

# MARYLAND-DISTRICT OF COLUMBIA VIRGINIA SECTION NEWSLETTER

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Vol. 6, No. 6

Mar. 1985

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## HOLLINS COLLEGE MEETING

PROGRAM SPEAKER - Dr. Carl Pomerance will address the section on Saturday, April 27. He is a research professor at the University of Georgia and has just finished a seven-month work assignment at Bell Communications Research. He received his Ph. D. from Harvard University in 1972. At the Anaheim meeting of the Mathematical Association of America he was presented the Chauvenet Prize for his paper "Recent Developments in Primality Testing" which appeared in the Mathematical Intelligencer. His work is described by the Committee on the Chauvenet Prize in the March issue of FOCUS as follows:

"It is a beautiful exposition of the basic number theory that has led to fast algorithms for deciding whether a number is prime. Professor Pomerance is himself a major contributor to the algorithms -- probably he will know the longest prime! The problem has found important applications in cryptography, and it remains at the same time one of the central and classical problems in mathematics -- to which Pomerance and Aldeman and Rumely and Lenstra and others are adding something important to the work of Fermat and Jacobi and Gauss."

The abstract for his paper to be given at Hollins College is brief and succinct: Largely because of its connection to cryptography, factoring integers has become a hot topic. Although there have been no dramatic breakthroughs, a steady buildup of ideas has pushed the state of the art for "hard" numbers from the mid 40's of decimal digits about 8 years ago to the low 70's today. With some recent ideas, not yet implemented, 100 digit numbers do not seem out of the question.

## WORKSHOP AT SPRING MEETING

The Section will sponsor a workshop at its annual spring meeting at Hollins College. The speaker will be Professor David Schneider of the University of Maryland.

TOPIC: Writing Mathematics Programs for the IBM PC

TIME: Saturday, April 27, 1985 from 3:00 to 6:30 PM

COSTS: Five dollars per participant payable at registration; there is no limitation placed on the number of participants.

ABSTRACT: IBM PC BASIC has many special features that can be utilized to write programs for mathematics instruction. Among other topics, we will explore techniques to simplify and enhance the graphing of functions, methods that allow the user to input functions, and tools for displaying mathematical symbols on the screen.

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## DIRECTIONS TO HOLLINS COLLEGE

The College is located on US Route 11 approximately two miles north of the Roanoke city limits. Driving time from the Washington Beltway, I-66 intersection is approximately 4 hours and 30 minutes.

By Air: Piedmont, Henson and Air Virginia all fly into Roanoke Woodrum Airport, which is within five miles of Hollins College. The Airport Limousine Service charges \$6.50 per person for ground transportation from the Airport to the College.

By Car: Hollins College is located very close to I-81. When traveling by car (from the north or from the south) take Exit 43. (You will see a sign for Hollins College on the Interstate). At the end of the exit ramp, follow the signs to Route 11. (South bound traffic will make a left turn; north bound traffic will make a right turn.) Continue to the first stoplight (approximately one mile), then turn left at this light onto U.S. 11 North. The entrance to Hollins College is on your left approximately 6/10 of a mile from this point where you turn onto U.S. 11 North. Follow the MAA signs on campus to the Dana Science Building.

## HOTEL RESERVATIONS

You should make your own reservation; however, do not ignore the special arrangements that have been established by Caren Diefenderfer.

HOWARD JOHNSON MOTOR LODGE, Hollins (044) (within walking distance  
7656 Williamson Road, N.W. to the campus)  
Roanoke, VA 24019  
Toll free 800-654-2000  
Local 703-366-7671

If you call here for reservations be sure to indicate that you are part of the MAA/Hollins group. These special rates will apply if we reserve fifteen or more rooms: Special rates - Single \$25 + tax; Double \$29 + tax; \$4 for each additional person.

OLYMPIA INN (one mile to Hollins campus)  
7120 Williamson Road N.W.  
Roanoke, VA 24019  
Toll free from Virginia: 800-572-1022  
800-367-1022 from outside Virginia.

If you call here for reservations be sure to indicate that you are part of the MAA/Hollins group. These are special rates: Single 19.95 + tax; Double \$27.95 + tax; \$4 for each additional person.

- 10:30 DANA  
102 "Estimating Tornado Windspeed Probabilities:  
Empirical, Theoretical, and Subjective Perspectives"  
✓ Bob Abbey, Office of Naval Research  
✓ Mary Kay Abbey, Montgomery College
- 114 "The Experience and the Product of a COMBAT Winner  
-- Modeling in Animal Populations"  
John Kent, Dan McCaffrey, Mike Caulfield, Students  
John August, Faculty Advisor, Mount Saint Mary's College
- 201 "Geometry's Cinderella"  
✓ C. J. Maloney, Retired, National Institute of Health
- 11:00 DANA  
Babcock  
Auditorium MAA BUSINESS MEETING
- 11:30 - 1:00 LUNCH BREAK -- Lunch will be served in BALLATOR GALLERY,  
MOODY STUDENT CENTER. (Advance registration required by  
April 17. See another part of NEWSLETTER for details.)
- 1:00 DANA  
Babcock  
Auditorium INVITED ADDRESS  
"How to Factor a Number"  
Dr. cccarl Pomerance, University of Georgia
- 2:00 DANA  
102 "Integer Solution of  $c = \sqrt{a^2 + b^2 - 2ab \frac{p}{q}}$   
and Nice Law of Cosine Problems"  
✓ Wilbur Hildebrand, Montgomery College
- 114 "Pell Like Equations"  
✓ William Wardlaw, U. S. Naval Academy
- 201 "Some Results on the Period and the Restricted Period  
of the Fibonacci Series Mod-P"  
Anna Werner, American University, Graduate Student
- 202 "The Independence of Certain Ascoli Theorems"  
✓ David A. Lamb, Student, George Mason University
- 2:30 DANA  
102 "Some New Results Regarding Primitive Roots Modulo a  
Prime"  
Steve Bonner, American University, Graduate Student
- 114 "Independent Weightings in the Ball Weighing/Fake  
Coin Problem"  
✓ Ray Hancock, Emory and Henry College
- 201 "A Non-Elegant Way of Expressing the nth Power of the  
Golden Ratio"  
✓ Herta Freitag, Hollins College

3:00 - 6:30

DANA "Writing Mathematics Programs for the IBM-PC"  
A workshop sponsored by the Section.  
Babcock ✓ Dr. David Schneider, University of Maryland,  
Auditorium Author of numerous books including Computer Books  
for the IBM and the APPLE.  
A registration fee of \$5.00 may either be paid by  
mail prior to the meeting or during the registration  
time of the meeting.

7:15 Join your colleagues and friends for dinner at the Charcoal  
House. This restaurant specializes in prime ribs, steaks, sea-  
food, and Greek cuisine. Prices range from \$8 - \$12. Make a  
reservation by mail:

✓Caren Diefenderfer  
Department of Mathematics  
Hollins College  
Hollins, Virginia 24020  
(703)-362-6524

reservation by phone:

✓Elizabeth Teles  
(301)-587-4090 Ext 305  
(a local Washington D. C. number)

Directions will be available at the meeting. It is hoped that  
many will join for fun, food, and good company at this time.  
Place your reservation with Elizabeth or Caren by April 27.

9:00 - 12:00

and

TEAM

2:00 - 3:00

(Teaching Experimental Applied Mathematics) tapes will  
be shown throughout the day in DANA 103. If you have not  
seen these tapes, this will be an excellent chance for  
you to see them. The tapes to be shown are:

"Aircraft Sidestep Maneuver"

"Highway Slope Design"

"Hours of Daylight"

3:00 Lecture and Performance: Professors James Leland and David  
Holmes in the Music Department at Hollins College are offering  
a special lecture and performance entitled "Scarlatti: the  
Keyboard Sonatas". The performance will be in Talmadge Hall  
on campus. There will be a wine and cheese party (cost: \$5 per  
person) after the performance. Advanced purchase of tickets  
is required. Please send your check to Caren Diefenderfer  
at the address given above by April 17.

EXHIBITOR

Addison-Wesley

A representative from Addison-Wesley Publishing Company  
will be present to demonstrate True BASIC and to show  
their line of books.

HOTEL ROANOKE (ten miles to Hollins campus)  
19 Jefferson Street N  
Roanoke, VA 24026  
Toll free from Virginia: 800-542-5893  
800-336-9684 from outside Virginia  
Local: 703-343-6992

The Hotel Roanoke is a charming, English Tudor Hotel in downtown Roanoke, known for its gracious and excellent dining room, the Regency Room. If you call here for reservations be sure to indicate that you are part of the MAA/Hollins group. These are special rates: Single \$38 + tax; Double \$40 + tax.

PEAKS OF OTTER LODGE (thirty miles to Hollins campus: forty-five minute drive) Located on the Blue Ridge Parkway.  
Local: 703-586-1081

The Peaks of Otter Lodge is situated near hiking trails and picnic facilities on the Blue Ridge Parkway north of Roanoke. The Lodge serves a fine seafood buffet (\$12.95) on Friday from 5:00 to 8:30PM. They serve Sunday breakfast (\$5.25) from 7:30 to 10:00 AM and Sunday dinner (\$7.50) from 12:00 to 8:30 PM. This is an ideal family vacation spot. A double room is \$48 + tax.

#### LUNCHEON

Luncheon will be served to our group in the Ballator Gallery of the Moody Center at Hollins College on Saturday, April 27. We must know how many persons to expect. Consequently it is necessary that you send your luncheon reservation and money to the Section's treasurer, Ray Hancock, by April 17. Please see the pre-registration form at the end of this NEWSLETTER which will assist you in placing your luncheon reservation.

#### LUNCHEON MENU

Chilled vegetable juice  
Tossed Salad  
Chicken, mushroom and artichoke crepes  
Broccoli spears  
Chocolate eclairs  
Iced tea, coffee

Price: \$5.50 per person. Please place your luncheon reservation with Ray Hancock on or before April 17.

**MAKE LUNCHEON RESERVATION BY APRIL 27**

**Send to Ray Hancock, Treasurer**

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THE MARYLAND - DISTRICT OF COLUMBIA - VIRGINIA SECTION OF  
THE MATHEMATICAL ASSOCIATION OF AMERICA

SPRING MEETING - SATURDAY APRIL 27, 1985  
HOLLINS COLLEGE  
ROANOKE, VIRGINIA

8:00 - 11:00 and 12:30 - 1:00

Registration DANA SCIENCE BUILDING

All meetings and talks will be held in Dana Science Building.

8:40 DANA

Babcock  
Auditorium

"Welcoming Remarks"  
Wendy M. Fairney, Dean of the College  
Hollins College

9:00 DANA

102

"True BASIC: A New Programming Language for the IBM"  
✓Howard Penn, U. S. Naval Academy

114

"On Fermat d-Pseudoprimes"  
✓Lawrence Somer, George Washington University

201

"A Property of the Unit Digits of the Fibonacci Sequence"  
✓Herta T. Freitag, Hollins College

9:30 - DANA

102

"An Illustration of Computer Learning"  
✓Bob Lewand, Goucher College

114

"A Geometric Treatment of the Concept of Means"  
✓William Sanders, James Madison University

201

"Partial Fractions: Classical, Efficient Method  
-- Now Complete"  
Donald R. Peeples, Mary Washington College

202

"The Mathematical Competition of Modeling --  
One School's Experience"  
✓Alice T. Williams, Southern Seminary Junior College

10:00 DANA

102

"My Ten Years Last Summer at IFRICS"  
(Institute for Retraining in Computer Science)  
✓Frederic Gooding, Goucher College

114

"Results of the 1985 Math Competition in Modeling"  
✓Ben Fusaro, Salisbury State

201

"Probabilistic Analysis of a Numerical Method for  
Finding Zeros of a Function"  
Arthur Benjamin, Johns Hopkins University,  
Graduate Student

202\

"Groups of Order  $q^3, p$ "  
James Alonso, University of the District of Columbia

C H I N A T R I P

On July 13, 1985 a delegation of mathematicians and computer scientists, organized by the China-U.S. Scientific Exchange and led by Robert Lewand will depart for the Peoples' Republic of China.

Invited by CAST (China Association for Science and Technology), the delegation will be away 18 days including one night in San Francisco, three in Hong Kong and 14 in China. The cost of the trip is \$3150 per person (double occupancy) which includes round-trip transportation from San Francisco and is all inclusive except for lunches and dinners in Hong Kong. The cost of the trip is 100% tax deductible for the participant and is 40% deductible for an accompanying spouse.

As of March 21, there are still eight vacancies in the delegation. Any member of the Section interested in participation should contact Robert Lewand at Goucher College (301)-337-6239 or at home (301)-323-4520 as soon as possible.

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P R E R E G I S T R A T I O N F O R M

Registration for Spring Meeting	__  @ \$2.00 each	\$ _____
Luncheon reservations	__  @ \$5.50 each	_____
IBM PC Workshop	__  @ \$5.00 each	_____
	TOTAL	\$ _____

Person or persons to be credited by the Treasurer

\_\_\_\_\_ Name  
 \_\_\_\_\_ Address  
 \_\_\_\_\_ State \_\_\_\_\_ Zipcode \_\_\_\_\_

Send your luncheon reservation to: Dr. Ray Hancock  
 Box Y  
 Emory and Henry College  
 Emory, VA 24327

MAKE LUNCHEON RESERVATION BY APRIL 27

Send to Ray Hancock, Treasurer