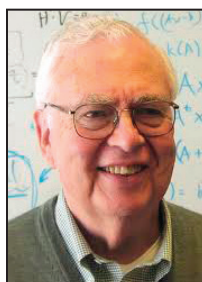


Gene Golub
g²s³ 2015
SIAM Summer School

June 15-June 26, 2015
Delphi, Greece

RandNLA: Randomization in Numerical Linear Algebra



The sixth Gene Golub SIAM Summer School will take place at the European Cultural Centre of Delphi (ECCD), located in Delphi, Greece.

The goal of *RandNLA* is to design novel algorithms for numerical linear algebra problems by using randomization, e.g., random sampling and random projections. It is a topic that has received a great deal of interdisciplinary interest in recent years, with contributions coming from numerical linear algebra, theoretical computer science, scientific computing, statistics, optimization, data analysis, and machine learning, as well as application areas such as genetics, physics, astronomy, and internet modeling.

The summer school is designed to bring graduate students up to date on the state of the art in the theory, numerical aspects, and data analysis applications of *RandNLA*. Since *RandNLA* is quite interdisciplinary, students will be selected from a wide range of backgrounds. Thus the courses are designed to provide students with an overview of *RandNLA* and also an understanding of the complementary strengths and weaknesses that different traditional research areas bring to this new research area.

The school will include four classes, three tutorials, and several associated project working group sessions. The topics include:

- Interdisciplinary Overview of *RandNLA*
- Numerical Analysis Perspectives on *RandNLA*
- Theoretical Computer Science Perspectives on *RandNLA*
- *RandNLA* in Applied Mathematics
- Solving Symmetric Diagonally-Dominant Systems in Input Sparsity Time
- Matrix Concentration Bounds and Graph Sparsification
- Industrial Uses of *RandNLA*

The Summer school is being organized by

- Petros Drineas, Rensselaer Polytechnic Institute, USA
- Efstratios Gallopoulos, University of Patras, Greece
- Ilse Ipsen, North Carolina State University, USA
- Michael W. Mahoney, University of California at Berkeley, USA



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Applicants selected to participate pay no registration. Funding for local accommodations and meal expenses will be available for all participants. Limited travel funds are also available.

Application deadline: February 1, 2015

As information is available on the courses and on how to apply, it will be posted at:

www.siam.org/students/g2s3/

Sponsored by SIAM through an endowment from the estate of Gene Golub.

For more information about prior summer schools and Professor Gene Golub go to www.siam.org/students/g2s3/.

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