
Electrical & Computer Engineering
S E M I N A R
Louisiana State University

**Poisson High-Dimensional Data Processing:
Methods, Theory and Applications**

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Abstract—Poisson high-dimensional data is an emerging type of data which often appears in various applications such as medical imaging, optical communications and topic modeling, etc. Being parallel to its Gaussian counterpart, the analysis and processing of this type of data call for new methods and theoretical foundations. To this end, I will introduce a framework how to effectively analyze the Poisson high-dimensional data. Specifically, several effective compressive schemes based on information-theoretic criteria and their associated theoretical properties will be introduced. Both the signal reconstruction and classification problems are discussed and several real applications of the proposed methods will be presented as well.

Bio—Liming Wang received the B.S. degree in electronic information engineering from the Huazhong University of Science and Technology, China, in 2006, the M.S. degree in mathematics and the Ph.D. degree in electrical and computer engineering from the University of Illinois at Chicago, both in 2011. Dr. Wang is currently a Postdoctoral Associate in the Department of Electrical & Computer Engineering, Duke University. From 2011 to 2012, he was a Postdoctoral Research Scientist in the Department of Electrical Engineering, Columbia University. His research interests include high-dimensional data processing, statistical signal processing, machine learning, compressive sensing and genomic signal processing.

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