

## U. Sunday Tim

### Associate Professor

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### Education

Ph.D. Civil & Environmental Engineering, 1987  
Concordia University, Montreal, Canada  
B.Eng. Civil Engineering, 1982  
Concordia University, Montreal, Canada

### Honors and Awards

College of Engineering Faculty Award for  
Excellence (2013)

Brenton Center for Agricultural Instruction &  
Technology Transfer Award (Recognition of  
outstanding contributions to distance  
education) (2008)

Wakonse Faculty Fellow (2004)

USDA Award for Excellence—Geospatial  
Information Partnership (2001)

Miller Faculty Fellowship (1998)

URISA Best Paper Award (1994)

### Recent Publications

Sharma, S., **U.S. Tim**, J. Wong, S. Gardia and  
S. Sharma. 2014. A brief review of leading Big  
Data models. *Data Science Journal* 13(4): 138-  
157

**Tim, U.S.** and S. Sharma. 2014. Big Data in  
Agriculture: Issues and Challenges in  
Precision Agriculture Management

**Tim, U.S.** 2014. Does an undergraduate  
research experience influence transfer and  
baccalaureate attainment of community  
college students? *Research in Higher  
Education* (Submitted)

Sharma, S., **U.S. Tim**, S. Gadia, and J. Wong.  
2014. Does SNAP eligibility have racial or  
ethnic gradients? A geospatial social  
exploratory. *Int. J. Information and  
Communication Technology* 6(2): 189-212.

Sharma, S., J. Wong, **U.S. Tim**, and S. Gadia.  
2012. Bidirectional migration between  
variability and commonality in product line  
engineering of smart homes. *International J  
Systems Assurance Engineering and  
Management*. Springer doi 10.1007.2Fs13198-  
012-0137-2.

### Teaching

Geographic information science constitutes a fundamental research and education field that seeks to redefine geographic concepts and their use in the context of geographic information and the digital age; numerous employment opportunities for skilled professionals exist in this field. To provide an educational focus on this emerging field, Dr. Tim has designed and taught a senior undergraduate and graduate-level interdisciplinary course titled "Natural Resources Management (AE 408/AE 508/ENSCI 408/508)". Dr. Tim teaches an undergraduate course in Engineering Graphic and Design (AE 170). In addition, he is designing and implementing a new online course in Energy and the Environment that explores the environmental implications of conventional, alternative and renewable energy system. Dr. Tim received NSF funding to develop and evaluate an authentic, Web-based virtual learning environments for watershed and environmental science education.



### Research

Dr. Tim's basic and applied research interests includes areas such as the development and application of computer simulation models, decision support systems, knowledge/data mining, virtual reality technology, environmental justice, and GIS-based technologies for watershed assessment, environmental planning, and natural resources management. His research group is concerned with modeling of eco-hydrological systems at several spatial scales and has developed state-of-the-science, simulation modeling interfaces and virtual environments for natural resource and environmental management applications. This research also includes methods to test model reliability, analyzing the effects of model and data uncertainty on predictability, and improving the usability of complex simulation models. Dr. Tim's current research is funded by government agencies including the Iowa Department of Natural Resources, the NSF, USGS, EPA, NASA, and the USDA-CSREES.

### Professional Activities

In addition to serving on many departmental, college, and university committees (e.g., Faculty Senate), Dr. Tim is a member of the American Water Resources Association, Sigma Xi, and the American Society of Agricultural Engineers. Since 1998 he has served on many EPA review panels for agency research and minority education programs and has reviewed proposals for several grant funding agencies including USDA-CSREES, Sea Grant, and the USGS. Dr. Tim serves as a referee for several journals including the *Journal of Environmental Quality*, *Journal of American Water Resources Association*, and *Journal of Soil and Water Conservation*. He regularly serves as a consultant on topics related to water quality, contaminant transport modeling and environmental forensics.