



	<p><b>Teaching Assistant</b> <i>ECE Department, Boston University</i> Fall 2005, Spring 2006 Fall 2005 course: <i>Electromagnetic Systems</i>; Spring 2006 course: <i>Electric Circuit Theory</i>;</p> <p><b>Research Assistant</b> <i>Tsinghua University</i> Jan. 2002 to Jan 2005 <i>Research Supervisor</i>: Prof. Shizhong Xie</p> <p><b>Performance of 40Gbps optical transmission systems with different modulation formats:</b> Analyzing the impact of modulation formats to the performance of 40Gbps optical transmission systems using both numerical simulation and experiments.</p>
<b>Course Projects</b>	<ul style="list-style-type: none"> <li>• Information Theory: Duality and Matching between Source and Channel Coding</li> <li>• Randomized Algorithms: Analysis of Ant Routing Algorithms</li> </ul>
<b>Graduate Courses</b>	<p><b>Communications:</b> Wireless Communications, Digital Communications, Optical Communication Systems; <b>Signal Processing:</b> Information Theory, Digital Image Processing, Pattern Recognition, Image Restoration and Reconstruction; <b>Mathematics:</b> Functional Analysis, Linear &amp; Nonlinear Optimization, Stochastic Processes; <b>Physics:</b> Electromagnetics, Photonics;</p>
<b>Computer Skills</b>	Matlab, Mathematica, C, C++, and LaTeX; OS: Linux and Windows;
<b>Publications</b>	<p><b>Conference Papers:</b></p> <ol style="list-style-type: none"> <li>1. <b>Nan Ma</b>, Prakash Ishwar, “Infinite-message Distributed Source Coding for Two-terminal Interactive Computing”, <i>Allerton Conference on Communication, Control, and Computing</i>, Monticello, IL, Sep. 2009.</li> <li>2. <b>Nan Ma</b>, Prakash Ishwar and Piyush Gupta, “Information-Theoretic Bounds for Multi-round Function Computation in Collocated Networks”, <i>IEEE International Symposium on Information Theory 2009</i>, Seoul, Korea, Jun. 2009.</li> <li>3. <b>Nan Ma</b> and Prakash Ishwar, “Two-terminal distributed source coding with alternating messages for function computation”, <i>IEEE International Symposium on Information Theory 2008</i>, Toronto, Canada, June 2008.</li> <li>4. <b>Nan Ma</b> and Prakash Ishwar, “The value of frame-delays in the sequential coding of correlated sources”, <i>IEEE International Symposium on Information Theory 2007</i>, Nice, France, Jun. 2007.</li> <li>5. <b>Nan Ma</b>, Ye Wang and Prakash Ishwar, “Delayed sequential coding of correlated sources”, <i>Information Theory and Applications workshop</i>, San Diego, Jan. 2007.</li> <li>6. Ye Wang, <b>Nan Ma</b>, Manqi Zhao, Prakash Ishwar and Venkatesh Saligrama, “On universal distributed estimation of noisy fields with one-bit sensors”, <i>Allerton Conference on Communication, Control, and Computing</i>, Monticello, IL, Sep. 2006.</li> <li>7. <b>Nan Ma</b>, Minghua Chen, Shizhong Xie, “Study on Optimization of Transmission Profile of Filter in Pre-Filtering 40Gbps Transmission”, <i>Asia-Pacific Optical Communications conference (APOC)</i>, Beijing, China, 2004</li> </ol> <p><b>Journal Papers:</b></p> <ol style="list-style-type: none"> <li>1. <b>Nan Ma</b> and Prakash Ishwar, “On delayed sequential coding of correlated sources”, submitted to <i>IEEE Tran. Info. Theory</i>.</li> <li>2. <b>Nan Ma</b> and Prakash Ishwar, “Distributed Source Coding for Interactive Function Computation”, submitted to <i>IEEE Tran. Info. Theory</i>.</li> </ol> <p><b>Book Chapters:</b></p> <ol style="list-style-type: none"> <li>1. Ye Wang, <b>Nan Ma</b>, Manqi Zhao, Prakash Ishwar and Venkatesh Saligrama, “Distributed field estimation with one-bit sensors”, <i>Networked Sensing Information and Control</i>, Springer, Jan 2008.</li> </ol>

<b>Presentations</b>	<ol style="list-style-type: none"> <li>1. "Study on Optimization of Transmission Profile of Filter in Pre-Filtering 40Gbps Transmission", <i>Asia-Pacific Optical Communications conference (APOC)</i>, Beijing, China, 2004</li> <li>2. "Delayed sequential coding of correlated sources", <i>BU Science and Technology Day</i>, May 2007</li> <li>3. "The value of frame-delays in the sequential coding of correlated sources", <i>IEEE International Symposium on Information Theory 2007</i>, Nice, France, Jun. 2007.</li> <li>4. "Two-terminal distributed source coding with alternating messages for function computation", <i>Tsinghua University, Invited talk</i>, Beijing, China, May 2009.</li> <li>5. "Information-Theoretic Bounds for Multiround Function Computation in Collocated Networks", <i>IEEE International Symposium on Information Theory 2009</i>, Seoul, Korea, Jun. 2009.</li> <li>6. "Infinite-message Distributed Source Coding for Two-terminal Interactive Computing", <i>Allerton Conference on Communication, Control, and Computing</i>, Monticello, IL, Sep. 2009.</li> <li>7. "Bounds for Interactive Computation in Collocated Networks", <i>School of Information theory 2009</i>, Evanston, IL, Aug. 2009.</li> </ol>
<b>Reviewing activity</b>	<ul style="list-style-type: none"> <li>• IEEE International Symposium on Information Theory (ISIT) 2007</li> <li>• IEEE International Symposium on Information Theory (ISIT) 2008</li> <li>• IEEE International Symposium on Information Theory (ISIT) 2009</li> <li>• IEEE Conference on Decision and Control (CDC) 2008</li> <li>• IEEE Transactions on Information Theory</li> <li>• IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2009</li> <li>• IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS) 2009</li> <li>• IEEE Conference on Computer Communications (INFOCOM) 2010</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Prof. Prakash Ishwar, E-mail: pi@bu.edu, Phone: (617) 358-3499</li> <li>• Prof. Venkatesh Saligrama, E-mail: svr@bu.edu, Phone: (617) 353-1040</li> <li>• Prof. Janusz Konrad, E-mail: jkonrad@bu.edu, Phone: (617) 353-1246</li> <li>• Prof. David Starobinski, E-mail: staro@bu.edu, Phone: (617) 353-2811</li> </ul>