

**Vishwanath (Vish) Prasad**  
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Vice President for Research and Economic Development (10/2008 - ), University of North Texas, Flagship University of the University of North Texas System.

Executive Dean (7/2005-10/2008) and Distinguished Professor, College of Engineering and Computing, Florida International University, Miami (Florida State University System).

Dean (8/2001-7/05) and Distinguished Professor (8/2001-10/2008), College of Engineering, Florida International University, Miami.

Associate Dean for Research and Graduate Studies (1997-2001), College of Engineering and Applied Sciences, Stony Brook University - State University of New York.

Leading Professor (Jan. 1999-2001), and Professor (January 1993-1998), Department of Mechanical Engineering, Stony Brook University - State University of New York.

Professor (1997-2001), joint appointment, Department of Materials Science and Engineering, Stony Brook University - State University of New York.

Associate Professor (1987-93), and Assistant Professor (1984-87), Department of Mechanical Engineering, Columbia University, New York.

Visiting Assistant Professor (1983-84), Department of Mechanical Engineering, Clemson University, South Carolina.

Lecturer (1973-76, 78-80), Department of Mechanical Engineering, Patna University, India.

Assistant Engineer (1972-73), Hindustan Steelworks Construction Ltd., Bokaro Steel City, India.

Director (1995 - 2000), AFOSR/DARPA Consortium for Crystal Growth Research, a Multi-Disciplinary University research Initiative (MURI) project supporting a consortium of six US institutions - Stony Brook, RPI, Iowa State, Arizona State, Boston University and Manhattan College, and in partnership with USAF Research Laboratory at Hanscom AFB, MA and several companies.

Visiting faculty (1997), Universite de Marne-la-Vallee, France.

Guest Scientist (1996-98), Brookhaven National Laboratory.

Summer Research Fellow (Summers 1992, 1993), US Air Force Research (Rome) Laboratory, Hanscom, MA.

Post-Doctoral Fellow (Summer 1984), University of Delaware, Newark, DE.

Consultant to many companies including several SBIR and STTR projects.

## **EDUCATION AND PROFESSIONAL DEVELOPMENT**

Ph.D. (1980-83), Mechanical Engineering, University of Delaware.

M. Tech. (1976-78), Mechanical Engineering, Indian Institute of Technology, Kanpur, India.

B.S. (1971), Mechanical Engineering, Patna University, India.

Leadership Academy, one-year program for senior leadership consisting of President, Provost, Vice-Presidents and Deans, Florida International University (2003-04).

Short Term Course on Heat Exchanger, Indian Institute of Technology, Bombay (1979).

Specialized Managerial Training Course in Industrial Entrepreneurship (1971), Department of Industrial Development, Government of India.

Many seminars and presentations on Leadership, Management and Entrepreneurship.

## **HONORS, AWARDS AND RECOGNITIONS**

Fellow, American Society of Mechanical Engineers (since 1994).

LACCEI Academic Excellence Medal (2006) for contributions to engineering education in Latin America and the Caribbean, from Latin American and Caribbean Consortium of Engineering Institutions (LACCEI).

Vice-Chair, Executive Committee and Member (2006 -), Advisory Board, U. A. Whitaker School of Engineering, Florida Gulf Coast University, Fort Meyers.

Member (2005 -), International Advisory Committee, Universidad del Turabo, Puerto Rico.

Distinguished Service Medal for Engineering Education in Latin America, Santa Maria University, Caracas, Venezuela (2005).

Honorary Professor, Universidad Ricardo Palma, Lima, Peru (2004 - ).

Founding President (2003-04) and Member of the Executive Board (2003 - ), Latin American and Caribbean Consortium of Engineering Institutions (LACCEI).

First Commencement Speaker, Hindu University of America, Orlando (2004).

Member (1997-2003), USRA Microgravity Science Research Council for NASA Programs in Fluid Physics, Combustion and Materials.

Mentioned in several listings such as

Listed in Who's Who in the East

2000 Outstanding Scientists of the Twentieth Century

Who's Who of Emerging Leaders in America

The International Directory of Distinguished Leadership

Dictionary of International Biography

Men of Achievement

Who's Who in American Education

Who's Who in Science and Engineering

## ACADEMICS AND RESEARCH

- Accomplished researcher with two hundred invited and/or refereed articles on various topics of heat transfer, crystal growth, materials processing, microelectronics manufacturing, plasma spray coatings, computational and experimental methods, and virtual prototyping.
- Served as a PI or Co-PI on grants of over \$15 millions funded by NSF, Air Force, Army, Navy, DOE and industry.
- Built a DOD MURI Consortium of academia, industry, federal labs to conduct research on semiconductor crystal growth, and developed a state-of-the-art crystal growth research facility with support from the NSF and industry, at Stony Brook.
- Served as a Co-PI of an NSF Materials Center (MRSEC) in Thermal Spray Coating at Stony Brook.
- An elected Fellow of the American Society of Mechanical Engineers (ASME).
- Served as a member of the USRA Microgravity Research Council for a major NASA Program for six years.
- Served as the Chair of the ASME Heat Transfer Division Committee on Transport Phenomena in Manufacturing and Materials Processing as well as the Committee on Environmental Heat Transfer.
- Serving as the Lead editor of Annual Review of Heat Transfer and a Member of the editorial advisory boards of two journals,
- Served as an associate editor of the ASME Journal of Heat Transfer.
- Organized numerous conferences, symposia and workshops,
- Invited to present special lectures at many academic institutions and companies in USA and abroad, as well as invited speaker to many conferences.

## PROFESSIONAL LEADERSHIP

Chair (1997-2000), Vice-Chair (1994-97), and Secretary (1991-94), Committee on Heat Transfer in Manufacturing and Materials Processing, Heat Transfer Division, American Society of Mechanical Engineers (ASME).

ASME Heat Transfer Division, Government Relations (1996-98)

ASME Heat Transfer Division Liaison to the ASME Press (1996-98)

Member (1995-96), Heat Transfer Division Ad Hoc Committee on Honors and Awards, ASME.

Chairman (1993-94), Vice-Chairman (1990- 93) and Member (1984-1994), Committee on Environmental Heat Transfer, Heat Transfer Division, ASME.

Chairman (1991-92), and Member (1990-92), Membership Development Committee, Heat Transfer Division, ASME.

## PROFESSIONAL MEMBERSHIP/SERVICES

Member, Indian Society of Heat and Mass Transfer

Member, American Society of Engineering Education

Former Member, Materials Research Society

Former Member, American Association for Crystal Growth

Former Member, Sigma Xi

Member, International Advisory Committee, 3<sup>rd</sup> International Conference on Computational Modeling and Simulation of Materials: From the Atomistic to the Engineering Scales, Acireale, Sicily, Italy, (May 29 - June 5), 2004.

Member, International Organizing and Paper Committee, 4th International Workshop on Modeling in Crystal Growth, Fukuoka, Japan (Nov. 4-7), 2003.

Member, Advisory Committee, International Symposium on Recent Trends in heat and Mass Transfer, Indian Institute of Technology, Guwahati (January 6-8, 2002).

Member, Organizing Committee, BSME-ASME International Conference on Thermal Engineering, Dhaka, Bangladesh (December 31 - January 2, 2002).

Co-Chair, 3rd International Workshop on Modeling in Crystal Growth, Hauppauge (near Stony Brook), NY (Oct. 18-20, 2000).

Member, Organizing Committee, Symposium on Fundamentals of Crystal Growth, Crystal Growth Center, Anna University, Chennai (Madras), (Nov. 6-7, 2000).

Member, Organizing Committee, International School in Hydrodynamic Instability and Turbulence, organized by Institute of Mechanics, Moscow State University, Feb. 13-20, 2000.

Co-Chair, 4th ISHMT-ASME Heat and Mass Transfer Conf., Pune, India (Jan. 12-15, 2000).

Co-Chair, International Workshop on Advances in Solidification Processing, Tata Research Development and Design Center, Pune, India (January 10-11, 2000).

Member, Advisory Committee, International Symposium on Challenges and New Directions in Computations of Internal Flows, Indian Institute of Technology, Madras, India (Jan. 7-8, 2000).

Vice-Chair, Technical Program Committee, American Conference of Crystal Growth/East, Atlantic City (1998).

Chair, Organizing Committee, NSF-ASME Workshop on Thermal Aspects of Materials Processing and Manufacturing: Emerging Technologies and Research Issues, Anaheim, CA (Nov. 1998).

Member, National Heat Transfer Conference Coordinating Committee, 1996.

Organizer, "Transport Phenomena in Manufacturing and Materials Processing," National Heat Transfer Conference, Houston, 1996.

Member, Organizing Committee, International Workshop on "Role of Fluid Mechanics in Materials Processing," Bangalore, India, 1996.

Member, Organizing Committee, 2nd ISHMT/ ASME Heat and Mass Transfer Conference," Mangalore, India, 1995.

Organizer, "Transport Phenomena in Manufacturing and Materials Processing," National Heat Transfer Conference, Portland, 1995.

Organizer, "Thermo-Mechanical Effects in Manufacturing and Materials Processing," ASME Winter Annual Meeting, Chicago, 1994

Co-Organizer, "Computer-Aided Engineering of Polymer Processing: From Dream to Reality," ASME Winter Annual Meeting, Chicago, 1994.

Co-Organizer, "Heat Transfer in Manufacturing and Materials Processing," ISHMT/ ASME Heat and Mass Transfer Conference, Bombay, 1994.

Co-Organizer, " Transport Phenomena in Non-Conventional Manufacturing and Materials Processing," ASME Winter Annual Meeting, New Orleans, 1993.

Organizer, "Melting and Solidification in Porous Media," ASME Winter Annual Meeting, New Orleans, 1993.

Organizer, "Advanced Computations in Materials Processing," 29th National Heat Transfer Conference, Atlanta, 1993.

Co-Organizer, "Multiple Component Convection," 28th National Heat Transfer Conference, San Diego, 1992.

Co-Organizer, "Modeling of Thin Film Formation Processes," ASME Winter Annual Meeting, Atlanta, 1991.

Organizer, "Novel Computational Techniques for Transport Processes," ASME Winter Annual Meeting, Atlanta, 1991.

Organizer, "Heat and Mass Transfer in Soils," 27th National Heat Transfer Conference, Minneapolis, 1991.

Co-Organizer, "Stability of Convective Flows," 26th National Heat Transfer Conference, Philadelphia, 1989.

Co-organizer, "Future Challenges in Environmental Heat Transfer," (Panel Discussion) ASME Winter Annual Meeting, Chicago, 1988.

Organizer, "International Symposium and Panel Discussion on Convection in Porous Media: Non-Darcy Effects," National Heat Transfer Conference, Houston, 1988.

Co-organizer, "Heat Transfer in Stratified Flows", 25th National Heat Transfer Conference, Houston, 1988.

Co-organizer, session on "Combined Free and Forced Convection," ASME Winter Annual Meeting, Boston, 1987.

Chairman, session on "Mixed Convection in Porous Media," ASME Winter Annual Meeting, Boston, 1987.

Co-organizer, session on "Geothermal Heat Transfer," 24th National Heat Transfer Conference, Pittsburgh, 1987.

Co-organizer, Workshop on Electronic Cooling, Columbia University, New York, 1987.

Organizer, "Heat Transfer in Porous Media and Packed Beds," 2nd ASME/JSME Thermal Engineering Joint Conf., Honolulu, Hawaii, 1987.

Member, US Organizing Committee, 2nd ASME/JSME Thermal Engineering Joint Conf., Hawaii, 1987.

Organizer, "Natural Convection in Porous Media," 4th AIAA/ASME Thermophysics and Heat Transfer Conference, Boston, 1986.

Co-organizer, "Natural Convection in Stratified Flows," 23rd National Heat Transfer Conf., Denver, 1985.

Co-Chair, Session on "Rapid Flow of Granular Materials," 21st Annual Meeting of Society of Engineering Science, Blacksburg, VA, 1984.

## REVIEWER

Text Books/ McGraw Hill Book Company

Software: West Educational Publishing

Papers: Journal of Fluid Mechanics,  
Journal of Applied Mechanics,  
Proceedings of Royal Society of London,  
ASME Journal of Heat Transfer,  
International Journal of Heat and Mass Transfer,  
Numerical Heat Transfer,  
AIAA Journal of Thermophysics and Heat Transfer,  
Experimental Thermal and Fluid Sciences,  
Journal of Crystal Growth,  
Journal of Thermal Spray technology,  
Transport in Porous Media,  
Thin Films,  
Journal of Electronic Packaging,  
Journal of Enhanced Heat Transfer,  
International Journal of Heat and Fluid Flow,  
Journal of Electrochemical Society,  
Journal of Fluids Engineering,  
International Journal of Nonlinear Mechanics,  
Journal of Tribology,  
Geophysical Research Letters,  
Canadian Journal of Chemical Engineering,  
International Communications in Heat and Mass Transfer,  
Chemical Engineering Communications, and  
Many National and International Conferences.

Research National Science Foundation

Proposals: US Department of Energy

American Chemical Society

National Research Council

US Civilian Research and Development Foundation  
Hong Kong University of Science and Technology

Referee: ASME Fellows  
Third World Academy of Sciences Award  
Advisory Council for Science Policy in the Netherlands  
Recommendations for tenure and promotion at US Universities

Examiner: Doctoral Dissertations, Foreign Universities.

## INVITED SPEAKER

### *Conferences/Symposia/Schools*

Many inaugural speeches at national and international conferences, workshops and symposia organized by FIU faculty, and by the Latin American and Caribbean Consortium of Engineering Institutions, LACCEI (2001 – 2007).

Universidad Ricardo Palma, Lima, Peru (2004).

South Eastern Region IX ASME Conference, Miami, Florida (2003).

BSME-ASME International Conference on Thermal Engineering, Dhaka, Bangladesh, December 31 - January 2, 2002: *"Liquid Crystal Flow Visualization and Measurement of Temperature Fields: Extension to Third Dimension."*

International Workshop on Preparation and Characterization of Technologically Important Single Crystals, National Physical Laboratory, Delhi, February 26-28, 2001: *Role of Modeling in Design and Development of Crystal Growth Processes and Systems."*

Second International School on Crystal Growth, Zao, Japan, August 24-29, 2000: *"Modeling, Design and Prototyping of Crystal Growth Processes."*

New Millennium Keynote Speaker, National Heat Transfer Conference, Pittsburgh, August 20-22, 2000: *"Advances in Crystal Growth for Semiconductor Applications."*

Twelfth American Conference on Crystal Growth, Vail, Colorado, August 13-18, 2000: *"Advances in Modeling of Crystal Growth."*

International School on Hydrodynamic Instability and Turbulence, Institute of Mechanics, Moscow State Univ., February 13-20, 2000: *"Flow and Thermal Instability in Czochralski Crystal Growth."*

Industrial Session, 4th ISHMT-ASME Heat and Mass Transfer Conference, Tata Research Development and Design Center, Pune, India, January 15, 2000: *"Virtual Design and Prototyping of Materials Processes."*

International Workshop on Advances in Solidification Processing, Tata Research Development and Design Center, Pune, India, January 10-11, 2000: *"Modeling of Transport Phenomena and Defects in Crystal Growth Processes."*

International Symposium on Challenges and New Directions in Computations of Internal Flows, IIT, Madras, India, January 7-8, 2000: *"An Adaptive Multizone Numerical Method for Internal Flows and Phase-change Problems."*

Fifth IUMRS International Conference on Advanced Materials, Beijing, China, 1999: *"Microscale Heat and Mass Transfer and Non-equilibrium Phase Change in Rapid Solidification."*

117<sup>th</sup> Xiangshan Science Conference on Materials Research and Thermophysics in Extreme Cases, Beijing, China, 1999: *"Complexities of Thermal Phenomena in Plasma Spray Deposition."*

AFOSR Grantees and Contractors Conference for Physical and Computational Mathematics, St. Louis, 1999: *"Towards Virtual Prototyping of Crystal Growth Processes."*

3rd ISHMT/ASME Heat and Mass Transfer Conference, Kanpur, 1998: *"Heat and Mass Transfer in Czochralski Crystal Growth Systems."*

NSF Design and Manufacturing Grantees Conference, Monterrey, New Mexico, 1998: *"Successful Industry-University Collaborations."*

4th U.S. National Congress on Computational Mechanics, San Francisco, 1997: *"Challenging Issues in Crystal Growth Modeling."*

French National Conference on Transport in Porous Media, Paris, June 1997: *"Relevance of Research on Transport in Porous Media to Materials Processing."*

International Conference on Computational Engineering Science, San Jose, Costa Rica, 1997: *"An Advanced Numerical Scheme for Materials Process Modeling."*

International Workshop on Role of Fluid Mechanics in Materials Processing, Bangalore, India, 1996: *"Fluid Flow and Heat Transfer in Crystal Growth Processes."*

The American Ceramic Society, Annual Meeting, Cincinnati, Current Issues on Crystal Growth of Novel Electronic Materials, 1995: *"Challenging Issues in Bulk Crystal Growth Modeling."*

NSF Design and Manufacturing Grantees Conf., M.I.T., Cambridge, 1994: *"US Competitiveness in Silicon Crystal Growth Technology: A Success Story of NSF/Industry/University Partnership."*

AFOSR Computational Mathematics Grantees and Contractors Meeting, St. Louis, 1993: *"Modeling and Design of Crystal Growth Processes."*

International Seminar on Heat and Mass Transfer in Porous Media, Dubrovnik, Yugoslavia, 1991: *"Non-Darcy Effects on Natural Convection in a Vertical Porous Cavity."*

NATO Advanced Study Institute on Convective Heat and Mass Transfer in Porous Media, 1990: *"Mixed Convection in Porous Media," "Convective Flow Interaction and Heat Transfer Between Fluid and Porous Layers," "Non-Darcy Convection in Saturated Porous Media," and "Future Research Needs in Transport in Porous Media."*

### **Technical Seminars**

Beijing University of Aeronautics and Astronautics (Beihang University), Beijing, China, (2007).

Tongji University, Shanghai, China (2007)

Center for Crystal Growth Research, Anna University, Chennai (Madras), India (2000)

SEMATECH, Austin, TX (1999)

Applied Materials, Inc., Santa Clara, CA (1999)

Wacker Siltronic, Inc., Portland, OR (1999)  
MEMC Electronics Materials, Inc., St. Peters, MO (1999)  
SHE America, Portland, OR (1999)  
Siemens Solar, Camarillo, CA (1999)  
BP Solarex, Fredricksburg, MD (1999)  
Crystal Technology, Sunnyvale, CA (1999)  
Chinese Academy of Sciences, Inst. of Mechanics and Inst. of Semiconductors, Beijing (1998)  
Tsinghua University, Beijing, China (1998)  
LG Electronics (Siltronics Division), Kumi, Korea (1998)  
Samsung Advanced Institute of Technology, Central Research Lab, Seoul, Korea (1998)  
Sawyer Research Products, Inc. Cleveland, OH (1998)  
ASE Corporation of America, Billerica, MA (1998)  
University of Colorado, Boulder (1998)  
Universite de Marne-la-Valee, France (1997)  
Universite de Limoges, France (1997)  
DTA-CEREM, Commissariat à l'énergie atomique, Grenoble, France (1997)  
Drexel University (1997)  
University of Minnesota (1996)  
Arizona State University (1996)  
Indian Institute of Science, Bangalore, India (1996)  
General Instrument Corp., Westbury, NY (1996)  
State University of New York at Stony Brook – Department of Mechanical Engineering and  
Department of Materials Science and Engineering. (1990, 1992, 1996)  
Indian Institute of Technology, Kanpur (1996)  
Tata Research Design and Development Center, Pune, India (1996)  
University of Erlangen-Nuremberg, Germany (1995)  
Space Research Center, Bremen University (1995)  
Max-Planck Institute of Marine Geobiology, Bremen, Germany (1995)  
University of Cincinnati (1995)  
University of Connecticut, Storrs (1995)  
University of Michigan-Dearborn (1995)  
Alabama A&M University (1995)  
General Electric Corporate R&D, Schenectady (1994)  
Gulbarga University, India (1994)  
Center for Fluid Mechanics, Bangalore University, India (1986, 1994)  
The Pennsylvania State University, University Park (1992)  
Rutgers University, New Jersey (1991)  
The University of Tennessee, Knoxville (1986, 1992)  
Polytechnic University, Brooklyn, (1990, 1991)

Manhattan College, New York (1990)  
Carnegie Mellon University, Pittsburgh (1989)  
Stevens Institute of Technology, Hoboken, NJ (1987)  
San Diego State University (1986)  
Clemson University (1984)  
Columbia University (1984)  
Tennessee Technological University (1984)  
Lehigh University (1984)  
University of Notre Dame (1983)

## ADVISEMENT

### Visiting Scholars

Dr. Y.-K. Eum, Associate Professor, Andong National University, Korea (1998-99)  
Dr. K. Muralidhar, Professor of Mechanical Engineering, IIT, Kanpur, India (1997 summer)  
Dr. N. Rudraiah, INSA Senior Scientist and Former Vice-Chancellor, Gulbarga University, India (1996)  
Dr. M. J. Malashetty, Reader, Gulbarga University, India (Spring 1993)  
Dr. J.Y. Jang, Professor, National Cheng-Kung University, Taiwan (Summer 1990)  
Ms. Q. Tian, Shanghai Institute of Electric Power, P. R. China (1987-89)

### Research Scientists/Post-Doctoral fellows

Srinivas Pendurti, Ph.D. ('03), SUNY at Stony Brook (5/03 - 9/06).  
Govindan Dhanaraj, Ph.D. ('97), Indian Institute of Science, Bangalore, India (12/99 - 8/2001)  
Qi-Sheng Chen, Ph.D. ('97), Institute of Mechanics, Chinese Academy of Sciences, Beijing (9/97 - 6/02)  
Arun K. Saha, Ph.D. ('99), Indian Institute of Technology, Kanpur, India (7/99 - 8/00)  
Debasish Mishra, Ph.D. ('98), Indian Institute of Technology, Kanpur, India (1/99 - 3/00; 4/01- 5/03).  
Athonu Chatterjee, Ph.D. ('98), SUNY at Stony Brook (1/99 - 8/00).  
Abhra K. Roy, Ph.D. ('98), Indian Institute of Technology, Kharagpur, India (8/98 - 11/00)  
Guo--Xiang Wang, Ph.D.('95), University of California, Santa Barbara (1/96 - 7/98)  
Hui Zhang, Ph.D. ('93), Polytechnic University (1994 - 1997)  
Chin-Chih Fang, Ph.D. ('92), Columbia University (1993 - 1996)  
Pradip Dutta, Ph.D. ('92), Columbia University (Summer 1992)

### Doctoral Students

1. Ronghui Ma ('03), "Modeling and Design of PVT Growth of Silicon Carbide Crystals" (Co-advisor with Prof. Hui Zhang), Stony Brook University.
2. Srinivas Pendurti ('03), "Modeling Dislocation Generation in High Pressure Growth of InP Single Crystals," Stony Brook University.
3. Ijaz Jafri ('99), "Modeling and Design of an Advanced High Pressure System for III-V Compound Synthesis and Crystal Growth," Stony Brook University.

4. Debdeep K. Mukherjee ('99), "Computer-Assisted Liquid Crystal Thermography in a Rotating System: Application to Czochralski Crystal Growth," Stony Brook University.
5. Athonu Chatterjee ('98), "Three-Dimensional Adaptive Finite Volume Scheme for Transport Phenomena in Materials Processing: Application to Czochralski Crystal Growth," Stony Brook University.
6. Ramendra K. Sahoo ('98), "Composite Adaptive Grid Generation, Migration and Parallel Algorithm for Computational Materials Processing," Stony Brook University.
7. Chien Ouyang ('97), "Magnetostriction Measurement of Amorphous Ribbons and Thin Films," Stony Brook University.
8. Yunfeng Zou ('97), "Coupled Convection, Segregation and Thermal Stress Modeling of Low and High Pressure Crystal Growth," Stony Brook University.
9. John Paniagua ('96), "Thermal Hydraulic Instabilities in Parallel Channels for Natural Circulation Systems," Stony Brook University.
10. Andrew Anselmo ('94), "Continuous Czochralski Growth of Silicon Single Crystals," Columbia University.
11. Vijay Shukla ('94), "An Idealized Study of Asymmetry and Variability in Convectively Driven Ocean Flows," Columbia University.
12. Ragu Murtugudde ('93), "Upstream Difference Methods for an Isopycnal Ocean GCM," Columbia University.
13. C.-C. Fang ('92), "Molecular Dynamics Modeling of Stresses in Sputter-Deposited Thin Films," Columbia University.
14. O. Adetutu ('92), "Numerical Study of Convective Transport Processes During Melting," Columbia University.
15. Rajiv V. Joshi ('90), "Electrical and Material Characteristics of Low Pressure Chemical Vapor Deposited Tungsten Films in Cold Wall System," Columbia University.
16. Nick Kladias ('88), "Non-Darcy Free Convection in Horizontal Porous Layers," Columbia University.

### **Doctoral Committees**

Served on numerous committees for doctoral students at *Florida International University*, *Stony Brook University* (Mechanical Engineering, Materials Science and Engineering, and Applied Mathematics), and *Columbia University* (Mechanical, Chemical, Electrical and Nuclear Engineering, Bioengineering, Applied Math, Geosciences, School of Mines, and Business School).

### **Masters Students**

Varun Gupta ('00), "Towards Virtual Prototyping of Materials Processes: with Applications to Crystal Growth and Thermal Spray Deposition Processes."

Aniruddha Pal ('00), "Modeling of Transport Phenomena in Hydrothermal Crystal Growth Systems."

Michele Ferland ('00), "An Experimental Study of Solidification in a Simulated Czochralski System using Liquid Crystal Thermography."

Paul Lutjen ('99), "Three-Dimensional Liquid Crystal Thermography via Scanning Tomoscopy."

Over a dozen masters students have conducted research (without theses), and published papers.

### **Undergraduate Students**

During 1984-2001, 2-3 undergraduate students from mechanical engineering, computer science and/or electrical engineering conducted research on various topics every year. Many of these students have succeeded in writing journal and/or conference papers and have gone for graduate studies either at home institutions or elsewhere.

### **RESEARCH COLLABORATION WITH INDUSTRY AND RESEARCH LABS**

Advanced Technology Materials, Inc., Danbury, CT  
ASE Americas, Billerica, MA  
Brookhaven National Laboratory, Upton, NY  
Ferrofluidics Corporation, Nashua, NH  
General Instruments/General Semiconductor, Westbury, NY  
GT Equipment Technologies, Inc., Nashua, NH  
IBM Watson Research Center, Yorktown Heights, NH  
Idaho National Energy and Environmental Laboratory, Idaho Falls  
MEMC Electronics Materials, Inc., St. Peters, MO  
Sterling Semiconductor, Inc., Sterling, VA  
USAF Research Laboratory, Hanscom AFB, MA

## EDITORSHIP, PATENTS AND PUBLICATIONS

### BOOKS/JOURNAL EDITING:

**Springer Handbook of Crystal Growth, Defects and Characterization**, Editors: G. Dhanaraj, K. Byrappa, V. Prasad and M. Dudley, Springer Science & Business Media, Heidelberg, Germany; Editorial contact: Dr. Habil Claus E. Ascheron (under preparation, 2008).

**Annual Review of Heat Transfer**, Editor/Co-editor with Y. Jaluria (Rutgers) and G. Chen (MIT); (Founding Editor: C.-L. Tien), Vol. XII (2000), XIII (2004), XIV(2005), Begell House Publishing, New York.

**ASME Journal of Heat Transfer**, Associate Editor, (2002-05).

**Journal of Crystal Growth**, Co-Guest Editor, Volume 230, 2001.

**Microscale Thermophysical Engineering** (Journal), Member, Editorial Advisory Board.

**Heat Transfer - Asian Research**, Member, Editorial Advisory Board.

### SYMPOSIUM VOLUMES (Edited):

1. **Heat and Mass Transfer 2000**, Proceeding of the 4<sup>th</sup> ISHMT-ASME Heat and Mass Transfer Conference, Eds. M.S. Loknath, S.P. Venkateshan, B.V.S.S.S. Prasad, B. Basu, and V. Prasad, Tata-McGraw Hill, New Delhi, 2000.
2. **Transport Phenomena in Manufacturing and Materials Processing 1996**, Eds. Prasad, V., et al., ASME HTD-Vol., American Society of Mechanical Engineers, 1996.
3. **Thermal Processing of Materials: Thermo-Mechanics, Control and Composites**, Eds. Prasad, V. and others, ASME HTD-Vol. 289, American Society of Mechanical Engineers, 1994.
4. **Advances in Computer-Aided Engineering of Polymer Processing**, Eds. Himasekhar, K., Prasad, V, Osswald, T., and Batch, G., ASME MD Vol. 49/HTD-Vol. 283, American Society of Mechanical Engineers, 1994.
5. **Heat and Mass Transfer in Materials Processing and Manufacturing**, Eds. Zumbrennen, D. A., Seyed-Yagoobi, J., Prasad, V. and Charmchi, M., ASME HTD-Vol. 261 , American Society of Mechanical Engineers, 1993.
6. **Transport Phenomena in Non-Conventional Manufacturing and Materials Processing**, Eds. Chan, C.-L., Incropera, F. P. and Prasad, V., ASME HTD-Vol. 259, American Society of Mechanical Engineers, 1993.
7. **Advanced Computations in Materials Processing**, Eds. Prasad, V. and Arimilli, R. V., ASME HTD-Vol. 241, American Society of Mechanical Engineers, 1993.
8. **Thin Film Heat Transfer - Properties and Processing**, Eds., Alam et al., ASME HTD-Vol. 184, American Society of Mechanical Engineers, New York, 1991.
9. **Computational Techniques and Numerical Heat Transfer on PCs and Workstations**, Eds., Pepper et al., ASME HTD-Vol. 185 & AD-Vol. 23, American Society of Mechanical Engineers, New York, 1991.

10. **Heat Transfer in Geophysical Media**, Eds., Couvillion, R. J., Prasad, V., Krause, W. B., and Kececioglu, I., ASME HTD-Vol. 172, American Society of Mechanical Engineers, New York, 1991.
11. **Mixed Convection Heat Transfer - 1987**, Eds., Prasad, V., Catton, I., and Cheng, P., ASME HTD-Vol. 84, American Society of Mechanical Engineers, New York, 1987.
12. **Heat Transfer in Geophysical and Geothermal Systems**, Eds., Vafai, K., Prasad, V., and Catton, I., ASME HTD-Vol. 76, American Society of Mechanical Engineers, NY, 1987.
13. **Natural Convection in Porous Media**, Eds., Prasad, V. and Hussain, N. A., ASME HTD-Vol. 56, AIAA/ASME Thermophysics and Heat Transfer Conference, Boston, 1986.

#### PATENTS:

"Method and Apparatus for Improved Wire Saw Slurry" (with M. A. Constatini, P.O. Leyvraz, J.A. Talbott, M. Chandra, K. P. Gupta, and A.M. Caster), Patent No. 6113473.

"A New Method and Apparatus for Heating Silicon in a Chemical Vapor Deposition Reactor for Polysilicon Deposition" (with M. Chandra, K. P. Gupta, I. Jafri, and J. Talbott), Patent No. 6,284,312.

"Nanoscale DNA Detection System Using Species- and Disease-Specific Probes for Rapid Identification Thereof," W. Choi, S. Roy, K. Mathee, and V. Prasad, Provisional Patent application filed (2006).

#### REFEREED ARTICLES AND REVIEW PAPERS:

##### Book Chapters and Invited Review Articles

1. Pendurti, S., and Prasad, V., "Defects in Compound Crystals," *Springer Handbook of Crystal Growth, Defects and Characterization*, Editors: G. Dhanaraj, K. Byrappa, V. Prasad and M. Dudley, Springer Science & Business Media, 2008 (pending).
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