Mr. Aram Tarpinian
Army Materials & Mechanics Research Center
Watertown, Massachusetts 02172

MATERIALS RESEARCH SOCIETY

ANNUAL MEETING

Hyatt Regency
Cambridge, Massachusetts
15-17 November 1976

CHEMISTRY *ENGINEERING* *PHYSICS*

CONFERENCE SITE: Hyatt Regency, Cambridge, Massachusetts

LOCATION/TRANSPORTATION: Suburban hotel located adjacent to MIT and close to Harvard on the north shore of the Charles River, 2 miles from downtown Boston; 5½ miles, 10 minutes from Logan International Airport (taxi $5); 3 miles, 10 minutes from Back Bay Amtrak Station (taxi $2). Highway access via Exit 18 of I-90 (Mass. Turnpike); 1½ miles from intersection of I-93 and I-95.

REGISTRATION: It would be appreciated if the attached Registration Form could be returned on or before 1 November 1976.

REGISTRATION FEE: $50

RESERVATIONS: The Hyatt Regency is offering special room rates for conference attendees. The first 100 rooms reserved will be at the following rates:

$28 - Single Occupancy
$40 - Double Occupancy

The rate after the first 100 rooms will be:

$31 - Single Occupancy
$40 - Double Occupancy

Reservations should be made directly with the Hyatt Regency. A hotel reservation card is enclosed.

ADDITIONAL INFORMATION: Please contact Mr. Aram Tarpinian, Army Materials and Mechanics Research Center, Watertown, MA (Area Code 617) 923-3150.

WELCOME

It is a great pleasure to welcome you to the third National Conference of the Materials Research Society. The Society was founded with the purpose of serving and promoting the common interests of those people involved in the preparation, characterization, design and utilization of materials. Particular emphasis is placed on research activities involving the interfaces of many scientific and engineering disciplines. This is a professional society, specifically designed to appeal to a community of scientists and engineers trained in a broad spectrum of fields; physics, metallurgy, electrical engineering, ceramics, chemistry, polymer science, engineering mechanics, chemical engineering, etc.

We wish you a very informative, productive and enjoyable conference.

ROSTUM ROY
President Elect
Materials Research Society

KENNETH A. JACKSON
Program Chairman

PROGRAM GRID

Sunday 14 Nov 76	6:00 p.m.	EARLY REGISTRATION – *Escalator Area*			
Monday 15 Nov 76	9:30 a.m.	OPENING PLENARY SESSION – *J.F.K. Ballroom*			
		J.F.K. Ballroom	*John Q. Adams*	*John Adams*	*MIT-Harvard*
	11:00 a.m.	NON-CRYSTALLINE SOLIDS - I	CATALYSIS AND CATALYTIC MATERIALS - I	COMPUTER USE IN MATERIALS SCIENCE	ELECTRICAL CONTACT MATERIALS - I
					Crispus Attucks
Tuesday 16 Nov 76	9:00 a.m.	NON-CRYSTALLINE SOLIDS - II POLYMERS	CATALYSIS AND CATALYTIC MATERIALS - II	DEFECTS - I SEMICONDUCTORS	ELECTRICAL CONTACT MAT - II
	2:00 p.m.	NON-CRYSTALLINE SOLIDS - III POLYMERS	CATALYSIS AND CATALYTIC MATERIALS - III	DEFECTS - II SEMICONDUCTORS	ELECTRICAL CONTACT MATERIALS - III
	6:00 p.m.	RECEPTION – *J.F.K. Ballroom*			
Wednesday 17 Nov 76	9:00 a.m.	NON-CRYSTALLINE SOLIDS - IV	CATALYSIS AND CATALYTIC MATERIALS - IV	DEFECTS - III	MOLECULAR BEAM EPITAXY - I
	2:00 p.m.	NON-CRYSTALLINE SOLIDS - V	CATALYSIS AND CATALYTIC MATERIALS - V	DEFECTS - IV	MOLECULAR BEAM EPITAXY - II

NON-CRYSTALLINE SOLIDS - I

Monday, 15 November 1976

Chairman: R. ROY

11:00 a.m. GLASSY ALLOYS - AN INTRODUCTION, R. W. Cahn, Sussex University

12:00 noon LUNCH

Chairman: R. W. CAHN

2:00 p.m. FORMATION OF METASTABLE AND NON-CRYSTALLINE PHASES BY ION IMPLANTATION IN METALS, J. M. Poate, Bell Labs., J. A. Borders, Sandia Labs., A. G. Cullis, Royal Radar Estab. J. K. Hirvonen, Naval Research Labs.

2:40 p.m. AMORPHOUS SILICON AS A SOLAR CELL MATERIAL, C. R. Wronski, RCA Laboratories

3:20 p.m. BREAK

3:40 p.m. STRUCTURAL AND MAGNETIC PROPERTIES OF AMORPHOUS RARE EARTH - TRANSITION METAL ALLOYS, C. S. Cargill, IIT, S. Kirkpatrick and R. J. Cambino, IBM

4:20 p.m. STRUCTURAL RELAXATION AND ITS PROPERTIES OF METALLIC GLASSES, H. S. Chen, Bell Labs.

NON-CRYSTALLINE SOLIDS - II

POLYMERS

Tuesday, 16 November 1976

Chairman: E. BAER

9:00 a.m. NONEQUILIBRIUM THERMODYNAMIC STATE OF GLASSY POLYMERS, S. E. B. Petrie, Eastman Kodak Co.

9:40 a.m. THE QUESTION OF ORDER IN POLYMERIC GLASSES, P. H. Geil, Case Western Reserve University

10:20 a.m. BREAK

10:40 a.m. MECHANISM OF CRAZE GROWTH IN GLASSY POLYMERS, A. S. Argon, Massachusetts Institute of Technology

11:20 a.m. MICROMECHANICS OF CRAZES, E. J. Kramer, Cornell University

12:00 noon DEPENDENCE OF GLASS TRANSITION TEMPERATURE ON DOMAIN SIZE, P. R. Couchman, F. E. Karasz, University of Massachusetts

12:30 p.m. LUNCH

NON-CRYSTALLINE SOLIDS - III

POLYMERS

Chairman: S. E. B. PETRIE

2:00 p.m. GLASS MICROSTRUCTURE AND DEFORMATION MECHANISMS IN AMORPHOUS POLYMERS, E. Baer, S. T. Wellinghoff, Case Western Reserve University

2:40 p.m. SHEAR YIELDING PROCESSES IN POLYSTYRENE, J. C. M. Li, University of Rochester

3:20 p.m. BREAK

3:40 p.m. ENVIRONMENTAL EFFECTS ON THE DEFORMATION OF POLYMERS AT LOW TEMPERATURES , N. Brown, University of Pennsylvania

4:20 p.m. EFFECT OF CRAZES ON THE FATIGUE BEHAVIOR OF GLASSY POLYMERS, M. E. Mackay, T. G. Teng, J. M. Schultz, University of Delaware

4:40 p.m. TORSIONAL BRAID ANALYSIS OF COMPOSITE PREPREG AGING, M. A. Mease, D. K. Roylance, MIT, M. E. Roylance, Army Materials and Mechanics Research Center

5:00 p.m. POLYMERIZATION OF THIN FILMS OF DIACETYLENES, S. K. Bahl, W. M. Risen, Jr., Brown University, R. H. Baughman, Allied Chemical Corporation

NON-CRYSTALLINE SOLIDS - IV

Wednesday, 17 November 1976

Chairman: D. R. UHLMANN

9:00 a.m. INORGANIC NON-METALLIC NON-CRYSTALLINE SOLIDS, R. Roy, The Pennsylvania State University

9:40 a.m. CHARACTERIZATION OF CONDENSED STATES, D. L. Evans, Corning Glass Works

10:20 a.m. BREAK

10:40 a.m. STRUCTURAL MODELS FOR Se-As GLASSES AND THEIR CONSISTENCY WITH MEASURED PROPERTIES, J. S. Berkes, Xerox Webster Research Center

11:20 a.m. PROPERTIES OF THE CHALCOGENIDE AMORPHOUS SEMICONDUCTOR, G. C. Vezzoli, Feltman Research Lab.

11:40 a.m. NON-CRYSTALLINE SPUTTERED SOLID (NCS) FORMATION IN THE SYSTEM Fe-O APPLICATION TO NC Fe_2O_3 "SEE THROUGH" MASKS, R. Messier, R. Roy, The Pennsylvania State University

12:00 noon EVOLUTION OF FERROELECTRICITY IN ULTRAFINE GRAINED LEAD GERMANATE CRYSTALLIZED FROM THE GLASS, A. M. Glass, K. Nassau, and J. W. Schiver, Bell Labs.

12:30 p.m. LUNCH

NON-CRYSTALLINE SOLIDS - V

Chairman: D. L. EVANS

2:00 p.m. DIELECTRICALLY SOFT GLASSES, M. E. Lines, Bell Laboratories

2:40 p.m. MECHANICS OF METALLIC GLASSES, L. A. Davis, Allied Chemical Corp.

3:20 p.m. BREAK

CATALYSIS AND CATALYTIC MATERIALS - II

DEFECT OXIDES, PHOTOCATALYSIS

Tuesday, 16 November 1976

Chairman: W. R. MOSER

9:00 a.m. OLEFIN OXIDATION OVER MOLYBDATE CATALYSTS, A. W. Sleight, DuPont

9:30 a.m. STUDIES OF DEFECT SURFACE STATES ON $SrTiO_3$ PHOTOELECTROLYTIC ELECTRODES, J. G. Mavroides, V. E. Henrich, H. J. Zeiger, G. Dresselhaus, J. A. Kafalas, D. F. Kolesar, Lincoln Labs., MIT

10:00 a.m. BREAK

10:20 a.m. AEROGELS OF INORGANIC OXIDES AS ADSORBENTS AND CATALYSTS, S. J. Teichner, U. Claude Bernard

11:00 a.m. CHARGE TRANSFER AND CATALYSIS ON SEMICONDUCTER SURFACES, H. C. Gatos, E. S. Sproles, Jr., and J. Lagowski, MIT

11:30 a.m. STABILIZATION OF n-TYPE SEMICONDUCTORS TO PHOTOANODIC DISSOLUTION, M. S. Wrighton, MIT

12:00 noon LUNCH

CATALYSIS AND CATALYTIC MATERIALS - III

POLYMER CATALYST, IMMOBILIZED COMPLEXES, PLATINUM CATALYSTS, METHANATION SURFACES

Chairman: P. WEISZ

2:00 p.m. IMMOBILIZATION OF TRANSITION METALS COMPLEX CATALYST ON INORGANIC SUPPORTS, L. L. Murrell, Exxon

2:30 p.m. DESIGN AND CHARACTERIZATION OF SOLID POLYMER CATALYSTS, B. C. Gates, University of Delaware

3:00 p.m. BREAK

3:20 p.m. PLATINUM CATALYSTS SUPPORTED ON ZEOLITE. STRUCTURE AND DISPERSION OF THE METAL PARTICLE. CATALYTIC PROPERTIES FOR HYDROGENOLYSIS AND HYDROGENATION REACTIONS, C. Naccache, Institut de Recherches sur la Catalyse, Villeurbanne

4:00 p.m. CARBON MONOXIDE-HYDROGEN INTERACTIONS AND METHANATION CATALYSIS ON RUTHENIUM AND NICKEL, T. E. Madey, J. T. Yates, D. Goodman, R. D. Kelley, NBS

4:30 p.m. SKELETAL REARRANGEMENTS OF HYDROCARBONS ON MONOMETALLIC, BIMETALLIC AND ALLOY CATALYSTS, F. G. Gault, University of Strasbourg

CATALYSIS AND CATALYTIC MATERIALS - IV

ALLOY AND BIMETALLIC CATALYSTS

Wednesday, 17 November 1976

Chairman: P. WYNBLATT

9:00 a.m. A DESCRIPTION OF THE METHOD OF PRODUCING COATING OF RANEY NICKEL CATALYST BY FLAME-SPRAYING AND FINDINGS OBTAINED BY EXAMINING SAMPLES OF THE COATINGS, G. J. Cinquegrane, Jr., Pittsburgh Energy Research Center, ERDA

9:20 a.m. FIBROUS EUTECTIC ALLOY CATALYSTS, F. D. Lemkey, United Technologies

9:40 a.m. ELECTRONIC STRUCTURE, SURFACE AND PHASE COMPOSITION AND CATALYTIC PROPERTIES OF NICKEL-COPPER ALLOYS, V. Ponec, Leiden University

10:20 a.m. BREAK

10:40 a.m. STUDIES OF SURFACE SEGREGATIONS IN ALLOYS BY LOW ENERGY ION SCATTERING, H. H. Brongersma, M. J. Sparnaay, T. M. Buck, Philips, Eindhoven and Bell Labs.

11:10 a.m. STUDIES OF HIGH SURFACE AREA, UNSUPPORTED, BIMETALLIC CLUSTERS WITH X-RAY PHOTOELECTRON SPECTROSCOPY, C. R. Helms and J. H. Sinfelt, Exxon

11:40 a.m. DEPENDENCE OF ALLOY SURFACE CHEMISTRY ON SAMPLE MORPHOLOGY, J. A. Schwarz and R. S. Polizzotti, Exxon

12:00 noon LUNCH

CATALYSIS AND CATALYTIC MATERIALS - V

ALLOY AND BIMETALLIC CATALYSTS

Chairman: R. J. H. VOORHOEVE

2:00 p.m. PREDICTION OF SEGREGATION TO ALLOY SURFACES FROM BULK PHASE DIAGRAMS, J. J. Burton, Exxon

2:30 p.m. MONTE CARLO ANALYSIS OF THE SURFACE STRUCTURE OF A TWO-COMPONENT CRYSTAL (includes movie), G. H. Gilmer, Bell Labs.

3:00 p.m. BREAK

3:20 p.m. REACTION KINETICS OVER CATALYTIC ALLOY SURFACES, D. Ollis, Princeton University

3:40 p.m. SURFACE CHEMISTRY OF ALLOYS, G. Ertl, Munich and Cal Tech

COMPUTER USE IN MATERIALS SCIENCE

Monday, 15 November 1976

Chairman: W. R. BOTTOMS

11:00 a.m. MINICOMPUTERS AND MICROCOMPUTERS IN MATERIALS SCIENCE, G. B. Larrabee, Texas Instruments, Inc.

12:00 noon LUNCH

2:00 p.m. COMPUTERS IN THE MATERIAL SCIENCE LABORATORY, B. C. Wonsiewicz, Bell Labs.

2:40 p.m. THERMOCEHMICAL DATA BANK AND PHASE DIAGRAM COMPUTATIONAL SYSTEM, L. Kaufman, H. Nesor, ManLabs, Inc.

3:20 p.m. BREAK

3:40 p.m. MICROCOMPUTER CONTROLLED X-RAY TOPOGRAPHY, H. F. Schaake, Texas Instruments, Inc.

4:00 p.m. FREE ENERGY SURFACE IN FERROELECTRICS DISPLAYED ON COMPUTER GRAPHICS, H. A. McInstry, L. E. Cross, Pennsylvania State University

4:20 p.m. DEVELOPMENT AND USE OF COMPUTER GRAPHICS FOR DISPLAY OF FREE ENERGY SURFACES IN PHASE DIAGRAMS, H. A. McInstry, Pennsylvania State University

4:40 p.m. SIMULATION OF MATERIALS PROPERTIES AT ELEVATED TEMPERATURES BY COMPUTER MOLECULAR DYNAMICS, G. H. Bishop, R. J. Harrison, J. A. Cox, Army Materials and Mechanics Research Center

ELECTRICAL CONTACT MATERIALS - I

Monday, 15 November 1976

CONTACT FUNDAMENTALS AND ENGINEERING PRINCIPLES

Chairman: P. WEIL

11:00 a.m. IDEAL CONTACT MATERIALS - A COMPROMISE, C. J. Raub, Forschunginstitut für Edelmetalle und Metallchemie

11:55 a.m. LUNCH

2:00 p.m. CHEMISTRY OF CONTACT SURFACES, R. P. Frankenthal, Bell Labs.

2:55 p.m. THE PHYSICS OF CONTACTS, P. G. Slade, Westinghouse Research Laboratories

3:50 p.m. BREAK

4:00 p.m. REQUIREMENTS FOR ELECTRIC CONTACTS FOR DRY CIRCUIT APPLICATIONS, S. Garte, Burndy Corporation

4:30 p.m. ENGINEERING OF ELECTRIC CONTACTS FOR POWER, E. I. Shobert II, Stackpole Carbon Corporation

ELECTRICAL CONTACT MATERIALS - II

CONTACT ENGINEERING PRINCIPLES AND MATERIALS SUBSTITUTION

Tuesday, 16 November 1976

Chairman: W. H. ABBOTT

9:00 a.m. MERCURY-WETTED SWITCHES: CHARACTERISTICS AND METALLURGY, J. E. Bennett, Bell Labs.

9:30 a.m. 60Pd-40Ag AS AN ELECTRICAL CONTACT MATERIAL TO REPLACE PALLADIUM, T. R. Long, Bell Labs.

10:10 a.m. SOME COST REDUCTION APPROACHES IN GOLD ELCTROPLATING, R. J. Morrissey, Technic, Inc.

10:45 a.m. BREAK

11:00 a.m. TIN AND TIN ALLOYS, J. H. Whitley, AMP, Inc.

11:30 a.m. Ag-CdO COMPOSITES FOR MAKE-AND-BREAK CONTACT APPLICATIONS, Y. S. Shen and R. H. Krock, P. R. Mallory Co.

12:00 noon LUNCH

ELECTRICAL CONTACT MATERIALS - III

CONTACT MATERIALS SUBSTITUTION AND PROCESSING INNOVATIONS

Chairman: P. F. BAZZONE

2:00 p.m. CONTACT PROPERTIES OF RUTHENIUM DIOXIDE, A. Heller, Bell Labs.

2:25 p.m. SELECTIVE PLATING, D. R. Turner, Bell Labs.

2:55 p.m. NON-dc PLATING, H. Y. Cheh, Columbia University

3:25 p.m. BREAK

3:40 p.m. CLADDING-ITS UNIQUE ADVANTAGES, J. D. Kleis, Sterndent Corp.

4:10 p.m. HARDENING MECHANISMS OF HARD GOLD, C. C. Lo, M. R. Pinnel, and J. A. Augis, Bell Labs.

4:35 p.m. CONTACT MATERIALS FOR HIGH RELIABILITY SEPARABLE CONNECTORS: THE ROLE OF UNDERPLATE IN GOLD CONSERVATION, M. Antler, Bell Labs.

DEFECTS - I

Tuesday, 16 November 1976

Chairman: H. C. GATOS

9:00 a.m. IMPLANTATION DEFECTS IN SILICON, J. Washburn, University of California, Berkeley

9:40 a.m. NEUTRON TRANSMUTATION DOPING OF SILICON, J. M. Meese, D. M. Alger, and S. L. Gunn, University of Missouri

10:00 a.m. BREAK

10:20 a.m. SPUTTERING-INDUCED DEFECT STRUCTURE OF SILICON AS DISCLOSED BY PENDELLOSUNG FRINGE TOPOGRAPHY AND AUTOMATIC BRAGG ANGLE CONTROL, S. Weissman and T. Saka, Rutgers University

10:40 a.m. CHARACTERIZATION OF LATTICE DEFECTS IN HEAVILY Si-DOPED GaAs BY TRANSMISSION ELECTRON MICROSCOPY, G. H. Narayanan, University of Southern California

11:00 a.m. CARBON-RELATED GROWTH DEFECTS IN EFG SILICON, J. C. Swartz, Mobil Tyco Solar Energy Corporation

11:20 a.m. CRYSTALLOGRAPHIC DEFECTS IN EFG SILICON RIBBINS-STRUCTURAL CHARACTERISTICS AND ELECTRIC EFFECTS, L. C. Garone, C. V. Hari Rao, T. Surek and K. V. Ravi, Mobil Tyco Solar Energy Corporation

11:40 a.m. SOME PECULARITIES OF SILICON SELF-INTERSTITIALS AND OXIDATION STACKING FAULTS, Shi-Ming Hu, IBM

12:00 noon LUNCH

DEFECTS - II

Chairman: M. M. ABRAHAM

2:00 p.m. DEFECTS IN SILICON AND GaAs, L. C. Kimerling, Bell Labs.

2:40 p.m. DEFECT SPATIAL DISTRIBUTIONS IN ANNEALED ION-IMPLANTED SILICON MEASURED BY A TRANSIENT CAPACITANCE TECHNIQUE, K. L. Wang, General Electric Corporate Research and Development

3:00 p.m. BREAK

3:20 p.m. THE CHARACTERIZATION OF PROCESS-INDUCED DEFECTS AND RESIDUAL ZINC CONCENTRATION IN SILICON FOLLOWING A HIGH TEMPERATURE DIFFUSION, P. M. Sandow, M. B. Das and J. Stach, Pennsylvania State Univ.

3:40 p.m. THE IMAGING OF DEFECTS IN SILICON WAFERS: A COMPARISON BETWEEN OPTICAL MICROSCOPY AND CHARGE COLLECTION SCANNING ELECTRON MICROSCOPY, S. D. Ferris, H. J. Leamy, and G. A. Rozgonyi, Bell Labs.

4:00 p.m. TRANSIENT CAPACITANCE MEASUREMENT OF DEEP DEFECT LEVELS IN n-VPE GaAs, J. T. Schott and H. M. DeAngelis, Hanscom Air Force Base

4:20 p.m. ELECTRICAL CHARACTERIZATION OF DEEP LEVEL DEFECTS IN GaP, B. W. Wessells, General Electric

4:40 p.m. DISLOCATION MORPHOLOGY IN HETEROEPITAXIAL III-V LAYERS, M. Ettenberg, RCA

DEFECTS - III

Wednesday, 17 November 1976

Chairman: J. H. WERNICK

9:00 a.m. RADIATION INDUCED DEFECT PRODUCTION IN METALS, M. T. Robinson, Oak Ridge National Laboratories

9:40 a.m. FORMATION OF DEFORMATION TWINS IN FCC CRYSTALS, S. Mahajan, Bell Labs.

10:00 a.m. BREAK

10:20 a.m. ORDERING PHENOMENA IN TRANSITION METAL CARBIDES, J. D. Venables, Martin Marietta Laboratories

10:40 a.m. ROLE OF VACANCIES IN DETERMINING TRANSPORT PROPERTIES OF TRANSITION METAL CARBIDES, W. S. Williams, University of Illinois

11:00 a.m. APPLICATION OF ULTRASOUND IN MATERIALS RESEARCH, H. V. Fairbanks, West Virginia University

11:20 a.m. MICROSTRAIN AND LOW FREQUENCY HYSTERETIC DISLOCATION DAMPING IN COPPER SINGLE CRYSTALS, J. M. Roberts, Rice University and D. M. Barnett, Stanford University

11:40 a.m. STRUCTURE OF GRAPHITE INTERCALATION COMPOUNDS, D. D. L. Chung and M. S. Dresselhaus, MIT

12:00 noon LUNCH

DEFECTS - IV

Chairman: J. D. VENABLES

2:00 p.m. RADIATION INDUCED DEFECT PRODUCTION IN THE ALKALINE EARTH OXIDES, M. M. Abraham, Oak Ridge National Laboratories

2:40 p.m. THE TEMPERATURE DEPENDENCE OF TRANSITION METAL ACCEPTOR LEVELS IN SINGLE CRYSTAL Al_2O_3, J. B. Blum, H. L. Tuller, and P. L. Coble, MIT

3:00 p.m. BREAK

3:20 p.m. RELAXATION KINETICS FOR LATTICE DEFECTS IN QUENCHED POTASSIUM CHLORIDE, T. R. Gattuso and R. L. Coble, MIT and R. J. Charles, General Electric Research Laboratory

3:40 p.m. THE VARIATION OF THE MICROHARDNESS OF ZnO WITH BIAS VOLTAGE, ELECTROLYTE pH AND CRYSTAL ORIENTATION, J. S. Ahearn, J. J. Mills, and A. R. C. Westwood, Martin Marietta Laboratories

4:00 p.m. NATIVE DEFECTS IN CdS SINGLE CRYSTALS AND THE EFFECT OF HEAT TREATMENT, M. H. Christman, Minnesota Mining and Manufacturing

4:20 p.m. SEMICONDUCTOR WAFER FLATNESS AND WARPAGE, Y. F. Chiu, W. H. White, and R. C. Guggenheim, IBM System Products Division

4:40 p.m. PREPARATION OF ALMOST PERFECT EPITAXIAL MULTILAYERS, J. W. Matthews and J. E. Blakeslee, IBM

ADVANCED MATERIALS PROCESSING
MOLECULAR BEAM EPITAXY - I

Wednesday, 17 November 1976

Chairman: J. R. ARTHUR

9:00 a.m. DYNAMICS OF GAS SURFACE INTERACTIONS, M. J. Cardillo, Bell Laboratories

9:40 a.m. SURFACE STUDIES ON BINARY SEMICONDUCTORS PREPARED BY MOLECULAR-BEAM-EPITAXY, R. Ludeke, IBM

10:20 a.m. DOPANT INCORPORATION IN MOLECULAR BEAM EPITAXY OF FaAs AND $Al_xGa_{1-x}As$, M. Ilegems, Bell Laboratories

11:00 a.m. MOLECULAR BEAM EPITAXIAL GROWTH OF GaAs QUANTUM LAYERS AND MONOLAYER CRYSTALS, A. C. Gossard, Bell Laboratories

11:40 a.m. PERIODIC LAYERED STRUCTURES OF SEMICONDUCTORS GROWN BY MOLECULAR-BEAM-EPITAXY, L. L. Chang, IBM

12:20 p.m. LUNCH

MOLECULAR BEAM EPITAXY - II

2:00 p.m. MOLECULAR-BEAM EPITAXY OF LEAD-TIN-CHALCOGENIDES, J. N. Walpole, MIT

2:45 p.m. MOLECULAR BEAM EPITAXIAL GROWTH OF InP, J. H. McFee, B. I. Miller and K. J. Bachman, Bell Laboratories

3:30 p.m. CARRIER CONCENTRATION CONTROL DURING MBE GROWTH OF IV-VI COMPOUND FILMS, D. L. Smith, Perkin-Elmer

4:15 p.m. PROGRESS OF VARIAN MBE PROJECTS, L. Shen, Varian Associates

GENERAL PROGRAM SCHEDULE

Sunday, 14 November 1976

6:00 p.m. Early Registration

Monday, 15 November 1976

9:30 a.m. Opening Plenary Session
10:00 a.m. Von Hippel Award
10:30 a.m. Coffee Break (Complimentary)
11:00 a.m. Concurrent Sessions
12:00 noon LUNCH
2:00 p.m. Concurrent Sessions (Continued)
5:00 p.m. Adjourn for day

Tuesday, 16 November 1976

9:00 a.m. Concurrent Session (Continued)
10:30 a.m. Coffee Break (Complimentary)
12:30 p.m. LUNCH
2:00 p.m. Concurrent Sessions (Continued)
6:00 p.m. Wine & Cheese Reception (Complimentary)

Wednesday, 17 November 1976

9:00 a.m. Concurrent Sessions (Continued)
10:30 a.m. Coffee Break (Complimentary)
12:00 noon LUNCH
2:00 p.m. Concurrent Sessions
5:00 p.m. Adjourn

ORGANIZING COMMITTEE

W. R. BOTTOMS, Princeton University
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A. G. CHYNOWETH, Bell Laboratories
K. A. JACKSON, Bell Laboratories
R. A. LAUDISE, Bell Laboratories
H. J. LEAMY, Bell Laboratories
M. B. MYERS, Xerox Corporation
K. REIMANN, National Bureau of Standards
D. RICHMAN, RCA
L. R. TESTARDI, Bell Laboratories
R. J. H. VOORHOEVE, Bell Laboratories
R. S. WAGNER, Bell Laboratories
J. H. WERNICK, Bell Laboratories
H. C. GATOS, Massachusetts Institute of Technology
R. ROY, Pennsylvania State University
S. E. B. PETRIE, Eastman Kodak Company
J. TIETJEN, RCA
R. S. STEIN, University of Massachusetts
J. HOFFMAN, National Bureau of Standards
I. WARSHAW, National Science Foundation
A. TARPINIAN, Army Materials and Mechanics Research Center

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REGISTRATION FORM

ANNUAL MEETING OF THE MATERIALS RESEARCH SOCIETY
Hyatt Regency, Cambridge, Massachusetts
15 - 17 November 1976

NAME: _____ POSITION: _____

AFFILIATION: _____

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CITY: _____ STATE: _____ ZIP: _____ PHONE: _____

☐ **Registration Fee of $50 is included.** Please make check payable to the Materials Research Society.

Please return this form on ***or before*** *1 November 1976 to Mr. Aram Tarpinian, Army Materials and Mechanics Research Center, Watertown, Massachusetts 02172.*