

ISTeC Data Management Workshop

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Electrical & Computer Engineering

Motivation

- Briefly describe data management needs for my research.
- Understand data management needs for the *information sciences*.
- Contrast information sciences vs. physical sciences.

Information Sciences

- Example areas: Control, communication, signal processing, networks, computing, systems, resource allocation, optimization.
- Academic orientation:
Analytical, theoretical, mathematical.
- Research objects:
Abstract, synthetic, non-physical.

Partial Differential Equation Models for Large Networks

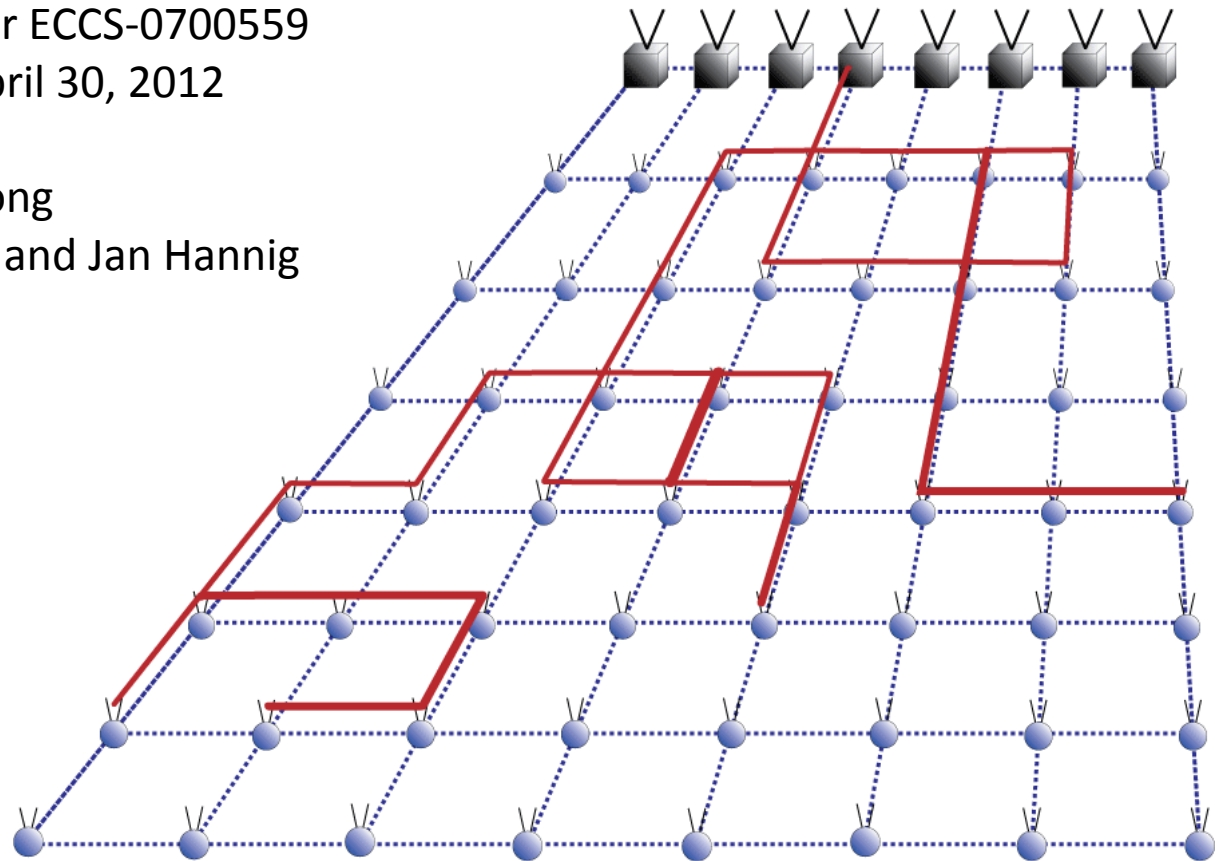
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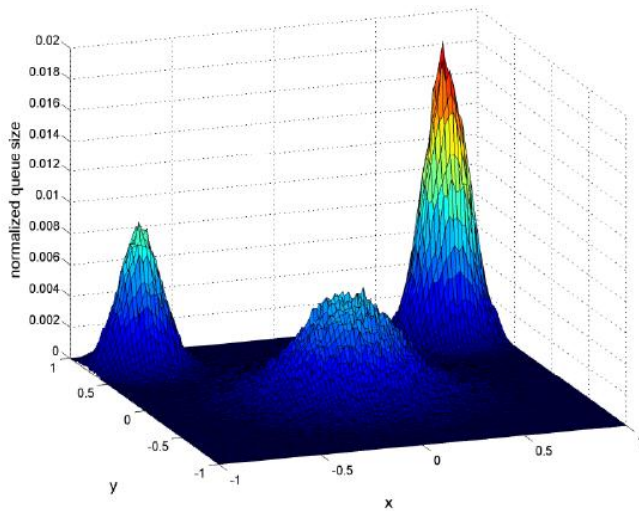
\$276,833

PI: Edwin K. P. Chong

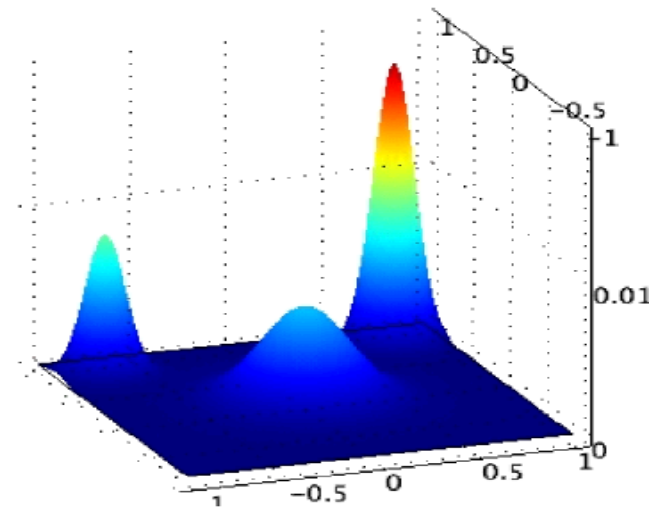
Co-PIs: Don Estep and Jan Hannig



Partial Differential Equation Models for Large Networks



Monte Carlo simulation:
> 1 week



PDE Solution:
Seconds

Data Management Requirements

- Research results (reports, conference presentations and papers, and journal articles)
 - Purpose: So that our work can be used and can feed into others' research.
 - Form of data: Pdf, postscript, Word, and other related typesetting and word-processing files.
- Program code produced in doing the research
 - Purpose: So that the detailed research methodology and results can be examined and reproduced.
 - Form of data: Matlab, C/C++, and related programming files.
- Data generated as part of this research
 - Purpose: So that the research methodology and results can be examined and reproduced, and future research results can be compared to the results from this research.
 - Form of data: Text/ASCII, binary (e.g., “.fig” used by Matlab), and other related numerical data files.