RESEARCH FUNDING OF DR. PRASAD

AFOSR ***Research in Nano-electronics and Bio/nano Sensors at Florida International University (Led as the Dean)***

~$5.8 millions for 2005-09.
Established and organized the team, negotiated with AFOSR and led the efforts to receive this grant. Kinzy Jones as Director (lead PI) and four other FIU faculty as leading researchers, PIs with six others as senior collaborators.

ONR: ***MURI Research Center for Modeling, Growth and Characterization of III-Nitrides***

$5,000,000 for 2001-2006, Co-PI on a consortium for research on III-Nitrides led by North Carolina State University with Florida International University, Stony Brook University, Cornell University, and Arizona State University as partners.

NSF: ***The Biomedical Engineering Partnership Program at FIU***

$599,612 for 10/02 – 12/05
PI with several Co-PIs from Biomedical Engineering, and Industrial and Systems Engineering.

NSF: ***Integrated Crystal Growth and Wafer Manufacturing Research Facility***

$1 million for 8/98 - 7/01 ($498,940 from NSF, $200,000 from GT Equipment Technologies and $300,000 from SUNY at Stony Brook)
PI: D.J. Larson, Co-PIs: M. Dudley, I. Kao, J. Longtin, and V. Prasad.

ONR: ***Defect Nucleation During the PVT Growth of Silicon Carbide Single Crystals***

$430,000 for 2000-2003
Co-PI with M. Dudley as PI and H. Zhang as Co-PI.
Collaboration with CMU.

NSF: ***Materials Research Science and Engineering Center (MRSEC): Novel Materials, Processes and Functional Surfaces by Thermal Spray***

$5,000,000 (approx.) for 2001-2006. (continuing at Stony Brook)
$3,743,987 for 1996-2001,
Co-PI with H. Herman as PI and four other Co-PIs.
MIT and several other institutions as Institutional Partners; INEEL and Sandia as Lab partners and several industrial collaborators.

NSF: ***Major Research Instrumention Grant: Development of Coherent Gradient-Sensing Tomographic Interferometer: Application to 3D Transient Temperature, Concentration and Refractive Index Measurement***

$230,000 from NSF and $100,000 from University for 2000 – 02
Co-PI with J. Longtin as PI and R.P. Singh and H. Dhadwal as Co-PIs.

DOE/BNL: ***Research on Vehicles Fueling Station for Compressed/Liquified Natural Gas***

$90,000 (2001-2002).

NSF: ***Support for Third International workshop on Modeling in Crystal Growth: Expanding Research Base and Student Interaction***

$10,000 (1999 – 2001)

NSF: ***Travel Support for Young Scientists to participate in the Fifth ISHMT-ASME Heat and Mass Transfer Conference (India) and Expand Global Research Perspectives***

$10,000 (2001-2002).

AFOSR/ ***Integrated Intelligent Modeling, Design and Control of Crystal Growth Processes***

DARPA: $5 millions for 6/1995-12/2000
Lead PI with ten Co-PIs from six institutions.
Consortium of SUNY at Stony Brook, RPI, Iowa State University, Boston University, Arizona State University, and Manhattan College.
Collaborators: USAF Research Lab., Hansom AFB, MA; Sterling Semiconductor, Inc.; Advanced Technology Materials, Inc;, GT Equipment Technologies, ASE Americas
International Exchange Program: University of Erlangen-Nurenberg, Germany, University of West Timisiora, Romania.

Sterling Semiconductor, Inc.: ***High Yield, Single Crystal Silicon Carbide Production***

(partner on Small Business Technology Transfer Award from BMDO)
Phase II: $150,000 for 1998-2000, Co-PI with H. Zhang as PI.

Advanced Technology Materials, Inc.: ***High Quality SiC Substrates for Power Devices***

(partner on a DARPA Project)
$60,000 for 1998 -2000, Co-PI: H Zhang

NSF: ***Travel Grant Support to attend 4th ISHMT-ASME Heat and Mass Transfer Conference, Pune, India, January 2000***

$15,000 (1999 - 2000)

NSF: ***NSF-ASME Workshop on Thermal Aspects of Manufacturing and Materials Processing: Emerging Technologies and Research Issues***

$15,000 (8/98 - 7/99)
Co-PI: J. Longtin

NSF: ***Continuous Czochralski Growth of Silicon Single Crystals***

Total of $530,642 for 1991-99, Co-PI: J. Koziol
(includes $237,572 for 2/95 - 1/98, $273,945 for 9/91 - 8/94,
and REU Supplement of $5,000 for 1995-96,
$4,875 for 1994-95 and $9,250 for 1992-93)

Collaborator and Sponsor: Ferrofluidics Corporation

NSF: ***Modeling and Control of Wire Saw Manufacturing***

$260,000 for 1996-99, Faculty Associate with I. Kao, PI and F.-P. Chiang, Co-PI.

AFOSR: ***Graphics Equipment for Real-Time Animation and Virtual Design of Electronic Materials Processes***

$98,250 for 3/98 - 2/99, Co-PI: H. Zhang

AFOSR: ***AASERT95: Student Augmentation for Crystal Growth Research***

$144,211 for 6/95 - 5/99, Co-PI: J. Glimm

GT Equipment Tech.: ***Modeling, Design and Fabrication of an Advanced High pressure Crystal Growth System***

(partner on Small Business Technology Transfer Award from AFOSR)
Phase II: $88,449 for 5/96-10/98
Phase I: $30,038 for 10/94-9/95

GT Equipment Tech.: ***Advanced Wire Saw Technology for Photovoltaic Wafers***

$11,000 from a DOE SBIR Phase I award for 10/95 - 3/96, PI
(associated with Phase II award of $170,000 for 3/96 - 9/98 to I. Kao, PI)

ARO: ***Parallel Computing Equipment for Crystal Growth Modeling***

$75,468 for 3/1997 - 2/1998

NSF: ***Parallel Multizone Adaptive Scheme for Multiphase Systems with Free and Moving Boundaries***

$46,200 for 5/95 - 4/97, to support Dr. H. Zhang, Sr. Res. Sc.

NSF: ***Molecular Dynamics Simulation of Thin Film Deposition on Plane Substrates and in Vias***

$256,342 for 8/93 - 7/97, Co-PIs: F. Jones, IBM and C.-C. Fang
Collaborator: IBM Watson Research center

General Instruments (Power Semiconductor Div.) and SPIR: ***Modeling of Epi-reactor Flows***

$12,000 for 1997

Swales & Associates: ***Cryogenic Two-Phase Working Fluid Literature Search***

$2001 for 1996.

Medical Laboratory Automation and SPIR: ***Heat Transfer in Small Tubes***

$5014 for 1996.

AFOSR: ***Equipment Grant: Workstation for Video Analysis and Animation***

$58,422 for 1/95 -12/95.

Brookhaven National Lab.: ***Study of SBWR Reactor Startup and Phenomenon of Geysering***

$45,000 for 7/94 - 12/95.

AFOSR: ***Modeling and Design of High Pressure Crystal Growth Processes***

$84,768 for 12/93 - 4/95, Co-PI: J. Glimm
Collaborator: USAF Rsearch (Rome) Laboratory, Hanscom AFB

NSF: ***Equipment Grant: Three-Dimensional Video Animation & Imaging for Crystal Growth and Thin Film Research***

$27,490 for 7/93 - 6/95

NSF: ***Numerical Methods for Global Ocean Models***

$480,000 for 6/90 - 5/93, Co-PI with M. Cane, PI and M.B. Bluementhal, Co-PI in collaboration with Lament Doherty Geological Observatory, Columbia University.

IBM: ***Modeling of Stresses in Sputter-Deposited Thin Films***

$90,736 for 1990-93

NSF: ***Industry Internship: Characterization of Process Parameters for Continuous Czochralski Growth of Silicon Single Crystals***

$22,111 from NSF for 7/90 - 6/91 with equal matching from
Industrial Sponsor: Ferrofluidics Corporation

ASHRAE: ***Continuum Approach for Thermally Interacting Duct Flows***

$6,000 Grant-in-aid for a doctoral student for 7/90 - 6/91

NSF: ***International Travel Grant to present an invited lecture***

Int. Seminar on Heat and Mass Transfer in Porous Media, Dubrovnik, Yugoslavia
$1500 in 1991

Lamont-Doherty Geological Observatory: ***Modeling of Ocean Flows***

Doctoral student support equivalent to $28,000 for 7/89 - 6/90,
Center for Climate Research, LDGO, Columbia Univ.

NSF: ***NSF Internship: Summer Faculty Internship in Tribology***

$19,995 for 7/87 - 3/88

NSF: ***Natural Convection in Horizontal Porous Layers - Effects of Porous Matrix Structure, Its Confinement and Thermophysical Properties***

$70,000 for 6/85 - 11/87

AFOSR: Air Force Office of Scientific research
ARO: Army Research Office
ASHRAE: American Society of Heating, Refrigeration and Ventilation Engineering
BNL: Brookhaven National Laboratory
DARPA: Defense Advanced Research Projects Agency
DOE: Department of Energy
NSF: National Science Foundation
ONR: Office of Naval Research

April 2008