

The Math News

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Prof. Donoho to Deliver Michelson Lecture

Professor David L. Donoho of Stanford University will deliver the 21st annual Michelson Memorial Lecture at 7:00PM on Tuesday, September 4th, in Mahan Hall.

Preview: The coming century is surely the century of data. A combination of blind faith and serious purpose makes our society invest massively in the collection and processing of data of all kinds, on scales unimaginable until recently. Hyperspectral Imagery, Internet Portals, Financial tick-by-tick data, and DNA Microarrays are just a few of the better known sources, feeding data in torrential streams into scientific, military, and business databases worldwide.

We can already see enormous opportunities and challenges. Prof. Donoho will focus on opportunities and challenges of an intellectual nature, such as how to visualize and discover patterns in high dimensional data spaces, and how to search efficiently in high dimensions. Progress in these mathematical and statistical challenges

will largely determine whether society's investment in data collection and data processing will really pay off.

The speaker: Professor Donoho is one of the world's leading mathematical scientists. His ground-breaking research in data analysis and reconstruction is widely used in areas ranging from medical imaging to seismology to astronomy. He joined the Stanford faculty in 1990, received a MacArthur fellowship in 1991, and the von Neumann Prize from the Society of Industrial and Applied Mathematics in 2001.

The USNA Mathematics Department offers several courses involving data management. **SM230**, Probability with Naval Applications, is a core course. **SM219**, Statistics and Probability, **SM314**, Engineering Mathematics with Statistics, and **SM481T**, Analysis of Experimental Data (for Trident Scholars), all introduce midshipmen to statistical analysis.

Math majors take **SM239**, Probability and Statistics, **SM339**, Applied Statistics, and **SM365**, Introduction to Scientific Computing. Several mathematics elective courses, experimental

courses, and reading courses also involve data analysis. This fall the department is offering **SM439**, Seminar in Statistics, for example.

The Naval Postgraduate School in Monterey, California, offers degree programs in both Applied Mathematics and Operations Research.