CURRICULUM VITAE

Subra Suresh

Dean of the School of Engineering
Ford Professor of Engineering

Massachusetts Institute of Technology

Office Address: Room 1-206
M.I.T., 77 Massachusetts Avenue
Cambridge, MA 02139
Phone: 1 (617) 253-3320
E-mail: ssuresh@mit.edu

Home Address: 8 Ox Bow Road
Wellesley, MA 02481
Phone: 1 (781) 237-1026

Nationality: United States of America (Naturalized in 1989).

Date of Birth: May 30, 1956

Current Professional Appointments:

Dean of the School of Engineering and Ford Professor of Engineering, MIT
Professor of Materials Science and Engineering, MIT
Professor of Mechanical Engineering, MIT
Professor, Biological Engineering Division, MIT
Affiliated Faculty, Harvard-MIT Division of Health Sciences and Technology
Member, Committee on Membership, US National Academy of Engineering
Founding Director, Global Enterprise for Micro-Mechanics and Molecular Medicine (GEM4)
Inaugural holder of the Tan Chin Taun Centennial Overseas Chair (for brief visits), National University of Singapore
Member, Governing Board, Singapore-MIT Alliance for Research and Technology (SMART) Center
Member, Governing Board, MIT-Portugal Program
Member, Governing Board, IMDEA Materials Institute, Madrid, Spain
Member, Advisory Board, Technology Review India

Degrees:

B. Tech. Mechanical Engineering, Indian Institute of Technology, Madras, May 1977, First Class with Distinction

M.S. Iowa State University, May 1979

Sc.D. Massachusetts Institute of Technology, August 1981

Honorary Doctorate degree - Royal Institute of Technology, Stockholm, Sweden, November 2006

Professional Background:

1977-1979:	Teaching and Research Assistant Dept. of Mechanical Engineering, Iowa State University
1979-1981:	Research Assistant, Massachusetts Institute of Technology
1981-1983:	Assistant Research Engineer, University of California, Berkeley & Scientist, Lawrence Berkeley Laboratory
1983	Visiting Scientist, Royal Institute of Technology, Stockholm, Sweden
1983	Visiting Scientist, Sheffield University, England
12/1983-6/86:	Assistant Professor of Engineering, Brown University
1986-1989:	Tenured Associate Professor of Engineering, Brown University
1986-1993	Director, Central Facility for Mechanical Testing, Brown University
1989-1993	Professor of Engineering, Brown University
1993-2002	R. P. Simmons Professor, Dept. of Materials Science & Eng., MIT
1994-	Professor of Mechanical Engineering, MIT
1994-2004	Principal Editor, Acta/Scripta Materialia
1994-1998	Director, MIT-Harvard Program on Modeling of Materials
1997-1998	TFR Swedish National Chair in Engineering, KTH, Stockholm
1998-2004	Coordinating Editor, International Journals: Acta Materialia and Scripta Materialia
1999	Program Chair, Advanced Materials Programme, Singapore-MIT Alliance
1999-2000	Clark B. Millikan Visiting Professor, California Institute of Technology
2000-2002	Program Advisor, Advanced Materials, Singapore-MIT Alliance
2000-2006	Head, Dept of Materials Science and Engineering, MIT
2000-2004	Member, Board of Governors, Acta Materialia Incorporated
2003-	Professor, Biological Engineering Division, MIT
2004-	Affiliated Faculty, Harvard-MIT Division of Health Sciences and Technology
2004-	Senior Consulting Editor, Acta BioMaterialia
2004	Gordon Moore Distinguished Scholar, California Institute of Technology, Pasadena
2004	Senior Humboldt Research Scholar, Max-Planck Institute, Stuttgart, Germany
2005	Founding Director, Global Enterprise for Micro-Mechanics & Molecular Medicine (GEM4)
2007-	Dean of Engineering, MIT

Professional Consulting:

1981-1992:	Lockheed Palo Alto Research Laboratory, Palo Alto, CA (not continuous)
1984-1988:	Rockwell International, CA (not continuous)
1984-1988:	Northrop Corporation, Hawthorne, CA (not continuous)
1992	Hibbitt, Karlsson and Sorensen Inc., Providence, RI
1992	Volvo Flygmotor AB, Tröllhattan, Sweden
1993-2001	Lawrence Livermore National Laboratory, Livermore, CA (not continuous)
1995-1997	Biosym Technologies, San Diego, CA
1996	Volvo Automobile Company, Goteborg, Sweden
1996	Lightspeed Semiconductor, Los Altos, CA
1996-1999	Los Alamos National Laboratory, Los Alamos, NM (Member of Summer Group)
1997-1998	Ceramem Corporation, Waltham, MA
1997-2000	Instron Corporation, Canton, MA
1999	Exxon Corporation, Linden, NJ
1999-2001	Covington and Burling, Washington D.C.
1999-2003	Consultant to the Faculty of Science, National University of Singapore
2001-2002	United Technologies Research Center, E. Hartford, CT, through Inventium LLC
2001-2002	Palmer and Dodge, Boston, MA
2002-2003	Battelle Scientific Services for the Army Research Office, Rayleigh, North Carolina
2003-2006	Oraxion Diagnostics, Fremont, CA
2003	Acta Materialia, Inc.
2005-2007	Beckton-Dickinson Medical Devices, Waltham, MA
2005-2007	Senior Consulting Editor, Acta Biomaterialia
2007-	Editor, Progress in Materials Science

Election to Major Science and Engineering Academies and Leadership Activities

2002 Elected Member of the US National Academy of Engineering (NAE)

2003-06 Member, Materials Section Peer Committee, Vice Chair (2004-05), Chair (2005-06)
2005-06 Elected by NAE members of Materials Section to be Chair, Materials Section
2006-07 Appointed by President of NAE to chair the Indo-US Frontiers in Engineering Program.
2007-10 Member of the Academy-wide Committee on Membership.

2003 Elected Foreign Member of the Indian National Academy of Engineering

2004 Elected Fellow of the American Academy of Arts and Sciences

2004 Elected to the Academy of Sciences of the Developing World (TWAS), Trieste, Italy

2005 Elected Honorary Fellow of the Indian Academy of Sciences, Bangalore.

2007 Elected Honorary Member of the Spanish Royal Academy of Sciences

2007 Elected Member of the German National Academy of Sciences

Election to Fellowship and Honorary Membership in Professional Societies

1994 Elected Fellow of American Society of Materials International

1995 Elected Fellow of the American Ceramic Society

1996 Elected Fellow of the American Society of Mechanical Engineers

1997 Elected Honorary Member of the Materials Research Society of India

2000 Elected Fellow of The Minerals, Metals and Materials Society (TMS); one of only 100 living members among a world-wide membership of approximately 10,000. Youngest member ever elected to Fellow grade, at the time of election.

2004 Elected Honorary Member of the Indian Institute of Metals

2008 Elected Fellow of the Materials Research Society (inaugural class of fellows)

Endowed Chairs and Distinguished Professorships/Scholarships

1993-2002 R. P. Simmons Professor of Materials Science and Engineering, MIT

1997 Swedish National Chair in Engineering, Royal Institute of Technology (KTH), Stockholm; Recipient of Honorary Doctorate Degree from KTH in 2006.

1999 Clark B. Millikan Visiting Professor, California Institute of Technology, Pasadena

2002-present Ford Professor of Engineering, MIT

2004 Brahm Prakash Distinguished Professorship, Indian Institute of Science, Bangalore

2004 Gordon Moore Distinguished Scholar, California Institute of Technology, Pasadena

2004-2005 Senior Humboldt Research Prize, The Humboldt Foundation, Germany

2006-2009 Tan Chin Tuan Centennial Overseas Chair, National University of Singapore

Accomplishments of Subra Suresh in Leadership Activities within and outside MIT

- Dean of the School of Engineering at MIT since July 2007.

  - Chief Academic Officer and Leader of MIT's School of Engineering, consistently ranked by various international surveys as the top engineering School on a global scale. Ranked by the US News and World Report as the #1 Engineering School for both undergraduate programs (among institutions granting Ph.D.) and graduate programs.

    - The MIT School of Engineering has approximately 375 faculty members, 1,800 undergraduate students, 2,750 graduate students. The School represents approximately one-half of the educational and research enterprise of MIT.
    - Annual research volume of the School of Engineering is approximately US$250 Million. Annual operating budget for non-research matters is about US$120 Million.
    - Oversee the activities of 8 Engineering Departments and one Division, six of which are ranked #1 in the US in their fields for undergraduate and/or graduate programs, by the US News and World Report.
    - Oversee the research activities of approximately 20 Centers and Laboratories that report to the office of the Dean.
    - Spokesperson and ambassador for MIT for the Engineering School outreach and development activities and for alumni activities that reach out to approximately 65,000 living alumni of the School.
    - One of MIT Leaders for a number of large international programs including the Singapore-MIT Alliance, MIT Portugal Program, and MIT-Masdar Program, all of which report to the Dean of Engineering.
    - Key faculty initiator of the Singapore-MIT Alliance for Research and Technology (SMART) Center.
    - Major administrative participant in the MIT Energy Initiative; approximately 60% of its activities amounting currently to about $130 Million (over five years) involve the School of Engineering.
    - Academic Administrative Leader, together with the Vice President for Research and the Dean of Science, for the new MIT Koch Institute for Integrative Cancer Research (KIICR), to interface with the Director of the Koch Institute. A $300 Million building is now under construction on the MIT campus for occupancy in late 2010 for KIICR. This building will house the laboratories of 12 Engineering faculty members and 12 Life Scientist, and will also provide centralized facilities for experimental research into cancer for the broader MIT community.

  - Established the Bernard Gordon Engineering Leadership Program in October 2007 with $20 Million in pledge for support over ten years from the Bernard Gordon Foundation, with the purpose for providing leadership training for undergraduate students.

  - Oversaw the finalization of the establishment of new Presidential Fellowships for graduate students in the School of Engineering at MIT in October 2007, with a pledge of $30 Million endowment gift from Irwin and Joan Jacobs.

  - Facilitated the establishment of the International Innovation Initiative in the School of Engineering, as an umbrella for international interactions, many involving institutions in Asia, specifically in the area of innovation in science, engineering and technology (launched in November 2007).

- MIT Faculty Team Leader and project team leader responsible for the establishment of the Singapore-MIT Alliance for Research and Technology (SMART) Center from February 2006 through April 2007. Currently serving as a Member of the Board of Governors of SMART.

    - Was responsible for the conception, planning, proposal preparation, and successful presentation of proposal to the Singapore Research, Innovation and Enterprise Council (RIEC), headed by Prime Minister Lee of Singapore. RIEC membership

includes several key cabinet members from the Government of Singapore and the Chairman of the National Research Foundation of Singapore.
    - This leadership activity has led to the establishment of the first MIT research facility outside of the United States, in Singapore, and to the launch of several multidisciplinary research areas of specific interest to MIT and Asia.
    - Total volume of research and related activity planned is in excess of US$100 Million over five years.
    - Created a new funding mechanism for 10 fully endowed senior professorships at MIT over the course of five years starting 2007.

- Founding MIT Chair of the first Singapore-MIT Alliance (SMA) Program on Advanced Materials in 1999.
    - Responsible for the establishment of the first Master's and Ph.D. degree programs of the Singapore-MIT Alliance and the early distance education programs of the SMA.

- Elected by the 180-member Materials Section of the US National Academy of Engineering to be Chair of the Section during 2005-2006. Youngest member of the Section at the time of election in 2002.

- Selected to Chair the Peer Committee of the Materials Section of the US National Academy of Engineering during 2005-2006.

- Selection by the National Academy to be the inaugural American Chair of the Indo-US Frontiers in Engineering Program during 2005-2006.

- Founded, in collaboration with senior faculty and administrators from 12 different academic institutions from around the globe, a virtual alliance entitled, "Global Enterprise for Micro-Mechanics and Molecular Medicine" (GEM4), which was officially launched on October 12, 2005.
    - Member institutions include: MIT, Harvard University School of Public Health, California Institute of Technology, University of Illinois at Urbana-Champaign, Georgia Institute of Technology, University of Texas at Austin, Cambridge University, Institut Pasteur at Paris, and National University of Singapore.

- Head of the Department of Materials Science and Engineering (DMSE), MIT – from January 2000 to January 2006.
    - Responsible for the recruitment, over six years, of nearly one third of the faculty presently in the Dept. (Total FTE about 32, departmental endowment approx. $90 million)
    - Led faculty effort in major curriculum revision, infrastructure development, faculty recruitment and fund-raising efforts which led to an enhancement in the ranking of the undergraduate program of the Department from #7 to #1 from 2001 to 2006, and maintained the graduate program ranking at #1 in the US News and World Report rankings.
    - Worked with colleagues to enhance faculty diversity within DMSE during tenure as department head, through recruitment and mentorship.
    - Generated funding for the establishment of two new endowed chairs in the dept.
    - Led, since 2000, the largest space renovation and infrastructure development project in the dept. in five decades, through the creation of major new laboratories for teaching and research along the infinite corridor in Bldg. 8; establishment of new, state-of-the-art research laboratories in the dept. in conjunction with faculty hire. The renovations and new laboratory infrastructure and equipment required approximately $12 million, including new laboratories for faculty members.

- Helped create and raised funding for the "Nano-Lab" along the Infinite Corridor; opened March 2002.

- Helped create and raised funding for the "DMSE Undergraduate Teaching Lab" along the Infinite Corridor; opened September 2003.

- Helped create, in collaboration with the Physics Department and the School of Science, the largest "space-swap" and joint renovation projects between the School of Engineering and the School of Science. Discussions and plans for this project began soon after becoming Department Head. The "PDSI" project (Physics-DMSE-Spectroscopy Initiative) construction, which started in Fall 2005 and which is responsible for much of the renovation in Buildings 4, 6 and 8, was completed by Summer 2007.

- Created a new graduate student lounge and a state-of-the-art global teaching "smart" classrooms within DMSE space.

- Led the creation of new educational and research programs in the areas of biomaterials and nanomaterials along with other new areas of intellectual focus for the department.

- Established a new Master of Engineering degree program in dept. in 2002.

- Led the largest undergraduate curriculum modernization project in the Dept. in four decades, which led to new intellectual content, integration of lectures and laboratory modules, the founding of a new undergraduate teaching laboratory; these activities are now emulated by a number of domestic and overseas institutions.

- Significantly increased undergraduate and graduate enrollment in DMSE from the low levels of the late 1990s

- As Dept. Head, oversaw doubling of research funding for DMSE faculty during six years.

- Director and lead-PI of the $5 million Defense University Research Initiative on NanoTechnology (DURINT) which is funded at MIT during 2001-2007 by the Office of Naval Research under the National Nanotechnology Initiative.

- Program Chair, MIT Symposium on Nanotechnology for Congressional Staff Members, April 2007, MIT, Cambridge, MA.

- Co-Editor, Progress in Materials Science, an International Journal (From May 2007)

- Consultant and Advisory Board member for a number of academic, industrial and government organizations in the United States, Europe and Asia.

- Served (1998-2004) as the Coordinating Editor (Editor-in-Chief) of Acta Materialia, a leading international journal in Materials Science and Engineering, which is co-sponsored by 30 international professional societies.

- Served as Director of Central Facility for Mechanical Testing in the Division of Engineering at Brown University (1987-1993).

AWARDS AND HONORS (Full list)

2008 Recipient of the Marston Medal, the highest honor given by the College of Engineering, Iowa State University.

2008 A.C. Eringen Medal of the Society of Engineering Science. Citation: "Subra Suresh has been accorded the A.C. Eringen Medal of the Society in recognition of his diverse contributions as a researcher, educator, and academic innovator. Suresh has made seminal contributions to materials science and mechanics through experiments, theory, and simulations. His work has inspired researchers in many branches of engineering science with applications to structural, functional, and biological materials".

2008 Honoree, Special Symposium on "Engineering Science Across Disciplinary Boundaries", to be held at the SES Annual meeting in October 2008 at the University of Illinois, Urbana-Champaign, in conjunction with the Eringen Medal selection.

2008 Inaugural Dow Lecturer in Materials Science in support of society, University of California, Berkeley.

2008 Elected Fellow of Materials Research Society, inaugural class. Member of the first class of fellows of the Society whose total number was restricted to 0.2% of the membership of the Society.

2008 Robert Maddin Lecturer, The University of Pennsylvania

2008 Van Horn Distinguished Lecturer, Case Western Reserve University

2007 European Materials Medalist, 2007. Selected by the Federation of European Materials Societies (with membership from 24 European countries) for its highest and most prestigious award of a gold medal given every other year since 1993. First non-European scientist selected for this honor.

2007 Elected Member of the German National Academy of Sciences

2007 Alpha Sigma Mu Lecturer, The Minerals, Metals and Materials Society, Pittsburgh, PA.

2007 Van Mow Lecturer, Rennsellaer Polytechnic Institute, Troy, NY

2007 Lee Hsun Lecturer, Chinese Academy of Sciences, Shenyang, Institute for Materials Research.

2007 Elected Honorary Member (Foreign Member) of the Spanish Royal Academy of Sciences, in the fields of physical and chemical sciences.

2006 Honoree, Symposium on "Mechanical Properties of Small-Volume Structures and Biological Materials", organized by former/current students, post-docs and collaborators, held at the American Academy of Arts and Sciences, Cambridge, MA, November 28-29, 2006.

2006 First Acta Materialia Gold Medal Lecturer, Materials Research Society Fall meeting, Boston, MA, Nov. 27, 2006.

2006 Honorary Doctorate in Engineering, Royal Institute of Technology (KTH), Stockholm, Sweden.

2006 Selected as the inaugural holder of the Tan Chin Tuan Centennial Endowed Visiting Professorship (overseas) at the National University of Singapore. For brief summer visits to NUS.

2006 The 2006 Peter Winchell Lecturer, Purdue University, Indiana.

2006 The 2006 H.C. Oersted Lecturer, Technical University of Denmark, Copenhagen, Denmark.

2006 Selection by MIT's *Technology Review* magazine as one of the ten researchers (TR-10) whose research will "have a significant impact on business, medicine or culture". Selected for the area of nanobiomechanics. March 2006 issue of Technology Review.

2006 Acta Materialia Gold Medal – one of the most prestigious international awards for lifetime achievement in Materials Science and Engineering, awarded by Acta Materialia, Inc. in cooperation with 30 international materials societies

2005 Elected Honorary Fellow of the Indian Academy of Sciences, Bangalore.

2005 Selected by the United States National Academy of Engineering to be the American Co-Chair of the Indo-US Frontiers in Engineering

2005 Elected to Membership in the Third World Academy of Sciences, Italy, for "broad, innovative and pioneering contributions to the understanding of the mechanical behavior of materials".

2004 Elected an Honorary Member of the Indian Institute of Metals.

2004 Albert Sauveur Achievement Award, American Society of Materials International. This award was established in 1934 to acknowledge "pioneering materials science and engineering achievements that stimulated organized work to an extent that a marked basic advance has been made in materials science and engineering knowledge."

2004 Elected Fellow of the American Academy of Arts and Sciences

2004 Elected by members to become Vice Chair (2004-2005) and Chair (2005-2006) of the Materials Section of the US National Academy of Engineering.

2004 Kreidl Memorial Lecturer, Rio Grande Southwest Materials Consortium, Albuquerque, New Mexico.

2004 Gordon Moore Distinguished Scholar, California Institute of Technology, Pasadena

2004 S. S. Penner Distinguished Lecturer, University of California, San Diego

2004 Senior Humboldt Research Prize, Humboldt Foundation, Germany

2003 Elected a Foreign Fellow of the Indian National Academy of Engineering

2004 Brahm Prakash Distinguished Visiting Professorship, Indian Institute of Science, Bangalore

2003 Selected as one of the "highly cited researchers" in the area of Materials Science by the Institute for Scientific Information, PA.

2003 Millsaps-Taylor Memorial Lecturer, University of Florida, Gainesville, Florida

2002 General Electric Distinguished Lecturer, Rensellaer Polytechnic Institute, Troy, NY

2002-	Appointed Ford Professor of Engineering, School of Engineering, MIT
2002	Elected Member of the U. S. National Academy of Engineering.
2002	R. B. Trull Distinguished Lecturer in Engineering, The University of Texas, Austin, TX
2001	Kelly Distinguished Lecturer, Cambridge University, UK, June 2001.
2001	Director and Lead PI on the Office of Naval Research Defense University Research Initiative on NanoTechnology (DURINT) Award on Nanostructured Materials, for 6-year program.
2001	"2001 TMS Distinguished Scientist/Engineer Award" for the Structural Materials Division of The Minerals, Metals and Materials Society (TMS).
2000	Elected Fellow of TMS. Citation: "For pioneering contributions to the understanding of mechanical behavior and mechanics of materials, and for leadership in materials education". One of only 100 living fellows of the Society from among a worldwide membership of about 10,000. Youngest fellow at the time of election.
2000	Sectional Lecturer, International Conference on Theoretical and Applied Mechanics, Chicago, Illinois, August 2000.
1999-2000	Clark B. Millikan Chair at California Institute of Technology, Pasadena, for visiting professorship.
1997	Distinguished Alumnus Award, Indian Institute of Technology, Madras
1997-1998	TFR Swedish National Chair in Engineering. National visiting professorship from the Swedish Research Council (TFR) at the Royal Institute of Technology, Stockholm
1997	Southwest Mechanics Lecturer
1996	Elected Honorary Member of the Materials Research Society of India
1996	Elected Fellow of the American Society of Mechanical Engineers (ASME)
1996	Forum Lecturer, ASME Summer Meeting, Johns Hopkins University.
1996	Sauveur Lecturer, ASM International New England Chapter
1995	Shell Distinguished Lecturer, Northwestern University
1995	Elected Fellow of the American Ceramic Society
1994-1995	Midwest Mechanics Lecturer
1994	Elected Fellow of ASM International "For contributions to fatigue fracture and micromechanisms of deformation of metals, ceramics and composites, especially for pioneering studies on fracture in cyclic compression of brittle materials".
1993-2002	R. P. Simmons Endowed Professorship, MIT
1992	Ross Coffin Purdy Award (The American Ceramic Society, for the best paper published in J. American Ceram. Soc. during 1990, lead author).
1990	Allied Signal Foundation Merit Award

1989	Allied Signal Foundation Research Award
1989	Technical Analysis Corporation Teaching Award**.** "For the member of the Engineering Faculty at Brown, who through example and instruction, has most inspired undergraduate students in engineering." Selected by honor students in engineering.
1985-1987	Ford Foundation Research Award
1985-1990	Presidential Young Investigator Award (National Science Foundation and The White House)
1985	Champion H. Mathewson Gold Medal (The Metallurgical Society of AIME) Citation: "For Outstanding Contributions to the Understanding of Fatigue and Fatigue Crack Growth"
1983	Robert Lansing Hardy Gold Medal (The Metallurgical Society of AIME) Citation: "For Exceptional Promise of a Successful Career in the Broad Field of Metallurgy, by a Metallurgist under the Age of 30"
1982	Outstanding Scientific Accomplishment Award (U.S. Department of Energy)
1977-1979	Premium for Academic Excellence (PACE Award) (Iowa State University)
1977	Tata Scholar (The J.N. Tata Endowment, Bombay)
1974-1977	Scholarship For Outstanding Undergraduate Student Of Engineering (Sir C.P. Ramasamy Foundation, Madras, India)
1971-1977	National Merit Scholarship (The Government of India)

PUBLICATIONS

Summary:

- Author or co-author of three books.
- Co-Editor of eight books or research volumes and proceedings.
- Co-inventor in 15 US and international patents
- Author or coauthor of over 215 peer-reviewed journal publications including 9 articles or communications in Nature, Science, Nature Materials, Proceedings of the National Academy of Sciences
- Selected by Institute for Scientific Information (ISI) as a highly cited scholar in the area of Materials Science and Engineering
- H-index for Citation of 60 (author of 60 journal papers each of which has 60 or more citations)
- More than 11,000 citations for published research work, in addition to several thousand citations for authored books and review articles. Annual citations for original research above 1,000 per year for the past several years.
- More than 100 students, post-doctoral fellows, and visiting scientists trained and/or mentored in the research group now occupy prominent positions in academia, industry and government around the world.
- Delivered several hundred keynote, plenary and invited lectures at major international conferences, and technical meetings, and invited seminars in academic, industrial and government organizations.

BOOKS (Authored)

1. S. Suresh, "Fatigue of Materials", Cambridge University Press, 1991.
   Second Edition, Published September 1998.
   Chinese Translation of Second Edition, 1999. Chinese Academy of Sciences.
   First edition published by Cambridge University Press in 1991. Second printing and paperback edition, 1992. Third printing in hardcover and paperback, 1994. Fourth prining in hardcover and paperback, 1996.
   Chinese Translation, sponsored by the Chinese Academy of Sciences, 1993, first edition.
   Japanese translation of the Second Edition, published in 2005.

   This book has been cited nearly 1,400 times in the English language (source: Google Scholar) and has remained the leading book on the subject for the past 17 years.

2. S. Suresh and A. Mortensen, "Fundamentals of Functionally Graded Materials", The Institute of Materials, London, June 1998.
   Official Chinese Translation by the Chinese Academy of Sciences published in 2000.

3. L.B. Freund and S. Suresh, "Thin Film Materials: Stress, Defect Formation and Surface Evolution", Cambridge University Press, 2003.
   Chinese translation released in December 2006, sponsored by the Chinese Academy of Sciences, Shenyang, P.R. China.

BOOKS and Research Volumes (Edited)

1. Editor, "Fatigue Crack Growth Threshold Concepts", (with D.L. Davidson), Proceedings of an International Symposium, Published by The Metallurgical Society of AIME, Warrendale, PA, 1984.

2. Editor, "Interfacial Phenomena in Composites: Processing, Characterization and Mechanical Properties" (with A. Needleman), Special Issue of the International Journal *"Materials Science and Engineering"*, **107**, January 1989, and a special volume devoted to the Proceedings of an International Symposium on Composites, held in Newport, RI, June 1988.

3. Editor, "Variable Amplitude Fatigue Crack Propagation", (with J. Petit, P. Rabbe and D.L. Davidson), Proceedings of an International Symposium, held in Paris, June 1988 and sponsored by the French Metallurgical Society, Paris, 1988.

4. Editor, "Fundamentals of Metal-Matrix Composites" (with A. Mortensen and A. Needleman), Butterworth-Heinemann, Stoneham, MA, 1993.

5. Editor, "Mechanics and Physics of Layered and Graded Materials" (with A. Needleman), Special Issue of*"Jounral of the Mechanics and Physics of Solids"*, **45**, May 1996, and a special volume devoted to the Proceedings of an International Symposium on Mechanics and Physics of Layered and Graded Materials, held in Davos, Switzerland, August 1995.

6. Editor, "The Millennium Special Issue: A selection of major topics on Materials Science and Engineering; Current Status and Future Directions", Special Issue of Acta Materialia, published in Jan. 2000.

7. Editor, "The Fiftieth Anniversary Special Issue", Acta Materialia, published in Dec. 2003.

8. Editor (with A. Rosakis and G. Ravichandran), "Dynamic Behavior and Thin Films", Special Issue of the Journal of the Mechanics and Physics of Solids, December 2003.

PATENTS AND COPYRIGHTED INTELLECTUAL PROPERTY

1. M. Finot, O. Kesler and S. Suresh, "Method and Apparatus for the Evaluation of a Depth Profile of Thermomechanical Properties of Layered and Graded Materials and Coatings", MIT Case No. 7364. U.S. Patent Number: 5,847,283. Date of Patent issue: Dec. 8. 1998.

2. A.E. Giannakopoulos and S. Suresh, "Method and Apparatus for Determination of Mechanical Properties of Functionally-Graded Materials", US Patent Application Serial No. 08/632,665, filed Febraury 26, 1997. MIT Case No. 7602. U.S. Patent Number: 5,999,887. Date of Patent issue: Dec. 7. 1999.

3. S. Suresh, A.E. Giannakopoulos and J. Alcala, "Depth-Sensing Indentation Mechanism and Methodology for Mechanical Property Measurements", U.S. Patent Number: 6,134,954. Date of Issue: October 24, 2000.

4. S. Suresh and A.E. Giannakopoulos, "Method and Apparatus for Determining Pre-Existing Stresses Based on Indentation or other Mechanical Probing of a Material". U.S. Patent Number: 6,155,104. Date of Issue: December 5, 2000.

5. S. Suresh, A.E. Giannakopoulos and J. Alcala, "Depth-Sensing Indentation Mechanism and Methodology for Mechanical Property Measurements", MIT Case No. 7280DIV. U.S. Patent Number: 6,247,355 B1. Date of Issue: June 19, 2001.

6. S. Suresh and A. E. Giannakopoulos, "Method and Apparatus for Determining Pre-Existing Stresses Based on Indentation or other Mechanical Probing of a Material". Divisional Application. U.S. Patent Number: 6,311,135. Date of Issue: October 30, 2001.

7. Co-Developer (with graduate student Marc Finot), MultiTherm, A software for analyzing the thermomechanical response of layered and graded materials using a personal computer. This software is now licensed by the Technology Licensing Office at MIT. MIT Case No. 6736S.

8. T.-S. Park and S. Suresh, "Technique for Determining Curvatures of Embedded Line Features on Substrates", MIT Case Number: 8954, US Provisional Patent Application Filed April 26, 2000. California Institute of Technology Case No: 3186. Patent application filed: April 2001. U.S. Patent Number: 6,513,389 B2. Date of Issue: Feb. 4, 2003.

9. S. Suresh, A.E. Giannakopoulos, N.P. Padture, J. Jitcharoen, M. Olsson and R. Thampuran, "Functionally Graded Materials and the Engineering of Surfaces for Tribological Protection", MIT Case No. 7904. US Patent 6641893. Date of issue: November 4, 2003.

10. S. Suresh and A.J. Rosakis, "Real-Time Evaluation of Stress Fields and Properties of Line Features Formed on Substrates", California Institute of Technology Case No. CIT 3186, Disclosure filed in March 2000. US Patent application filed on April 27, 2000.

11. M. Dao, N. Chollacoop, K.J. Van Vliet, T.A. Venkatesh and S. Suresh, "Method and Apparatus for Mechanical Property Measurement Based on Large Deformation During Sharp Indentation", MIT Case Number: 9159, US Provisional patent filed March, 2001. Regular patent filed in March 2002.

12. A. E. Giannakopoulos, A. J. Rosakis, I. A. Blech and S. Suresh, "Determining Large Deformation and Stresses of Layered and Graded Structures to Include Effects of Body Forces", California Institute of Technology Case No: 3470, US patent application filed May 2002.

13. A. J. Rosakis, T.-S. Park, and S. Suresh, “Explicit Expressions for Stresses in Multilevel Line Structures and in Connecting Vertical Vias (Materials and Geometry Selection, Process Optimization, Yield Management, and Life Prediction), Oraxion Diagnostics Inc., Pasadena, CA, US Provisional Patent Application filed January 27, 2003.

14. S. Suresh and A. J. Rosakis, “System for measuring stresses in line features formed on substrates”, CIT File number: 3186-C, US Patent Application Filed on July 29, 2003. US Patent No: 6,924,497 B2, Issued August 2, 2005.

15. S. Manalis, S. Suresh, T. Burg and K. Babcock, “Method and Apparatus for High Throughput Diagnosis of Diseased Cells with Microchannel Devices”, MIT Case Number 11937, US Provisional Patent Application filed January 9, 2006. Full patent application filed in 2007.

Papers in Refereed International Journals

1. Ritchie, R.O., Suresh, S. and Moss, C.M. "Near-Threshold Fatigue Crack Growth in 2 1/4 Cr-1 Mo Pressure Vessel Steel in Air and Hydrogen", Journal of Engineering Materials and Technology, Transactions of ASME, 102, 293-299, July 1980.

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2008

Dean of Engineering, MIT
Member, Academic Council (the highest policy-making administrative council of MIT chaired by the President of MIT)

2007

Dean of Engineering, MIT, since July 2007
Founding Director, Global Enterprise for Micro-Mechanics and Molecular Medicine (until August 2007)
MIT Faculty Lead Coordinator, SMART Center (until April 2007)
Member, Academic Council, MIT (since July 2007)

Director and Lead PI, Defense University Research Initiative (DURINT) on Nanostructured Materials, funded by the US Office of Naval

2006

Founding Director, Global Enterprise for Micro-Mechanics and Molecular Medicine
Head, Dept of Materials Science and Engineering, MIT (until January 2006)
MIT Faculty Lead Coordinator, SMART Center
Member, Engineering Council, MIT
Director and Lead PI, Defense University Research Initiative (DURINT) on Nanostructured Materials, funded at MIT by the US Office of Naval Research

2005

Founding Director, Global Enterprise for Micro-Mechanics and Molecular Medicine
Head, Dept of Materials Science and Engineering, MIT
Member, Engineering Council, MIT
Director and Lead PI, Defense University Research Initiative (DURINT) on Nanostructured Materials, funded at MIT by the US Office of Naval Research

2004

Head, Dept of Materials Science and Engineering, MIT (except during sabbatical leave during Jan.-Sept. 2004)
Member, Engineering Council, MIT
Director and Lead PI, Defense University Research Initiative (DURINT) on Nanostructured Materials, funded at MIT by the US Office of Naval Research

2003

Head, Dept of Materials Science and Engineering, MIT
Member, Engineering Council, MIT
Director and Lead PI, Defense University Research Initiative (DURINT) on Nanostructured Materials, funded at MIT by the US Office of Naval Research

2002

Head, Dept of Materials Science and Engineering, MIT
Member, Engineering Council, MIT
Lead PI, DURINT on Nanostructured Materials
Chair, Search Committee for Director, International Scholars Office, MIT

2001

Head, Dept of Materials Science and Engineering, MIT
Member, Engineering Council, MIT
Program Advisor, Advanced Materials, Singapore-MIT Alliance
Lead PI, DURINT on Nanostructured Materials

2000

Head, Dept of Materials Science and Engineering, MIT
Member, Engineering Council, MIT
Program Advisor, Advanced Materials, Singapore-MIT Alliance

1999

Program Chair, Advanced Materials, Singapore-MIT Alliance.
DMSE Qualifier Examination Committee
Career Development Committees of two junior faculty members

1998

Thrust Area Leader, Advanced Materials, Singapore-MIT Alliance.
DMSE Qualifier Examination Committee
Registration Officer, Metallurgy and Materials Science Degree Programs
Member, Faculty Search Committee, Materials Science

1997

Co-Director, MIT-Harvard Program on Modeling of Materials
Member, MIT Panel for Evaluation of Universities in Singapore
Registration Office, Metallurgy and Materials Science Programs, MIT

1996

Co-Director, MIT-Harvard Program on Modeling of Materials
Chair, Committee on Mechanical Property Course Development

1995

Co-Director, MIT-Harvard Program on Modeling of Materials
Member, Policty Committee, Dept. Mater. Sci. and Engineering, MIT

1994

Member, Policy Committee, Dept. Mater. Sci. and Engineering, MIT

1992-1993

Co-Director, ARO-URI on "Dynamic Behavior of Brittle Materials", Brown University
Director, Central Facility for Mechanical Testing

1991-1992

Freshman Advisor, Brown University
Director, Central Facility for Mechanical Testing

1990-1991

Director, Central Facility for Mechanical Testing, Brown University
Faculty Advisor, Brown chapter Am. Ceramic Soc., until March 1991
Member, Committee on Machine Shop
Freshman Advisor

1989-1990

Member, Executive Committee, Division of Eng., Brown University
Chairman, Search Committee, Faculty Position in Materials Science
Director, Central Facility for Mechanical Testing
Chairman, Committee on Short Courses
Faculty Advisor, Student Chapter of the American Ceramic Society

1988-1989

Member, Executive Committee, Division of Engineering
Director, Central Facility for Mechanical Testing
Faculty Advisor, Student Chapter of the American Ceramic Society
Member, Committee on Joint Engineering-Physics Workshop

1987-1988

Chairman, Search committee, Faculty Position in Materials Science
Director, MRG Central Facility for Mechanical Testing
Member, Committee on Engineering-Physics Undergraduate Teaching
Materials Science Seminar Organizer
Organizer, Raytheon Lecture in Materials Science
Faculty Advisor, Student Chapter of the American Ceramic Society

1986-1987

Member, Search Committee, Faculty Position in Electrical Sciences
Director, MRL Central Facility for Mechanical Testing
Materials Science Seminar Organizer
Freshman Advisor

1985-1986

Chairman, Search Committee, Materials Research Laboratory (MRL) Fellowships
Freshman Advisor