal images each hour over seven days and imported into the database to extract urban heat island information. Results indicate that the model can not only track the spatial and thematic evolution of urban heat islands through continuous time effectively, but also reveal the periodical patterns and abnormal cases sensitively.

### Biography

Mr. Rui Zhu is a PhD candidate registered in the department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University, Hong Kong, China. His research is focusing on spatio-temporal data modeling for dynamic behaviors of urban heat islands. Currently, Mr. Zhu is having an exchange study supervised by Dr. Eric Guilbert at Laval University. Mr. Zhu got his M.Sc. in Royal Institution of Technology – KTH, Sweden (2013), and B.Sc. in Nanjing Normal University, China (2010).

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