

**MAA JOINT MEETING OF THE NORTHEASTERN AND SEAWAY SECTIONS
WILLIAMS COLLEGE
WILLIAMSTOWN MA
JUNE 21-22, 2002**

Program Committee:
Cheri Boyd, Nazareth College,
First Vice Chair of the Seaway Section
Victor Hill, Williams College
Frank Morgan, Williams College, Chair
Tommy Ratliff, Wheaton College
Janine Wittwer, Williams College

Friday, June 21, 2002

2:00-2:45 pm Executive Committee Meeting

3:00-3:45 pm Tea (and Project NExT)

4:00-4:45 pm

Thomas C. Hales, Mellon Professor of Mathematics,
University of Pittsburgh

"Computer and Proof in the Context of Discrete Geometry"

5:00-5:20 pm

5:30-5:50 pm

6:00-6:20 pm

Future Colleagues Talks in parallel

(This year, undergraduates as well as graduate students)

6:30 pm Dinner

8:00 pm Battles Lecture

**Thomas Garrity, Professor of Mathematics,
Williams College**

"On Writing Numbers: The Hermite Problem"

Saturday, June 22, 2002

9:00-9:30 am

Sean McLaughlin, graduate student

in Computer Science, New York University

"Verification of Free Choice"

9:45-10:15 am

10:30-11:00 am

Contributed papers in parallel

11:30-11:55 am Business meeting

12:00-1:00 pm Lunch

1:15-2:15 pm Hike or visit to Clark Art Museum

Abstracts and Biographies

Thomas C. Hales, Battles Lecturer

"Computer and Proof in the Context of Discrete Geometry"

Abstract: Gian-Carlo Rota once wrote that mathematicians are ``on the lookout for an argument that will make all computer programs obsolete." At the other extreme is the elusive search for the computer program that will make all mathematicians obsolete. This lecture will discuss the interplay of computers and mathematical proof in the context of some large-scale computer-assisted proofs, such as the Kepler Conjecture.

Hales is Mellon Professor of Mathematics at the University of Pittsburgh. After attending Stanford and Princeton, he took posts at MSRI, Harvard, IAS, Chicago, CNRS, and Michigan. He recently proved the 400-year-old Kepler Conjecture on sphere packing, as well as the 2000-year-old Hexagonal Honeycomb Conjecture on efficient partitions of the plane. The proof of the Kepler Conjecture used extensive and intricate computer

calculations, and he is now looking at ways to use computers to prove other difficult theorems.

Thomas Garrity, Dinner Speaker

"On Writing Numbers: The Hermite Problem"

Abstract: What is the best way of writing numbers? Rationals are easily identified by their periodic decimal expansions. Quadratic irrationals are easily identified by periodic continued fraction expansions. But what about cubics, etc? This is the Hermite Problem.

Garrity is Professor of Mathematics and recent chair at Williams College. He was an undergraduate at the University of Texas at Austin, a graduate student at Brown, and an Evans Instructor at Rice before coming to Williams in 1989. He has spent leaves at Washington and Michigan. He works in algebraic and differential geometry and number theory, and has a new book on "All the Mathematics You Missed [But Need to Know for Graduate School]."

Sean McLaughlin

"Verification of Free Choice"

Abstract: Verification is the process of mathematically proving that a computer program is correct. We will look at classical deterministic and probabilistic "free choice" algorithms for solving Dijkstra's notorious "Dining Philosophers problem" and present new results on how implementations can be proven correct.

McLaughlin is a graduate student in Computer Science at New York University. While an undergraduate at The University of Michigan, he won the national Morgan Prize for undergraduate research for his work under Hales in proving the Dodecahedral Conjecture on local sphere packing.

Directions to Williams College

From north, west, or south, take Route 7S, 2E, or 7N into Williamstown, and continue on 2E from the circle in front of the Williams Inn. After one more block, turn right onto Stetson Court. Two-thirds of the way down the street, there is a parking lot entrance on your left. If you park to the left, you will be at the back of Brooks House "Conference Center" on Route 2, where you can register Friday from 1-6 pm (or at Williams Security after 6 pm).

From the east, take the MassPike to the Lee exit, 20W to 7N and follow directions above. Or take the more scenic 2W into Williamstown, past most of the College, and turn left onto Stetson Court as above.

Conference Fees

Reservations and payments due by April 21 to
Marissa Barschdorff, MAA Conference
Department of Mathematics and Statistics

Williams College
Williamstown, MA 01267

Cost per person: \$100

(For dorm and registration, which includes dinner, breakfast, coffee, lunch, cookies).

Dorms have all necessities, shared baths, no air conditioning, no pets.

(Working phone jacks if you bring a phone.)

Without dorm: \$85

Student speakers: \$25, or if willing to sleep on a dormitory floor: free

Undergraduate speakers will receive a complimentary MAA membership; current members will receive a complimentary journal subscription.

Accommodations

A block of rooms is reserved at Williams Inn for an additional \$95 single, \$125 double, plus tax; (413) 458-9371.

Call for Participation

Graduate or undergraduate students who would like to present 20-minute talks in the "Future Colleagues Talks" parallel session and all who would like to present 20-minute talks in the Contributed Paper session should submit the following information by April 21 by email to Victor.E.Hill@williams.edu:

1. Session ("Future Colleagues" or Contributed Papers)
2. Name, department, institution (or other address if you prefer), as you'd like to be listed.
3. Title
4. Short abstract
5. Needs (blackboard, overhead transparency projector, etc)
6. For undergraduates, the name of a faculty sponsor who will advise your preparation of an expository talk and hear you rehearse it.