



**Department of Mathematics, Statistics and Computer Science  
St. Francis Xavier University  
Presents**

**Towards A Self-Organized Internet  
---Efforts in Routing System Design and Development**

**by**

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**Monday, March 2, 2009 @ 2:15 in AX23A**

The routing system is critical infrastructure of the Internet, which is faced with numerous issues in security, performance and scalability. We argue that most of the issues stem from the partially self-organizing features of the inter-domain routing system, and the impotence of existing proposals is mainly due to the lack of understanding in its complex system characteristics.

This talk first provides a brief introduction to the Internet routing system, explains the concept of self-organization and demonstrates its effectiveness and simplicity in network structure and behavior by some interesting examples from biology and ecology.

Our efforts towards a self-organized Internet are focused on the inter-domain (or ISP-level) routing system design and development, especially a fully distributed architecture and various cooperation mechanisms. This talk mainly covers part of our achievements and mid-term results and concludes with a vision of future Internet and how to achieve by an interdisciplinary cooperative methodology.

**Short Bio:**

Dr. Peidong Zhu is currently a professor in School of Computer, National University of Defense Technology (NUDT), China. He received his Ph.D. degree in computer science from NUDT in 1999. His research interests include network routing, network security and network architecture of the Internet and various wireless networks. He has published more than 90 papers, authored one monograph independently and co-authored four other books. As a Principle Investigator, he has led and is responsible for 3 NSFC (NSF of China) research programs, 3 National High-Tech R&D projects and 6 others. As a main member, he has participated in more than 10 large academic and engineering projects, and made great contributions to the development and production of the first core routers in China. He holds 4 authorized patents, 3 pending patents and 4 software copyright registered certificates.

**Refreshments will be served before the talk in AX24A**