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Final Report for

Air Force Office of Scientific Research (AFOSR) Workshop

On 29 September through 1 October 1987 the University of Dayton conducted a Workshop on "The Physical and Mechanical Properties of Alloys: Semiconductors and Beyond," at the Bergamo Conference Center, Dayton, Ohio. The Workshop was sponsored by the Air Force Office of Scientific Research (AFOSR) and monitored by Kevin J. Malloy, Capt., USAF.

A total of 51 scientists, known for their expertise in the subject area, were invited to attend (see Attachment #1), with 42 attending (see Attachment #2). Of those attending, 17 were reimbursed for their expenses (see Attachment #3).

The University was responsible for mailing the invitations, selecting the conference site, arranging local travel and accommodations, selecting menus, conducting the registration, and making other arrangements necessary to carry out the Workshop. The agenda was arranged by Capt. Kevin Malloy (see Attachment #4).
ATTACHMENT #1
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Attachment #4

Workshop on the Physical and Mechanical Properties of Alloys: Semiconductors and Beyond
29 September - 1 October 1987
Dayton, Ohio

Agenda

Tuesday, 29 September 1987 Bergamo Roncalli Conference Center

9:00 - 3:15
K. J. Malloy Introduction

I. Theoretical Approaches to Semiconductor Alloy Structure (J. Dow)

3:15 - 9:00
A. Sher Overview

9:00 - 9:50
A. Zunger Phase Diagrams and Stability of Semiconductor and Metal Alloys

10:10 - 10:30 BREAK

10:30 - 11:15
K. Newman Ordering Transitions in Alloys

11:15 - 11:45
A.-B. Chen Local Correlations in Disordered Alloys

12:00 - 1:30 LUNCH

II. Experimental Studies of Semiconductor Alloy Structure (A. Zunger)

1:30 - 2:00
B. Bunker EXAFS Studies of Semiconductors

2:00 - 2:20
W. Carlos NMR Studies of III-V Alloys

2:20 - 2:40
D. Zamir NMR of Local Structure and Bonding in Semiconductor Alloys

2:45 - 3:15 BREAK

3:15 - 4:00
F. Pollak Raman Spectroscopy of Semiconductor Alloys

4:00 - 4:45
S. Mahajan The Microstructure of Phase Separation in Semiconductor Alloys

4:45 - 5:30
G. Stringfellow OMVPE Growth and Ordering in III-V Alloys

6:00 - 7:00 The Search for Order in Ethanol-Water Solutions

7:00 - 8:45 DINNER

Wednesday, 30 September 1987

III. Thin Film Phenomena (D. Stevenson)

3:30 - 9:15
J. Hirth Dislocations in Multilayers

9:15 - 10:00
S. Bedair Dislocations in Strained Layer Superlattices
IV. Related Issues in Other Material Systems (A. Rosenstein)

10:00 - 10:30  BREAK
10:30 - 11:00  C.-Y. Li  Micromechanical Testing of Thin Films
11:00 - 11:30  R. McKee  Ti-O / Al2O3 Multilayers
11:45 - 1:00  LUNCH

Thursday, 1 October 1987

V. Mechanical Properties of Semiconductors (A. Sher)

8:00 - 8:15  A. Borchevsky  Historical Perspective
8:15 - 9:00  M. Berding  Hardness and Yield Stress
9:00 - 9:30  D. Clarke  Cracks in Si
9:30 - 10:00  BREAK
10:00 - 10:15  E. Bourett  Mechanical Properties of GaAs
10:15 - 11:00  K. Faber  High T deformation of GaAs:In
11:00 - 11:40  D. Stevenson  Growth and Hardness of Semiconductor Alloys
11:45 - 1:00  LUNCH

VI. DISCUSSION / SUMMARY (K. Malloy)

1:00 - 3:00  Last Chance
3:00 -  Departure