# Computer Science
# Seminar

## *The Era of Big Spatial Data*

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### University of Minnesota

**Abstract:** In recent years, there has been an explosion in the amounts of spatial and spatio-temporal data produced from several devices including smart phones, space telescopes, medical devices. Unfortunately, managing and analyzing such big spatial data is hampered by the lack of specialized systems, techniques, and algorithms. While big data is well supported with a variety of distributed systems and cloud infrastructure, none of these systems or infrastructure provide any special support for spatial or spatio-temporal data. This talk presents our efforts in indexing, querying, and visualizing big spatial and spatio-temporal data. We will describe our efforts within SpatialHadoop; our full-fledged MapReduce framework with native support for spatial data, including support for basic spatial operations, computational geometry, and spatial visualization.

BIO: Mohamed F. Mokbel (Ph.D., Purdue University, MS, B.Sc., Alexandria University) is an Associate Professor in the Department of Computer Science and Engineering, University of Minnesota. His research interests include the interaction of GIS and location-based services with database systems and cloud computing. His research work has been recognized by five Best Paper Awards and by the NSF CAREER award. Mohamed was the program co-chair for the ACM SIGSPATIAL GIS conference from 2008 to 2010, IEEE MDM Conference 2011 and 2014, and the General Chair for SSTD 2011. He is an Asscoiate Editor for ACM TODS, ACM TSAS, VLDB journal, and GeoInformatica. Mohamed is a founding member of ACM SIGSPATIAL, and an elected Chair of ACM SIGSPATIAL 2014-2017. For more information, please visit: www.cs.umn.edu/ mokbel.

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