

**REPORT ON THE SUMMER SYMPOSIUM  
IN REAL ANALYSIS XVIII  
UNIVERSITY OF VIRGINIA  
CHARLOTTESVILLE, VIRGINIA  
JUNE 22–25, 1994**

The Eighteenth Summer Symposium in Real Analysis was held June 22–25, 1994 on the campus of the University of Virginia in Charlottesville. The conference was a strong success with several participants subsequently commenting that they had found the “missing link” in research problems through contacts at the symposium. The **Exchange** editorial board wishes to thank the local organizer, S. James Taylor, for his tireless efforts in putting together and hosting this memorable meeting. Professor Taylor, in turn, wishes to acknowledge the financial support provided by the Department of Mathematics and the Center for Advanced Studies at the University of Virginia, the National Science Foundation, and the International Science Foundation. Specifically, the National Science Foundation enabled support to be provided for several recent Ph.D. recipients and senior graduate students, and the International Science Foundation provided support for travel to Charlottesville from Moscow for one of our main speakers, Professor Rais Ismagilov.

The conference featured invited hour addresses by:

**GERALD EDGAR** (*Columbus*)

**RAIS ISMAGILOV** (*Moscow*)

**R. DANIEL MAULDIN** (*Denton*)

**YUVAL PERES** (*Berkeley*)

**LOREN PITT** (*Charlottesville*)

**JACQUES PEYRIERE** (*Orsay*)

as well as nineteen twenty-minute contributed talks. Social highlights included a reception on campus, a tour of Thomas Jefferson's Monticello, a hike in the Blue Ridge Mountains, a garden buffet at the Taylors' home, and, of course, the traditional banquet, this year held in the historic Rotunda on the University of Virginia campus. A highlight of the banquet was the announcement by James Taylor of this year's recipient of the **Andy Award**, who is

### **Ralph Henstock.**

The participants at the symposium included:

Robert Bartle, George Brauer, Jack Brown, Zoltan Buczolich, Peter Bullen, Sergio Cao, Krzysztof Cielsielski, Udayan Darji, Gerald Edgar, Michael Evans, Hajrudin Fejzic, James Foran, Chris Freiling, Casper Goffman, Petr Gurka, Hans Heinig, Fred Heller, Ralph Henstock, Eric Howard, Irene Hueter, Paul Humke, Rais Ismagilov, Francis Jordan, Judit Kardos, Tamas Keleti, Ben Lampton, Lee Larson, Rick Mabry, Daniel Mauldin, Dirk Nonnenmacher, Lars Olsen, Richard O'Malley, Dean Oppegaard, Yuval Peres, Alexander Petukhov, Jacques Peyriere, Pamela Pierce, Loren Pitt, Franciszek Prus-Wisniowski, Dave Renfro, Patrick Reardon, Harvey Rosen, Hector Salas, Salim Salem, Donald Spear, Ilya Spitkovsky, Timothy Steele, Arthur Stone, Dorothy Stone, S. James Taylor, Brian Thomson, Tim Traynor, Robert Vallin, Jing Ling Wang, Daniel Waterman, and Clifford Weil.

The program of the Charlottesville Symposium can be found on the next two pages and is followed by summaries of the talks. The editorial board of the **Exchange** wishes to thank the speakers for preparing these summaries.

## PROGRAM of the CHARLOTTESVILLE SYMPOSIUM

(The page number in the right hand column refers to the page of this issue on which a summary of the presentation is located.)

### THURSDAY:

09:15	<i>G. Edgar</i> .....	p. 14
	Carathéodory's outer measure: 80 years	
10:45	<i>L. Pitt</i> .....	p. 18
	Distortion theory for functions in a Zygmund space $\Lambda^*$	
13:45	Problem Session	
15:00	<i>H. Fejzic</i> .....	p. 20
	Packing conics in the plane	
15:25	<i>K. Cielsielski</i> .....	p. 22
	Ordinary and strong density continuous functions on the plane	
15:50	<i>J. Foran</i> .....	p. 25
	Measure preserving continuous smoothing of fractional dimensional sets	
16:15	<i>D. Waterman</i> .....	p. 26
	Smoothing $\Lambda$ -sequences	
16:40	<i>A. Bruckner</i> <sup>1</sup> .....	p. 28
	$\omega$ -Limit sets for certain classes of functions	
	<i>T. Steele</i> .....	p. 31
	$\omega$ -Limit sets and continuous functions with controlled growth	
17:05	<i>I. Spitkovsky</i> .....	p. 33
	$A_p$ -weights and related topics	

### FRIDAY

09:00	<i>H. Rosen</i> .....	p. 36
	Limits and series of extendable connectivity functions	
09:25	<i>F. Prus-Wisniowski</i> .....	p. 37
	Harmonic bounded variation and the Garcia - Sawyer class	
09:50	<i>S. Salem</i> .....	p. 39
	On some problems of fractional derivatives	

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<sup>1</sup>A. Bruckner was unable to attend the symposium. T. Steele presented a summary of his and Professor Bruckner's papers.

10:45 *R. D. Mauldin* ..... p. 41  
 Infinite conformal iterated functions systems and  
 measurability of measure and dimension functions

11:45 *J. Peyrière* ..... p. 43  
 The multifractal spectrum of Riemann's function  $\sum_{n>0} \frac{\sin \pi n^2 x}{n^2}$

**SATURDAY**

09:15 *R. Ismagilov* ..... p. 45  
 Random Walks and generalized Riesz products

10:35 *R. Henstock* ..... p. 47  
 Limits under the integral sign

11:10 *P. Gurka* ..... p. 48  
 Limiting cases of the Sobolev imbedding theorem

11:35 *S. Cao* ..... p. 50  
 On vector-valued Henstock and Denjoy integrals

12:00 *D. Nonnenmacher* ..... p. 51  
 New integrals and the Gauss–Green theorem with singularities

14:00 *Y. Peres* ..... p. 55  
 Hausdorff and packing measures of some self-affine sets

15:00 *C. Goffman* ..... p. 58  
 Completeness in a totally ordered abelian group

15:25 *A. Pethukhov* ..... p. 59  
 On convergence of Fourier series in the Hausdorff metric

15:50 *J. Wang* ..... p. 61  
 Positivity of the Hausdorff measure of random self-similar fractals

16:15 *L. Olsen* ..... p. 62  
 Multifractal measures

16:40 *D. Renfro* ..... p. 63  
 On various porosity notions in the literature

17:05 *T. Keleti* ..... p. 66  
 A set in the plane with peculiar measure-theoretic properties  
 constructed by Vituskin, Ivanov, and Melnikov

17:30 Problem Session