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A Final Report  
Grant No. N00014-94-1-0167

November 1, 1993 - February 28, 1994

1993 INTERNATIONAL SEMICONDUCTOR DEVICE  
RESEARCH SYMPOSIUM (ISDRS-93)

Submitted to:

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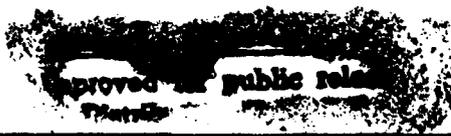
Submitted by:

Michael Shur  
John Marshall Money Professor

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SEAS Report No. UVA/525486/EE94/101  
April 1994

DEPARTMENT OF ELECTRICAL ENGINEERING



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**UNIVERSITY OF VIRGINIA**  
**School of Engineering and Applied Science**

The University of Virginia's School of Engineering and Applied Science has an undergraduate enrollment of approximately 1,500 students with a graduate enrollment of approximately 600. There are 160 faculty members, a majority of whom conduct research in addition to teaching.

Research is a vital part of the educational program and interests parallel academic specialties. These range from the classical engineering disciplines of Chemical, Civil, Electrical, and Mechanical and Aerospace to newer, more specialized fields of Applied Mechanics, Biomedical Engineering, Systems Engineering, Materials Science, Nuclear Engineering and Engineering Physics, Applied Mathematics and Computer Science. Within these disciplines there are well equipped laboratories for conducting highly specialized research. All departments offer the doctorate; Biomedical and Materials Science grant only graduate degrees. In addition, courses in the humanities are offered within the School.

The University of Virginia (which includes approximately 2,000 faculty and a total of full-time student enrollment of about 17,000), also offers professional degrees under the schools of Architecture, Law, Medicine, Nursing, Commerce, Business Administration, and Education. In addition, the College of Arts and Sciences houses departments of Mathematics, Physics, Chemistry and others relevant to the engineering research program. The School of Engineering and Applied Science is an integral part of this University community which provides opportunities for interdisciplinary work in pursuit of the basic goals of education, research, and public service.

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13. ABSTRACT (Maximum 200 words)  The goal of this second biannual international meeting was to provide a congenial forum for the exchange of information and new ideas for researchers from university, industry and government laboratories in the field of semiconductor devices and device physics. To this end, we have an unusually short period between the submission of papers and the conference, a speedy publication of the proceedings, poster sessions, panel discussions, and a wide dissemination of the conference proceedings. Our other goal is to make this conference truly international. To achieve this, the symposium has sub-committees in Asia, Europe and the former Soviet Union. This conference is organized in cooperation with the IEEE MTT Society, the European Physical Society, the United States National Committee of URSI and the Russian Physical Society. Generous financial support has been provided by the Army Research Office, the Office of Naval Research, the NASA Ames Research Center and the Soros International Science Foundation.  Papers cover a broad range of topics, including novel and ultrasmall devices, photonics and optoelectronics, heterostructure and cryogenic devices, wide band gap semiconductors, thin film transistors, MOSFET technology and devices, carrier transport phenomena, materials and device characterization, simulation and modeling. It is hoped that such a broad range of topics will foster a cross-fertilization of the different fields related to semiconductor materials and devices.			
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**1993 Second International Semiconductor Device Research Symposium  
(ISDRS'93)**

**Final Report**

The goal of this second biannual international meeting was to provide a congenial forum for the exchange of information and new ideas for researchers from university, industry and government laboratories in the field of semiconductor devices and device physics. To this end, we have an unusually short period between the submission of papers and the conference, a speedy publication of the proceedings, poster sessions, panel discussions, and a wide dissemination of the conference proceedings. Our other goal is to make this conference truly international. To achieve this, the symposium has sub-committees in Asia, Europe and the former Soviet Union. This conference is organized in cooperation with the IEEE MTT Society, the European Physical Society, the United States National Committee of URSI and the Russian Physical Society. Generous financial support has been provided by the Army Research Office, the Office of Naval Research, the NASA Ames Research Center and the Soros International Science Foundation.

The program committee received submissions from 21 countries, representing 4 continents. Of the submitted papers, 140 were selected for oral presentations and about 90 for poster presentations. These papers cover a broad range of topics, including novel and ultrasmall devices, photonics and

optoelectronics, heterostructure and cryogenic devices, wide band gap semiconductors, thin film transistors, MOSFET technology and devices, carrier transport phenomena, materials and device characterization, simulation and modeling. It is hoped that such a broad range of topics will foster a cross-fertilization of the different fields related to semiconductor materials and devices.

Nearly 300 participants were in attendance. Four panel discussions which included internationally recognized leaders in semiconductor device physics took place. The published Proceedings (892 pages) were distributed to the participants and sent to leading researchers working in this field. Guidelines were established for the rotation of the replacement of the Program Committee members on a regular basis with one year terms for the Conference Co-Chairs and Program Committee Chairs. Co-chairs were elected for the first time, allowing for one international and one local chair.

The Organizing Committee now has about 35 members, and more officers than in the past. New officers are Robert Weikle (Treasurer), William Peatman (Local Arrangements), Holly Slade (Secretary), and Stephen Jones (Program) from the University of Virginia. Also elected were Michael Spencer (Publicity) from Howard University, and Elias Towe, University of Virginia, and Fredrico Capasso, AT&T Bell Labs (Conference Co-Chairs).

The 1995 Third International Semiconductor Device Research  
Symposium (ISDRS'95) will be held in Charlottesville, December 4-8, 1995.

Michael Shur, ISDRS-93 Chair

Elias Towe, ISDRS-93 Program Committee Chair

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