

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

Quantum Information Theory – Lecture Series Prof. Mark M. Wilde, State University, Baton Rouge



June 16, 2014	3 to 4.30 p.m.	AG 80
June 17, 2014	10 to 11.30 a.m.	AG 80
June 17, 2014	2.30 to 4.00 p.m.	AG 66
June 18-20, 2014	10 to 11.30 a.m.	AG 80
June 18-20, 2014	3 p.m. to 4.30 p.m.	AG 80

What are the ultimate limits that nature imposes on communication, and what are effective procedures for achieving these limits? These are some of the questions that drive the thriving research area of quantum information theory, and in order to answer them convincingly, we must reassess Shannon's theory of information under a "quantum lens." That is, since quantum mechanics represents our best understanding of microscopic physical phenomena and since information is ultimately encoded into a physical system of some form, it is necessary for us to revise the laws of information established many years ago by Shannon.

Prof. Mark M. Wilde is an assistant professor with the Department of Physics and Astronomy and the Center for Computation and Technology at Louisiana State University, Baton Rouge. He received the Ph.D. degree in electrical engineering from the University of Southern California, Los Angeles, California, in 2008. He was a Postdoctoral Fellow in the School of Computer Science at McGill University from 2009 to 2013, and he joined Louisiana State University in August 2013. Prof. Wilde's current research interests are in quantum Shannon theory, quantum optical communication, quantum computational complexity theory, and quantum error correction. He is the author of the textbook "Quantum Information