

**REPORT ON THE SUMMER SYMPOSIUM
IN REAL ANALYSIS XVII
MACALESTER COLLEGE
ST. PAUL, MINNESOTA
JUNE 23–27, 1993**

The Seventeenth Summer Symposium in Real Analysis was held June 23–27, 1993 on the campus of Macalester College in St. Paul, Minnesota. Karen Saxe of the Macalester Mathematics Department did a laudable job of organizing all aspects of the conference. Her efforts are gratefully acknowledged, as are the hospitality of the staff at Macalester College and the financial support of both Macalester College and the Mathematics Department of the University of Minnesota.

The conference featured invited fifty-minute addresses by:

CASPER GOFFMAN (*West Lafayette*)

ALEXANDER OLEVSKII (*Tel Aviv*)

WASHEK PFEFFER (*Davis*)

DANIEL WATERMAN (*Syracuse*)

as well as twenty-three twenty-minute contributed talks. Social highlights included a reception at Macalester College, a Mississippi River paddlewheel boat ride, a visit to the MegaMall, a Twins baseball game, a supper at the Paul and Bonnie Humke Farm, and, of course, the traditional banquet. At the banquet, in honor of his eightieth birthday, Casper Goffman was presented with a birthday cake and was warmly roasted by Andy Bruckner, Richard O'Malley, Dan Waterman, and Cliff Weil. Another highlight of the evening was the announcement by Karen Saxe of this year's recipient of the **Andy Award**, who is

Daniel Waterman.

The participants at the symposium included:

Harold Atkinson (*Windsor, Ontario*), Howard Becker (*Columbia, South Carolina*), Benedetto Bongiorno (*Palermo, Italy*), Jack Brown (*Auburn, Alabama*), Jane Brown (*Auburn, Alabama*), Andrew Bruckner (*Santa Barbara, California*), Judy Bruckner (*Santa Barbara, California*), Karen Brucks (*Milwaukee, Wisconsin*), Zoltán Buczolic (*Budapest, Hungary*), Peter Bullen (*Vancouver, British Columbia*), Sergio Cao (*Diliman, Quezon City, Philippines*), Krzysztof Cielski (*Morgantown, West Virginia*), Charles Coppin (*Irving, Texas*), Udayan Darji (*Louisville, Kentucky*), Luisa Di Piazza (*Palermo, Italy*), Michael Evans (*Lexington, Virginia*), Hajrudin Fejzić (*San Bernardino, California*), James Foran (*Kansas City, Missouri*), Chris Freiling (*San Bernardino, California*), Jerry Gibson (*Columbus, Georgia*), Casper Goffman (*West Lafayette, Indiana*), Ralph Henstock (*Ulster, Northern Ireland*), Paul Humke (*Northfield, Minnesota*), Max Jodeit (*Minneapolis, Minnesota*), Roy Johnson (*Pullman, Washington*), Haseo Ki (*Pasadena, California*), Lee Larson (*Louisville, Kentucky*), Tom Linton (*Pasadena, California*), E. R. Love (*Parkville, Australia*), Charles McCarthy (*Minneapolis, Minnesota*), Rick Mabry (*Shreveport, Louisiana*), Bruce Mericle (*Mankato, Minnesota*), Harry Miller (*Ann Arbor, Michigan*), Togo Nishiura (*Detroit, Michigan*), Alexander Olevskii (*Tel Aviv, Israel*), Richard O'Malley (*Milwaukee, Wisconsin*), Darwin Peek (*San Antonio, Texas*), Washek Pfeffer (*Davis, California*), Pam Pierce (*Syracuse, New York*), Karel Prikry (*Minneapolis, Minnesota*), Dan Rinne (*San Bernardino, California*), Karen Saxe (*St. Paul, Minnesota*), Chad Scott (*Syracuse, New York*), Don Spear (*San Marcos, Texas*), Naza Tanović-Miller (*Ann Arbor, Michigan*), Brian Thomson (*Vancouver, British Columbia*), Timothy Traynor (*Windsor, Ontario*), Robert Vallin (*Slippery Rock, Pennsylvania*), Daniel Waterman (*Syracuse, New York*), and Clifford Weil (*East Lansing, Michigan*).

The program of the Macalester Symposium can be found on the next three 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 MACALESTER 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.)

WEDNESDAY Evening : Welcome: *K. Saxe*

Welcoming remarks: R. Gavin (President of Macalester College)

20:00 – 21:00 *D. Waterman* p. 11
The contributions of Antoni Zygmund
to Real Analysis

THURSDAY Morning: Chair: *P. Humke*

09:00 – 09:20 *A. Bruckner* p. 13
Lipschitz maps and ω - limit sets
09:25 – 09:45 *Announcements*
09:50 – 10:10 *K. Brucks* p. 15
Trajectory of the turning point is dense
for almost all tent maps
10:15 – 10:35 *Z. Buczolich* p. 18
Unions of products of independent sets
11:00 – 11:50 *A. Olevskii* p. 20
Some of Kolmogorov's fundamental results in
Fourier Analysis: history, development, and open
problems (in honor of A. N. Kolmogorov's 90th birthday)

THURSDAY Afternoon: Chair: *C. Weil*

13:30 – 13:50 *H. Miller* p. 21
Two summability problems - speeds of convergence
and a result of Pollard and Buck
13:55 – 14:15 *B. Bongiorno* p. 23
Uniform generalized absolute continuity
14:20 – 14:40 *N. Tanović-Miller* p. 24
New integrability classes
14:45 – 15:05 *C. Freiling* p. 27
Totalizer II: the nightmare continues

15:45 – 16:35	<i>W. Pfeffer</i>	p. 28
	Recent developments in geometric integration	

FRIDAY Morning: Chair: *J. Brown*

09:00 – 09:20	<i>P. Pierce</i>	p. 32
	Regulated functions whose Fourier series converge for every change of variable	
09:25 – 09:45	<i>R. Henstock</i>	p. 33
	Basic constructions for the Feynman integral	
09:50 – 10:10	<i>S. Cao</i>	p. 34
	Banach-valued Henstock integration	
10:15 – 10:35	<i>D. Spear</i>	p. 35
	Dimensions for subsets of $[0, 1]$	
11:00 – 11:50	<i>C. Goffman</i>	p. 37
	Lusin's Problem	

FRIDAY Afternoon: Chair: *U. Darji*

13:30 – 13:50	<i>R. Johnson</i>	p. 38
	Antiderivatives of Baire functions	
13:55 – 14:15	<i>D. Peek</i>	p. 39
	Mutual independence of convergence conditions	
14:20 – 14:40	<i>T. Linton</i>	p. 40
	Lebesgue measure and gambling	
14:45 – 15:05	<i>J. Foran</i>	**1
	Dimension of multiply represented real numbers	
15:30 – 15:50	<i>D. Rinne</i>	p. 42
	Rectangular and iterated convergence of multiple trigonometric series	
15:55 – 16:15	<i>H. Fejzic</i>	p. 43
	Two-dimensional partitions	
16:20 – 17:30	<i>Problem Session</i>	
18:30 – 21:30	<i>Banquet - Weyerhaeuser Board</i>	

SATURDAY Morning: Chair: *C. Freiling*

¹Abstract not available

09:00 – 09:20	<i>J. Brown</i>	p. 44
	Controlled intersection theorems for continuous nowhere monotone functions	
09:25 – 09:45	<i>U. Darji</i>	p. 46
	Storing Baire 1 functions	
09:50 – 10:10	<i>H. Ki</i>	p. 48
	Normal numbers and subsets of \mathbb{N} with given densities	
10:15 – 10:35	<i>E. R. Love</i>	p. 50
	Expansion via Legendre functions	
11:00 – 11:20	<i>L. Larson</i>	p. 52
	Uniformly antisymmetric functions I	
11:25 – 11:45	<i>K. Ciesielski</i>	p. 54
	Uniformly antisymmetric functions II	