

Technical Report

Graduate Student Focus on Diversity Workshop

1999 SIAM Annual Meeting
Atlanta, Georgia
May 12, 1999

The Third SIAM Graduate Student Focus on Diversity workshop was held May 12 at the Sheraton Atlanta Hotel on the first day of the 1999 SIAM Annual Meeting. Partial support was provided by the Department of Energy and the National Security Agency; and organizational assistance was provided by the Boeing Company.

The day-long workshop consisted of several different activities: eight technical talks by underrepresented minority graduate students, a lively panel discussion concerning the benefits of undergraduate summer research programs, informal luncheon and pizza breaks to foster social interaction, and an evening forum with candid discussions of graduate school experiences from a minority graduate student perspective. These sessions were open to the entire SIAM community and served to highlight the progress, achievements, and aspirations of the workshop participants.

The eight technical speakers were Charles Hardnett, Byron Jeff, and Vernard Martin (Georgia Institute of Technology); William Christian, Jr. and Ilya Hicks (Rice University); Erika Camacho and Stephen Wirkus (Cornell University); and Monica Romeo (Brown University). Their talks covered topics in the areas of nonlinear dynamical systems, planar graph algorithms, compile-time cache utilization analysis, the management of real-time media space applications, and the construction of distributed computational laboratories.

The summer research program panelists were Juan Restrepo (University of Arizona), Pablo Negron (University of Puerto Rico), Douglas Varela (California Institute of Technology) and Stephen Wirkus (Cornell University). Each panelist was associated or familiar with a different undergraduate research program, and their common features were discussed. In particular, the advantages to undergraduates for participating in these research programs was emphasized -- especially their effectiveness in developing computer science skills, mathematics skills, and research training in preparation for graduate school studies.

Dr. Steven L. Lee of Lawrence Livermore National Laboratory and Professor Ricardo Cortez of Tulane University organized the Workshop.

Submitted by:

Steven L. Lee and Ricardo Cortez
Workshop Co-organizers

SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS
3600 University City Science Center
Philadelphia, PA 19104
Phone: 215-382-9800
www.siam.org/meetings/

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, make any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DISCLAIMER

**Portions of this document may be illegible
in electronic image products. Images are
produced from the best available original
document.**

Wednesday, May 12, 1999

8:00 AM – 10:00 PM

Rooms: Georgia 1 & 2

**Third SIAM
GRADUATE
STUDENT
FOCUS ON
DIVERSITY**

*A One-Day Workshop
for Underrepresented Minorities*

Hosted by the Society for Industrial and Applied Mathematics
in conjunction with its 1999 Annual Meeting.

Register at the
Sheraton Atlanta Hotel
165 Courtland Street, NE
Atlanta, GA

Organizers

Steven Lee, Lawrence Livermore National Laboratory
Ricardo Cortez, Tulane University

This event is a chance for undergraduate and graduate students to interact
and listen to technical presentations given by minority graduate students.

*Thanks and appreciation to the Department of Energy and the National Security Agency
for providing support to SIAM in organizing the Diversity Workshop.*

SIAM®

Society for Industrial and Applied Mathematics
3600 University City Science Center, Philadelphia, PA 19104-2688
215-382-9800 • Fax 215-386-7999 • E-mail meetings@siam.org • www.siam.org

PROGRAM

Wednesday, May 12, 1999

MORNING

- 8:00-8:45 • Capitol North/Center/South Optimization in Machine Learning and Data Mining

Olvi Mangasarian, *University of Wisconsin, Madison*

- 9:00-11:00 • Georgia 1 and 2

DIVERSITY WORKSHOP

- 9:00-9:25

Global Compile-Time Analysis of Cache Utilization for Regular and Irregular Problems
Charles Hardnett, *Spelman College*

- 9:30-9:55

Flat-top Solutions of a Ginzburg-Landau Equation

Monica Romeo and Christopher K. R. T. Jones,
Brown University

- 10:00-10:25

Dynamics of Two-Coupled van der Pol Oscillators with Delay Coupling

Stephen A. Wirkus and Richard A. Rand, *Cornell University*

- 10:30-10:55

Variable Service Quality Management for Real-Time Media Space Applications

Byron Jeff, *Georgia Institute of Technology*

- 11:00-11:40 • Exhibit Hall

Coffee break

- 11:40-12:25 • Capitol North/Center/South

Krylov, Lagrange, Newton, and Schwarz:

Combinations and Permutations

David E. Keyes, *Old Dominion University* and
ICASE, NASA Langley Research Center

AFTERNOON

- 12:30-1:30 • Georgia 1 and 2

Lunch (Diversity Workshop participants)

- 1:30-3:00 • Georgia 1 and 2

Panel Discussion (Summer Research and Fellowship Programs)

Panelists: Arizona Internships in Mathematics, Engineering and Sciences (AIMES)

Juan Mario Restrepo, *University of Arizona*

What Are the Benefits of Attending a Summer Internship?

Pablo V. Negron, *University of Puerto Rico*

Topics to be announced

Stephen A. Wirkus, *Cornell University*, and Sheila K. Scott, *National Consortium for Graduate Degrees for Minorities in Engineering and Science*

- 3:00-4:00 • Exhibit Hall

Coffee break

- 4:00-6:00 • Georgia 1 and 2

DIVERSITY WORKSHOP

- 4:00-4:25

Finding Branch Decompositions for Planar Graphs

Ilya Hicks, *Rice University*

- 4:30-4:55

Nonlinear Dynamics of the Bombardier Beetle
Erika Camacho and Richard A. Rand, *Cornell University*

- 5:00-5:25

The Construction and Management of Distributed Computational Laboratories
Vernard Martin, *Georgia Institute of Technology*

- 5:30-5:55

Algorithms for Graphs with Small Branchwidth
William Christian, Jr., *Rice University*

EVENING

- 6:30-7:30 • Capitol Center/South

The I.E. Block Community Lecture:
Some Mathematical Insights Into Car and Bicycle Racing

Richard A. Tapia, *Rice University*

- 7:30-8:30 • Poolside

Community Reception

- 8:30-9:00 • Georgia 1 and 2

Pizza Break (Diversity Workshop participants)

- 9:00-10:00

"The Real Deal" – An Informal Graduate Student Session

Moderator: Richard A. Tapia, *Rice University*

Workshop Organizers: Ricardo Cortez, *Tulane University*, and Steven Lee, *Lawrence Livermore National Laboratory*