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13. ABSTRACT (Maximum 200 words)

The main goal of the research discussed in this conference is a mathematical understanding of nonlinear dynamics appropriate for models of continua which admit phase transitions. The mathematical problems that were discussed addressed the general quastions. How do nonlinear systems relax to equilibrium? How do interfaces and transition zones propagate? The speakers represented different aspects of the subject. The group included theoreticians as well as numerical analysts. The conference was very well attended and quite successful.

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Final Report on AFOSR-91-0232

The main goal of the research discussed in this conference is a mathematical understanding of nonlinear dynamics appropriate for models of continua which admit phase transitions. The mathematical problems that were discussed addressed the general questions. How do nonlinear systems relax to equilibrium? How do interfaces and transition zones propagate?

The speakers represented different aspects of the subject. The group included theoreticians as well as numerical analysts.

The conference was very well attended and apparently quite successful. On behalf of the Mathematics Department here at UT I want to express our thanks to the Air Force that made this possible.

Please find enclosed:

1. Program of talks and lecturers

2. List of supported participants

3. Bills from hotels.

BARRETT MEMORIAL LECTURES

TENTATIVE PROGRAM

UNIVERSITY CENTER - SHILOH ROOM

THURSDAY, APRIL 4

9:15	Introductory Remarks
9:30 - 10:30	J. Ball, Heriot-Watt University
Title:	Nonattainment of the minimum in the Calculus of Variations
12:00 - 2:00	Lunch Break
2:00 - 3:00	L.C. Evans, Berkeley
Title:	Phase Transitions and Wave front Propagation I
3:00 - 3:15	Break
3:15 - 4:15	J. Sethian, Berkeley
Title:	Fronts and Interfaces: Computing Snowflakes, Flames, and Fluids

BARRETT MEMORIAL LECTURES

TENTATIVE PROGRAM

UNIVERSITY CENTER - SHILOH ROOM

FRIDAY, APRIL 5

9:30 - 10:30	J. Ball, Heriot-Watt University
Title:	Crystal microstructure via elasticity theory
10:30 - 11:00	Break
11:00 - 12:00	P. Fife
Title:	Dynamical Aspects of the Cahn - Hilliard Equation: Stationary states and their instabilities
12:00 - 2:00	Lunch Break
2:00 - 3:00	L.C. Evans, Berkeley
Title:	Phase Transitions and Wave front propagation II
3:00 - 3:15	Break
3:15 - 4:15	G. Fusco, Rome
Title:	Slow Dynamics for the Cahn - Hilliard Equation in higher space dimensions

BARRETT MEMORIAL LECTURES

TENTATIVE PROGRAM

UNIVERSITY CENTER - SHILOH ROOM

SATURDAY, APRIL 6

9:30 - 10:30	J. Ball, Heriot-Watt University
Title:	Dynamics and Minimizing Sequences
10:30 - 11:00	Break
11:00 - 12:00	P. Fife
Title:	Dynamical Aspects of the Cahn - Hilliard Equation: Layered Solutions
12:00 - 2:00	Lunch Break
2:00 - 3:00	L.C. Evans, Berkeley
Title:	Phase Transitions and Wave front propagation III
3:00 - 3:15	Break
3:15 - 4:15	S.B. Angenent, University of Wisconsin, Madison
Title:	Anisotropic Motion of a phase interface

Barrett Lectures, 4/91

Participants	University	Hotel Accommodations
W. McKinney	NC State	$140.00
Dan and Pat Phillips	Purdue	175.00
R. Gardner	U. of Massachusetts	140.00
W. Heinz	Georgia Tech	105.00
P. Bates	Brigham Young	140.00
J. Ward	U. of Alabama, Birmingham	35.00
G. Fusco	Rome	350.00
J. Ball	Heriot-Watt	140.00
L.C. Evans	Berkeley	140.00
P. Fife	University of Utah	125.00
S. Angenent	U. of Wisconsin, Madison	105.00
J. Sethian	Berkeley	175.00
K. Lu and G. Xun	Brigham Young	152.00
Tataru	Georgia Tech	152.00
C. Li	University of Pennsylvania	152.00
S. Koike	Berkeley	190.00
K. Michaikov	Georgia Tech	38.00
Tetseu		
S. Sritharan	U. of California, Riverside	38.00
P. Sternberg	University of Indiana	76.00

Barrett Lectures, 4/91

Participants	University	Hotel Accommodations
J. Mu	Georgia Tech	76.00
D. Eyre	University of Utah	114.00
L. Li	University of Kansas	114.00
M. James	University of Minnesota	114.00
R. Gariepy	University of Kentucky	114.00
J. Arrieta	Georgia Tech	114.00
A. Burchard	Georgia Tech	114.00
J. Parish	University of Maryland	114.00
J. Anderson	Tennessee College	114.00
D. Adams	University of Kentucky	114.00
W. Shen	Indiana University	114.00
H. Leiva	Georgia Tech	114.00
J. Lewis	University of Kentucky	114.00
Rodriguez-Bernal	Georgia Tech	114.00
Carvalho	University of Maryland	114.00
E. Van Vleck	Georgia Tech	114.00
Smith	Arizona State University	152.00
J. Hale	Georgia Tech	228.00
B. Vernescu	Courant	152.00
S. Alama	Georgia Tech	152.00

Barrett Lectures, 4/91

Participants	University	Hotel Accommodations
R. Peszek	U. of Maryland	152.00
C. Cosner and S. Cantrell	University of Miami	152.00
M. Katsoulakis	Brown University	152.00
C. Calderer	Carnegie Mellon	152.00