



Interdisciplinary Data Sciences



* IDSC Seminar Series *
October 11, 2017 2:00p.m.-3:00pm
Location: ENB 313
Presents

<https://idscbigdata.com/>

Dr. Bei Wang
Assistant Professor, [School of Computing](#),
[University of Utah](#)

<http://www.sci.utah.edu/~beiwang/>

Title: **TOPOLOGICAL THINKING IN VISUALIZATION**

Abstract: Large and complex data arise in many application domains, such as oceanography, combustion simulation, material science, nuclear engineering, astrophysics and brain imaging. However, their explosive growth in size and complexity is more than enough to exhaust our ability to apprehend them directly. Topological techniques which capture the "shape of data" have the potential to extract salient features and to provide robust descriptions of large and complex data. Such a versatile approach connects naturally with and provides infrastructures for data visualization. In this talk, I will discuss some of our recent efforts in understanding the shape of data with topological data analysis and visualization. I will give some examples of how complex forms of data, such as vectors, tensors, brain networks and astronomical data cubes, could be reimagined via topological thinking.



Biography: Dr. Bei Wang is an assistant professor at the School of Computing, and a faculty member at the Scientific Computing and Imaging (SCI) Institute, University of Utah. She received her Ph.D. in Computer Science from Duke University. Her research expertise lies in the theoretical, algorithmic, and application aspects of data analysis and data visualization, with a focus on topological techniques. Her research interests include theoretical and algorithmic aspects in computational topology and computational geometry; foundations, techniques and applications for data analysis and visualization; computational biology and bioinformatics; machine learning; and data mining.

IDSC Contact:
Dr. K. Ramachandran
University of South Florida
4202 E Fowler Ave, CMC317
Tampa, FL 33620-5700
E-mail: ram@usf.edu
Telephone: (813)-974-1270
Fax: (813)-974-2700
<http://idscbigdata.com/>
