

Dr. C. SURYANARAYANA, Ph.D., FIMMM, FASM

Professor and Interim Chair

Department of Mechanical and Aerospace Engineering
University of Central Florida, Orlando, FL 32816-2450

Tel: 407-823-2416; FAX: 407-823-0208; e-mail: Surya@ucf.edu

EDUCATION:

Ph.D. (Met. Eng.)	Banaras Hindu University, Varanasi, India	1970
M.S. (Met. Eng.)	Banaras Hindu University, Varanasi, India	1967
B.E. (Metallurgy)	Indian Institute of Science, Bangalore, India	1965
B.S. (Math, Phys, Chem)	Andhra University, Waltair, India	1963

CURRENT RESEARCH INTERESTS AND FIELDS OF SPECIALIZATION:

- Synthesis, Processing, and Characterization of Nanomaterials
- Nanocomposites
- Mechanical Alloying for Synthesizing Advanced Materials
- Rapid Solidification Processing of Metallic Materials and Metallic Glasses
- Quasicrystalline Materials
- Materials Characterization by X-ray Diffraction and Electron Microscopy Techniques
- Coatings for Turbine Materials

PROFESSIONAL EXPERIENCE:

2004 – to-date:	Professor, University of Central Florida, Orlando
2001 – 2004:	Associate Professor, University of Central Florida, Orlando
1997 – 2000:	Research Professor, Colorado School of Mines, Golden
1990 – 1996:	Visiting Professor and Associate Director, Institute for Materials and Advanced Processes, University of Idaho, Moscow
1988 – 1990:	National Research Council Senior Research Associate, Wright-Patterson Air Force Base, Dayton, OH
1982 – 1988:	Professor of Physical Metallurgy, Banaras Hindu University, Varanasi, India
1973 - 1982:	Reader in Physical Metallurgy, Banaras Hindu University, Varanasi, India
1967 – 1973:	Lecturer in Metallurgy, Banaras Hindu University, Varanasi, India

Short-Term Visiting Assignments

- 8/2012 – 8/2013 Jefferson Science Fellow, Department of State, Washington, DC
- 7/2010 – 8/2010 Visiting Professor, NIMS, Tsukuba, Japan
- 4/2009 – 8/2009 Visiting Professor, Tohoku University, Sendai, Japan
- 6/2008 – 8/2008 Visiting Professor, Institute of Metals Research, Chinese Academy of Sciences, Shenyang, China
- 3/2008 – 5/2008: JSPS Senior Visitor at NIMS, Tsukuba, Japan
- 2/2008 – 3/2008: Visiting Professor, NIMS, Tsukuba, Japan
- 8/2007-1/2008: Visiting Professor, Tohoku University, Sendai, Japan
- 2007: Visiting Professor, Helmut-Schmidt University, Hamburg, Germany
- 2006: Visiting Professor, Helmut-Schmidt University, Hamburg, Germany
- 2005: Visiting Scientist at the GKSS Research Center, Geesthacht, Germany
- 2004: Visiting Scientist at the GKSS Research Center, Geesthacht, Germany
- 2003: Visiting Scientist at the GKSS Research Center, Geesthacht, Germany
- 2002: Visiting Scientist at the GKSS Research Center, Geesthacht, Germany
- 2001: Visiting Scientist at the GKSS Research Center, Geesthacht, Germany
- 1996: Visiting Professor, Chungnam National University, Taejon, South Korea
- 1986: Visitor to Oxford, Cambridge and Sheffield Universities in U.K. under the British Council program of Academic Links Interchange Scheme (ALIS).
- 1979 – 1980: Japan Society for Promotion of Science (JSPS) Fellow, Tohoku University, Sendai, Japan
- 1973: Visiting Scientist, Atomic Energy Establishment, Mol, Belgium
- 1973: Royal Society Commonwealth Bursar, University of Oxford, Oxford, UK

ACADEMIC AWARDS, HONORS, AND DISTINCTIONS:

- 2012: Selected as a Jefferson Science Fellow by the U.S. National Academies to work for one year at the U.S. State Department in advising on science policy matters.
- 2011: **Listed by Thomson Reuters as one of the top 100 researchers (actual number is 40) in the field of materials science who achieved the highest citation impact scores for their papers published since January 2000.**
- 2003: **Listed by the Institute of Scientific Information as one of the 214 most cited researchers in materials science from 17 countries (including USA, UK,**

Japan, Germany, France, ...)

- 2012: University of Central Florida Teaching Incentive Program (TIP) Award
- 2012: Alternate member, University Senate
- 2012: Member, University RIA Committee
- 2012: Member, CECS RIA Committee
- 2012: Member, CECS Awards Committee
- 2012: Chairman, MMAE Honors and Awards Committee
- 2010: MMAE Teacher of the Year Award (Undergraduate level)
- 2009: MMAE Teacher of the Year Award (Graduate level)
- 2009: Member, Joint Commission on Metallurgical and Materials Transactions
- 2008: Senior Visitor Award by the Japan Society for Promotion of Science.
- 2008: Lee Hsun Research Award by the Chinese Academy of Sciences, Shenyang, China.
- 2007: ASM-IIM Lectureship Award
- 2006: University of Central Florida Teaching Incentive Program (TIP) Award
- 2005 – to-date: Member, Editorial Advisory Board of Materials and Manufacturing Processes, published by Taylor and Francis.
- 2004 – 2007: Graduate Coordinator, Department of Mechanical, Materials and Aerospace Engineering, University of Central Florida
- 2003 – to-date: Member, Editorial Advisory Board of International Materials Reviews, published by ASM International and Institute of Materials, London, UK
- 2003 – to-date: Member, Editorial Advisory Board of Journal of Materials Engineering and Performance, published by Springer.
- 2003 – to-date: Listed in Marquis Who's Who in America
- 2003: University of Central Florida MMAE Department Researcher of the Year award
- 2001: International Expert on Mechanical Alloying to advise scientists at the GKSS Research Center, Geesthacht, Germany.
- 1999 – to-date: Member, Editorial Advisory Board, Journal of Metastable and Non-Equilibrium Materials, published by TransTech Publications.
- 1999 – to-date: Member of Editorial Committee, Powder Metallurgy Briefs, published by Metal Powder Industries Federation
- 1998 – to-date: Member, Editorial Advisory Board, Materials Science and Engineering A, published by Elsevier.
- 1998: Awarded the DISTINGUISHED ALUMNUS AWARD by Banaras Hindu University, Varanasi, India
- 1995: Elected Fellow of ASM International

- 1994 – to-date: Member, Board of Reviewers, Metallurgical and Materials Transactions A of TMS
- 1994: Elected Fellow of the Institute of Materials, London, UK
- 1993: Awarded the Best Technical Paper Award by the Steel Authority of India Ltd., Ranchi for 1992-1993
- 1992: ASM-IIM Lectureship Award
- 1986: Visitor to Oxford, Cambridge and Sheffield Universities in U.K. under the British Council program of Academic Links Interchange Scheme (ALIS).
- 1983: NATIONAL METALLURGIST'S DAY AWARD of the Union Ministry of Steel and Mines, Government of India, for significant contributions to the field of "Rapid Solidification of Metals"
- 1983: Editor, Bulletin of the Electron Microscope Society of India
- 1979 – 1980: Japan Society for Promotion of Science (JSPS) Fellowship for collaborative research at Tohoku University, Sendai, Japan
- 1974: YOUNG SCIENTIST'S MEDAL of the Indian National Science Academy for outstanding contributions to "modern metallography" (for persons below 30 years of age)
- 1973: Royal Society Commonwealth Bursary to carry out research at the University of Oxford, Oxford, UK.
- 1972: Pandya Memorial SILVER MEDAL of the Indian Institute of Metals for the paper adjudged to be of highest merit among those published in their TRANSACTIONS by Associate Members
- 1967: Banaras Hindu University GOLD MEDAL for securing the highest percentage of marks in the M.S. (Met. Eng.) Examination

FUNDED RESEARCH AND PROJECTS:

- Agency: Southwest Research Institute, San Antonio, TX (PI)
 Title: Processing of Nanocrystalline Stainless Steel-Al Composites
 Amount: \$ 15,000 Period: September 16, 2007 – February 25, 2008
- Agency: Southwest Research Institute, San Antonio, TX (PI)
 Title: Processing of Nanocrystalline Stainless Steel-Al Composites
 Amount: \$ 10,000 Period: July 16, 2007 – September 15, 2007
- Agency: Southwest Research Institute, San Antonio, TX (PI)
 Title: Characterization of Stainless Steel Coatings
 Amount: \$ 6,000 Period: July 2006
- Agency: Office of Naval Research (ONR) DURIP Program, Co-PI
 Title: Acquisition of Plasma Processing Unit for Consolidation of Nanomaterials to

Bulk Components
 Amount: \$476,597 (with \$90,073 match). Period: July 1, 2003 – June 30, 2006
 Agency: United States National Science Foundation (NSF), PI
 Title: Mechanically Alloyed Iron-Based Bulk Metallic Glasses and Their Characterization
 Amount: \$308,907 (with \$15,797 match). Period: August 1, 2003 – July 31, 2007
 Agency: United States National Science Foundation (NSF), PI
 Title: High-Volume Fraction Nanocomposites with Optimized Microstructures
 Amount: \$112,140 (with \$16,020 match). Period: July 1, 2003 – June 30, 2006
 Agency: Office of Naval Research (ONR), PI
 Title: Consolidation of Mechanically Alloyed Nanocrystalline $\text{MoSi}_2+\text{Si}_3\text{N}_4$ Powders
 Amount: \$50,030. Period: January 15, 2002 – December 31, 2003.
 Agency: National Aeronautics and Space Administration (NASA) through KSC, Co-PI
 Title: Quasicrystalline Materials for Hydrogen Recovery and Purification
 Amount: \$80,000. Period: July 1, 2002 – September 30, 2004.
 Agency: United States National Science Foundation (NSF), PI
 Title: High-Strength Wear-Resistant Nanocomposite Al-Base Alloys by Rapid Solidification Processing
 Amount: \$18,708. Period: January 15, 2001 – December 31, 2003
 Agency: University of Central Florida In-House Research, PI
 Title: Development of Inexpensive Cu-Ga and Cu-In-Ga-S (or Se) Targets for Solar Cell Applications
 Amount: \$7,481. Period: May 1, 2002 – April 30, 2003.
 Agency: Chungnam National University, Daejon, South Korea, PI
 Title: Synthesis of Advanced Materials by Rapid Solidification Processing
 Amount: \$10,000. Period: May 1, 2000 – April 30, 2001.
 Agency: United States National Science Foundation (NSF), PI
 Title: The International Conference, THERMEC 2000
 Amount: \$10,000. Period: May 1, 2000 – April 30, 2001
 Agency: United States Air Force Office of Scientific Research (AFOSR), PI
 Title: The International Conference, THERMEC 2000
 Amount: \$10,000. Period: September 1, 2000 – April 30, 2001
 Agency: Technology International, Inc., PI
 Title: Novel Methods of Brazing Dissimilar Materials
 Amount: \$67,000. Period: January 1, 2000 – December 31, 2000

Agency: StorageTek/Colorado Advanced Materials Institute, PI
 Title: Improved Wear-Resistant Alloys for Tape Head Applications
 Amount: \$20, 000. Period: July 1, 1998 –June 30, 2000

Agency: NADET/Technology International, Inc., PI
 Title: Development of New Brazing Processes for Attachment of TSP Diamonds to Drag Bits
 Amount: \$39, 000. Period: May 1, 1998 – July 31, 2000

Agency: Gas Research Institute (GRI)/Technology International, Inc., PI
 Title: Multilayer Brazing of TSP Diamonds
 Amount: \$10, 000. Period: February 1, 1999 – April 30, 2000

Agency: Federal Energy Technology Center (FETC)/Technology International, Inc., PI
 Title: A Finite Element Modeling of Thermal Residual Stresses during Brazing of TSP Diamond to Tungsten Carbide
 Amount: \$63, 000. Period: November 1, 1998 – May 31, 1999

COURSES TAUGHT (at UCF):

Graduate Level

EMA 6017: Nanostructured Materials (Special Topics) (Spring 11, Spring 07)
 EMA 6126: Physical Metallurgy (Fall 11, Fall 10, Fall 09, Fall 08, Fall 06, Fall 05, Fall 04, Fall 03, Fall 02, Fall 01)
 EMA 6130: Phase Transformations in Metals and Alloys (Spring 12, Spring 10, Spring 05, Spring 02)
 EMA 6516: X-Ray Diffraction and Crystallography (Spring 06, Spring 04, Spring 03)
 EMA 5504: Modern Characterization of Materials (Summer 01)

Undergraduate Level

EMA 4506: Emerging Materials (Spring 12, Fall 10, Spring 10, Spring 09)
 EGN 3365: Structure and Properties of Materials (Fall 09, Fall 06, Spring 06, Spring 05, Spring 04)
 EMA 3706: Structure and Properties of Aerospace Materials (Fall 11, Spring 11, Fall 09, Fall 06, Spring 06, Fall 02)
 EMA 3012: Experimental Techniques in Mechanics and Materials (Fall 08, Spring 03, Spring 02, Fall 01, Spring 01)
 EMA 3000: Polymeric and Composite Materials (Summer 01)

GRADUATE STUDENT DISSERTATIONS AND THESES SUPERVISED:

Ph.D.

1. G.V.S. Sastry (1981): Electron Microscopic Studies on Rapidly Quenched Aluminum Alloys (Chair)
2. Z.A. Chaudhury (1983): Structure of Rapidly Quenched Aluminum Alloys (Chair)
3. M. Hanumantha Rao (1985): Rapid Solidification of Commercial Aluminum Alloys (Chair)
4. Sheojee Singh (1987): Rapid Solidification Studies of Aluminum-Transition Metal Alloys (Chair)
5. Jyothi Menon (1988): Characterization of Metastable Crystalline and Quasicrystalline Structures in Rapidly Solidified Al-Co Alloys (Chair)
6. C.D. Singh (1989): Texture Analysis in Cold Rolled Austenitic Stainless Steels (Co-Chair)
7. S.K. Pandey (1990): Thermodynamics and Electron Microscopy of Rapidly Solidified Aluminum-Base Alloys (Chair)
8. Deepak Upadhyaya (1995): Development of a Superior Coating System for Continuous Silicon Carbide Fibers for Use in Titanium-Based Metal Matrix Composites.
9. D.K. Mukhopadhyay (1996): Development of Low Activation Oxide Dispersion Strengthened Ferritic Steels for Fusion Reactor.
10. Earl Hixson (2003): The Effect of Intrinsic Stress on the Crystallization of an Amorphous Diffusion Barrier Layer with Applications to Refractory Metals
11. Satyajeet Sharma (Spring 2008): Amorphous Phase Formation in Mechanically Alloyed Fe-based Systems (Chair).
12. U.M.R. Seelam (Spring 2010): Structural Characterization of Sputter-Deposited SS304+xAl (x = 0, 4, 7 and 10 wt.%) Coatings and Mechanically Milled Ti, Zr and Hf Powders (Chair)
13. Jinling Liu (Spring 2013): High Volume Fraction Mg-based Nanocomposites: Processing, Microstructure and Mechanical Behavior (Co-Chair)

Ph.D. Thesis Committee Member of

1. Praveen Sinha (1995), Point Defects in Quenched and Mechanically Alloyed Intermetallic Compounds
2. Deepak Upadhyaya (1995), Development of a Superior Coating System for Continuous Silicon Carbide Fibers for Use in Titanium-Based Metal Matrix Composites
3. D.K. Mukhopadhyay (1996), Development of Low Activation Oxide Dispersion Strengthened Ferritic Steels for Fusion Reactor
4. Janice K. Lomness (2001), An Investigation into the Relationship Between the Hydrogen

Storage Properties and the Microstructure of Mechanically Alloyed Mixtures of Titanium, Magnesium, and Nickel

5. Soon-Jik Hong (2001), Nanocrystallization Behavior and Consolidation of Rapidly Solidified High Strength Al Alloys
6. Hong-Moule Kim (2001), Microstructures and Wear Properties of High Functional Al Composite Materials
7. D.Y. Maeng (2001), Consolidation and Strength of Rapidly Solidified and Extruded Al Matrix Alloy Composites
8. Brian W. Kempshall (2001), Effects of Bi Grain Boundary Impurity Segregation on the Grain Boundary Diffusion of Ni into $\langle 100 \rangle$ Cu Symmetric Twist Grain Boundaries
9. Satyajit Shukla (Spring 2002), Synthesis and Characterization of Sol-Gel derived Nanomaterials and Nanocrystalline Electroless Metal Coatings.
10. Stephen M. Schwarz (Spring 2002): Diffusion of Ni through Cu Twist Grain Boundaries and Influence of Diffusion-Induced Recrystallization on Volume Diffusion in Cu-Ni Couples.
11. Islam A. Salama (2003): Laser Doping and Metallization in Wide Bandgap Materials: SiC, GaN, and AlN.
12. Chandrasen Rathod (Fall 2005): Diffraction Studies of Deformation in Shape Memory Alloys and Selected Engineering Components
13. Sudhir Rajagopalan (2005): Deformation Studies of NiTi Shape Memory Alloys Using Instrumented Indentation
14. Zhaoxu Tian (Fall 2005): Laser Metallization and Doping of SiC and Their Applications on Fabrication of SiC Diodes and Endotaxial Layer
15. Vinu Balakrishnan (Fall 2007): Low Temperature NiTiFe Shape Memory Alloys: Actuator Engineering and Investigation of Deformation Mechanisms using in-situ Neutron Diffraction at Los Alamos National Laboratory.
16. Yue Zhao (Fall 2008): Self-Assembled Lipid Tubules: Structures, Mechanical Properties, and Applications
17. Bo Yao (Fall 2008): $[\text{Fe,Pt}]_n$ Multilayer Thin Film Reactions to form $L1_0$ FePt and Exchange Spring Magnets.
18. Sachin Kulkarni (Fall 2008): Effect of Composition, Morphology and Semiconducting Properties on the Efficiency of $\text{CuIn}_{1-x}\text{Ga}_x\text{Se}_{2-y}\text{S}_y$ Thin-film Solar Cells Prepared by Rapid Thermal Processing.
19. Narayana Garimella (Fall 2008): Multicomponent Interdiffusion in Austenitic Ni-, Fe-Ni-Base Alloys and $L1_2$ - Ni_3Al Intermetallic for High Temperature Applications.
20. Rashmi Ranjan Mohanty (Fall 2008): Phase Field Simulation of Microstructural Development Induced by Interdiffusion Fluxes under Multiple Gradients.
21. R. Mahadevan Manjeri (Summer 2009): Processing-Structure-Properties Correlations in Low Temperature NiTiFe Shape Memory Alloys

22. Emmanuel Perez (Spring 2011): Interdiffusion Behavior of U-Mo Alloys in Contact with Al and Al-Si Alloys.
23. Tanmay Bera (Spring 2012): Developing Surface Engineered Liquid Crystal Droplets for Sensing Applications.
24. Andrew P. Warren (Spring 2013): X-ray Scattering Investigations of Metallic Thin Films.
25. Scott G. Keller (Spring 2013): Creep-Fatigue Crack Initiation and Propagation of a Notched Stainless Steel.
26. Bo Li: Study of Ionomer Degradation within PEMFC Electrode (in progress).
27. Sara Shmalo: In-Situ Neutron Diffraction Investigation of NiTiFe Shape Memory Alloys during Mechanical Loading at Cryogenic and Room Temperatures (in progress).

M.S.

1. A. Ranga Rao (1975): Age Hardening Studies in Magnesium Alloys (Chair)
2. S.K. Tiwari (1976): Structure of a Rapidly Solidified Al-30%Mg Alloy (Chair)
3. L.R.K. Rao (1978): Structure and Mechanical Properties of Melt-Quenched Al-Cu Alloys (Chair)
4. G. Sridhar (1982), Studies on Rapidly Solidified Aluminum Alloy RR 58 (Chair)
5. D.K. Gangopadhyay (1984), Structure of Rapidly Solidified Al-Zr Alloys (Chair)
6. Subash Chandra (1987), Electron Microscopy of Quasicrystalline $Mg_{32}(Al,Zn)_{39}$ (Chair)
7. D.K. Mukhopadhyay (1993): Structural Evolution in Mechanically Alloyed Al-Fe Alloys (Co-Chair)
8. Guo-Hao Chen (1993): Mechanical Alloying of Ti_3Al -Based Alloys (Co-Chair)
9. Zhixue Peng (1993): Mechanical Alloying of Niobium-Aluminum Based Powders (Co-Chair)
10. Enhong Zhou (1995): Development of Low Density Ti-Mg Alloys by Mechanical Alloying (Co-Chair)
11. Marilyn V. Kuehn (Fall 2002): Electron Microscopy of Carbon Nanotube Paper (Chair)
12. Devender Singh (Summer 2003): Metastable Phases in Mechanically Alloyed Al-Mg Powders (Chair)
13. Rajesh Neelakantan (Summer 2003): Study of Defects Associated with Implantation of High Dose Vanadium and Chromium into (100) Single Crystal Silicon (Chair)
14. Pushkar Katiyar (Summer 2004): Processing, Microstructural and Mechanical Characterization of Mechanically Alloyed Al- Al_2O_3 Nanocomposites (Chair)
15. Balaji Prabhu (Fall 2005): Microstructural and Mechanical Characterization of Al- Al_2O_3 Nanocomposites Synthesized by High-Energy Milling (Chair)

16. Umesh S. Patil (Fall 2005): Structural Evolution in Mechanically Alloyed Fe-Based Powder Systems (Chair)
17. Satyajeeet Sharma (2006): Glassy Phases in Mechanically Alloyed Powders (Chair)

M.S. Thesis Committee Member of

1. Mrs. Sutapa Bhaduri (1995): Synthesis and Consolidation of Alumina-Based Nanoceramics
2. Mr. Kedar Sapre (2001): Adsorption Behavior of Imidazoline Inhibitor and Corrosion Product Layer (CPL) Evolution in 1018 C-Steel Exposed to Multiphase Environment.
3. Vivek S. Gade (Fall 2002): Development of Copper Indium Gallium Disulfide, $\text{CuIn}_{1-x}\text{Ga}_x\text{S}_2$ (CIGS2) Thin Film Solar Cells on Large Area Ultra Lightweight Titanium Foils Coated with SiO_2 Barrier Layers
4. Chandrasen Rathod (Spring 2003): An In-Situ Synchrotron X-ray Diffraction Study of Stress-Induced Transformations in NiTi
5. Sachin S. Kulkarni (Summer 2003): Development of Scrubber, Optimization of Deposition Parameters for Large Area CIGS2 Solar Cells
6. Adrian L. Little (Spring 2004): An In-Situ Neutron Diffraction Study of Shape-Memory NiTi During Tensile and Compressive Loading
7. Jennifer Lemanski (2005): Shape Memory Alloy Actuators for Spaceport Technologies: Materials Characterization and Prototype Testing
8. Nidhi Mahajan (Spring 2005): Self-Assembled Supramolecular Structures of Chiral Phospholipids: Structures, Mechanical Properties and Patterning.
9. Himesh Bhatt (Summer 2005): Synthesis and Characterization of Nanocrystalline Hydroxyapatite Powder and the Effects of Oxide-Based Sintering Additives on Tricalcium Phosphate.
10. Subhaashree Sridharan (Fall 2006): A Methodology for Instrumented Indentation Studies of Deformation in Bulk Metallic Glasses.
11. Sarah Brennan (Summer 2011): Impurity and Interdiffusion in the Mg-Al System.
12. Melan N. Jansz (Summer 2011): Effects of Thermo-Mechanical Loading from in-situ Studies of EB-PVD Thermal Barrier Coatings.
13. Joshua Bush (Spring 2012): Phase-Field Modeling of Thermotransport in Multicomponent Systems.
14. Ashley Ewh (Summer 2012): Effects of Allotropic Transformations on Interdiffusion Behavior in Binary Systems.
15. Dongho Shin (Summer 2012): Microstructural Characteristics of Magnesium Metal Matrix Composites.
16. Catherine C. Kammerer (Spring 2013): Interdiffusion and Impurity Diffusion in Magnesium Solid Solutions.

EDITORIAL ACTIVITIES:

- Member, Joint Commission on *Metallurgical and Materials Transactions*
- Member, Editorial Board of *Materials Science and Engineering A*
- Member, Editorial Committee of *Journal of Materials Engineering and Performance*
- Member, Editorial Committee of *International Materials Reviews*
- Key Reader and Member, Editorial Advisory Board, *Metallurgical and Materials Transactions A*
- Member, Editorial Board of *Materials and Manufacturing Processes*
- Member, Editorial Board of *Recent Patents in Materials Science*
- Member, Editorial Advisory Board, *Journal of Metastable and Nanocrystalline Materials*
- Member, Editorial Advisory Board, *Nanoscience & Nanotechnology-ASIA*
- Member, Editorial Advisory Board, *Transactions of the Indian Institute of Metals*

REVIEWING ACTIVITIES:

Reviewed research proposals submitted to the following federal funding agencies:

- National Science Foundation
- Department of Defense
- Department of Energy
- Army Research Office
- Forum on Women In Science and Engineering
- American Chemical Society - Petroleum Research Fund
- University of California Energy Institute

Reviewer of manuscripts for publication in the following **scientific journals**:

- Acta Materialia
- Advanced Engineering Materials
- Advanced Performance Materials
- AIAA Journal of Propulsion and Power
- Applied Physics Letters
- Bulletin of Phase Diagrams
- Combustion and Flame
- Composites A: Applied Science and Manufacturing
- Intermetallics
- Journal of Alloys and Compounds
- Journal of the American Ceramic Society
- Journal of Applied Physics
- Journal of Composite Materials

- Journal of Materials Engineering & Performance
- Journal of Materials Research
- Journal of Materials Science
- Journal of Materials Science Letters
- Journal of Materials Science: Materials in Electronics
- Journal of Materials Synthesis and Processing
- Journal of Non-Crystalline Solids
- Journal of Phase Equilibria
- Journal of Vacuum Society
- Materials and Manufacturing Processes
- Materials Research Bulletin
- Materials Science and Engineering A
- Materials Science and Technology
- Metallurgical and Materials Transactions A
- Nanostructured Materials
- Philosophical Magazine
- Philosophical Magazine Letters
- Physics and Chemistry of Materials
- Powder Metallurgy Briefs
- Reviews in Particulate Materials
- RSC Advances
- Scripta Materialia
- Thin Solid Films
- Transactions of the Indian Institute of Metals
- Ultramicroscopy
- Wear

In addition to the reviewing of manuscripts for archival journals mentioned above, several manuscripts submitted for Conference Proceedings were also reviewed. Specific mention may be made of the following conferences for which a large number of manuscripts were reviewed:

- International Conference on Metals and Alloys: Past, Present and Future, Indian Institute of Technology, Kanpur, December 7-10, 2007 (invited papers) for publication in Journal of Materials Science, Vol. 44, 2009.
- International Conference on Metals and Alloys: Past, Present and Future, Indian Institute of Technology, Kanpur, December 7-10, 2007 (contributed papers) for publication in Transactions of the Indian Institute of Metals, Volume 61, 2008.
- International Conference on Mechanical Behavior of Nanostructured Materials, TMS Annual Meeting, Orlando, Feb 25-Mar 1, 2007, for publication in Materials Science and Engineering A, Vol. 493 (October 2008).
- Nanomaterials, Pittsburgh, PA, 2005
- Processing and Properties of Structural Nanomaterials, Chicago, IL, November 9-12, 2003.

- Surface Engineering in Materials Science II, San Diego, CA, March 2-6, 2003.
- THERMEC 2000, Las Vegas, NV, December 4-8, 2000.
- Ultrafine Grained Materials, Nashville, TN, March 12-16, 2000.
- Tenth International Conference on “Rapidly Quenched and Metastable Materials (RQ-10)”, Bangalore, India, August 22-27, 1999.
- Processing and Properties of Nanocrystalline Materials, Cleveland, OH, October 29-November 2, 1995.
- Second International Conference on “Mechanical Alloying for Structural Applications”, Vancouver, BC, Canada, September 20-22, 1993.
- Third International Conference on “Advanced Materials (ICAM-3)”, Tokyo, Japan, August 31-September 3, 1993.
- Eighth International Conference on “Rapidly Quenched and Metastable Materials (RQ-8)”, Sendai, Japan, August 22-27, 1993.
- First International Conference on Nanostructured Materials, Cancun, Mexico, September 22-26, 1992.
- Seventh World Titanium Conference, San Diego, CA, June 28-July 2, 1992.

PLENARY LECTURES AT INTERNATIONAL CONFERENCES:

- “Mechanochemical Synthesis of Nanocrystalline Metal Powders” (Eugene Ivanov and C. Suryanarayana), 12th International Symposium on Novel and Nano Materials (ISNNM – 2012), Istanbul, Turkey, August 26 – 30, 2012.
- “Nanostructured Materials”, International Winter School on “Advances in Aeronautical Materials and Technologies”, Hyderabad, India, December 15-19, 2010, December 17, 2010.
- “Recent Developments in Nanostructured Materials”, International Conference on “Nanoscience, Nanotechnology, and Advanced Materials (NANOS 2010)”, Visakhapatnam, India, December 17-19, 2010, December 18, 2010.
- “Recent Developments in Mechanical Alloying”, XI IBEROMET International Conference, Viña del Mar, Chile, November 2-5, 2010, November 4, 2010.
- “Nanostructured Materials”, Special Lecture at the XI IBEROMET International Conference, Viña del Mar, Chile, November 3, 2010.
- “Microstructural Characterization of Stainless Steel Coatings”, International Conference on “Advances in Electron Microscopy and Related Techniques” and XXXI Annual Meeting of EMSI, Mumbai, India, March 8-10, 2010, March 10, 2010.
- “Nanostructured Materials” International Conference on “Synthesis, Characterization, Consolidation, and Modeling of Nanomaterials (ICON 2010), Coimbatore, India, March 5-6, 2010. (Conference Theme Lecture) (March 5, 2010).

- Third International Symposium on Functional Materials (ISFM 2009), Jinju, South Korea, June 15-18, 2009.
- International Conference on Frontiers of Metallurgy and Materials Technology, Hyderabad, India, January 29-31, 2009.
- International symposium on “The Role of Universities, Technical Societies, and Government in National Development”, Universidad de Atacama, Copiapó, Chile, September 27-29, 2007.
- 13th International Symposium on “Metastable and Nano Materials” (ISMANAM 2006), Warsaw, Poland, August 27-31, 2006.
- International Conference on “Trends in Mechanical Alloying: Science, Technology and Applications”, Jaipur, India, February 21-23, 2001.
- Annual Meeting of the Korean Powder Metallurgy Association, South Korea, November 3, 2000.
- Seminar on “Nanocrystalline Materials”, 48th Congress of the Brazilian Association of Materials, Rio de Janeiro, Brazil, July 25-30, 1993.

INVITED RESEARCH SEMINARS/LECTURES:

- “Nanostructured Materials”, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia, January 3, 2011.
- “Advanced Materials and Nanotechnologies”, Abu Dhabi Gas Industries Ltd. (GASCO), Abu Dhabi, UAE, December 22, 2010
- “Nanocomposites”, Mahatma Gandhi Institute of Technology, Hyderabad, December 20, 2010.
- “Advanced Materials”, Mahatma Gandhi Institute of Technology, Hyderabad, March 8, 2010.
- Bharat Heavy Electricals Ltd. Corporate R & D Center, Hyderabad, India, January 4, 2010.
- “Bulk Metallic Glasses”, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia, November 15, 2009.
- King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia, November 14, 2009.
- Tohoku University, Sendai, Japan, August 2009
- National Institute for Materials Science, Tsukuba, Japan, July 23, 2009
- Louisiana State University, Baton Rouge, LA, February 20, 2009.
- Northwestern Polytechnic University, Xi’an, China, July 18, 2008.
- Northwestern Polytechnic University, Xi’an, China, July 17, 2008.
- Shenyang National Laboratory for Materials Science, Shenyang, China, July 8, 2008.
- Shenyang National Laboratory for Materials Science, Shenyang, China, July 3, 2008.
- Kyoto University, Kyoto, Japan, May 2, 2008.
- Toyohashi University of Technology, Toyohashi, Japan, April 24, 2008.

- National Institute for Materials Science, Tsukuba, Japan, February 22, 2008.
- WPI-AIMR Research Workshop, Tohoku University, Sendai, Japan, February 18, 2008.
- Defense Metallurgical Research Laboratory, Hyderabad, India, December 13, 2007.
- ASM International, India Chapter and Indian Institute of Metals Bombay Chapter, December 11, 2007.
- Warsaw Technical University, Warsaw, Poland, June 26, 2007.
- Polish Academy of Sciences, Krakow, Poland, June 25, 2007.
- Advanced Research Center (ARCI), Hyderabad, India, May 29, 2007.
- Helmut Schmidt University, Hamburg, Germany, August 17, 2006.
- GKSS Research Center, Geesthacht, Germany, June 6, 2005.
- Tata Research, Development, and Design Center, Pune, India, December 20, 2004.
- National Institute of Technology, Jaipur, India, December 16, 2004.
- GKSS Research Center, Geesthacht, Germany, July 22, 2004.
- University of Barcelona, Bellaterra, Spain, July 16, 2004.
- Hanyang University, Ansan, South Korea, November 28, 2003.
- Kongju National University, Kongju, South Korea, November 27, 2003.
- Chonbuk National University, Chonju, South Korea, March 19, 2003.
- Hanbat National University, Daejon, South Korea, March 19, 2003.
- International Advanced Research Center for Powder Metallurgy and New Materials, Hyderabad, India, December 17, 2002.
- Hanyang University, Ansan, South Korea, May 16, 2002
- Research Institute of Industrial Science and Technology (RIST), Pohang City, South Korea, May 13, 2002.
- Gyeong-Sang National University, Jinju City, South Korea, May 10, 2002.
- ASM San Fernando Valley Chapter, Los Angeles, CA, April 26, 2001.
- GKSS Research Center, Geesthacht, Germany, August 16, 2001.
- Korea Advanced Institute of Science and Technology, Daejon, South Korea, May 14, 2001.
- Colorado School of Mines, November 12, 1998.
- Korea Institute of Science and Technology, September 22, 1998.
- Colorado School of Mines, March 12, 1998.
- Banaras Hindu University, Varanasi, India, December 6, 1996.
- Inland Empire (Spokane) Chapter of ASM International, September 13, 1994.
- University of Idaho, Moscow, ID, February 10, 1994.
- Washington State University, Pullman, WA, November 2, 1993.
- Nihon University, Tokyo, Japan, August 30, 1993.
- Nagoya University, Nagoya, Japan, August 20, 1993.
- Osaka University, Osaka, Japan, August 19, 1993.
- Kobe Steel Co., Kobe, Japan, August 18, 1993.
- NEC Research Laboratories, Tokyo, Japan, August 17, 1993.
- University of Idaho, Moscow, ID, February 1, 1993.
- Indian Institute of Science, Bangalore, India, August 23, 1992.
- Indian Institute of Metals, Bombay Chapter, Bombay, India, August 21, 1992.
- Banaras Hindu University, Varanasi, India, August 19, 1992.

- Washington State University, Pullman, WA, April 23, 1992.
- University of Idaho, Moscow, ID, March 8, 1991.
- University of Dayton, Dayton, OH January 11, 1990.
- Wright-Patterson Air Force Base, Dayton, OH, September 13, 1988.
- University of Oxford, Oxford, UK, December 4, 1986.
- University of Cambridge, Cambridge, UK, November 19, 1986.
- University of Sheffield, Sheffield, UK, October 30, 1986.
- National Physical Laboratory, New Delhi, October 20, 1986.
- Bangladesh University of Engineering & Technology, Dhaka, Bangladesh, October 21, 1984.
- Bangladesh Atomic Energy Commission, Dhaka, Bangladesh, October 20, 1984.
- Tohoku University, Sendai, Japan, October 8, 1984.
- Tokyo University, Tokyo, Japan, September 27, 1984.
- Kyoto University, Kyoto, Japan, September 21, 1984.
- Osaka University, Osaka, Japan, September 19, 1984.
- Sumitomo Light Metal Industry Ltd., Nagoya, Japan, September 18, 2004.
- Japan Institute of Light Metals, Nagoya, Japan, September 17, 1984.
- Defence Metallurgical Research Laboratory, Hyderabad, India, July 31, 1982.
- Indian Physics Association Tirupati, India, June 29, 1982.
- Corporate Research & Development Division, Bharat Heavy Electricals Ltd., Hyderabad, June 21, 1982.
- Reactor Research Center, Kalpakkam, India, December 27, 1980.
- Reactor Research Center, Kalpakkam, India, December 26, 1980.
- Indian Institute of Technology, Madras, Department of Metallurgy, December 23, 1980.
- Indian Institute of Technology, Madras, Department of Physics, December 23, 1980.
- Banaras Hindu University, Varanasi, India, September 20, 1980.
- Kawasaki Steel Co., Mizushima, Japan, May 26, 1980.
- Sumitomo Special Metals Co., Osaka, Japan, May 24, 1980.
- Kyoto University, Kyoto, Japan, October 20, 1979.
- Max-Planck-Institut für Eisenforschung GmbH, Düsseldorf, Germany, December 5, 1973.
- University of Erlangen, Erlangen-Nürnberg, Germany, December 4, 1973.
- Catholic University, Leuven, Belgium, November 23, 1973.
- Atomic Energy Research Center, Mol, Belgium, November 21, 1973.
- Atomic Energy Research Center, Mol, Belgium, November 7, 1973.
- University of Sussex, Brighton, UK, May 15, 1973.

July 2010. ISMANAM Invited Lecture

February 2010. TMS Seattle, WA.

NATIONAL/INTERNATIONAL CONFERENCES ORGANIZED:

- International Symposium on Manufacturing, Properties, and Applications of Nanocrystalline Materials, Columbus, OH, October 18-21, 2004
- Processing and Properties of Structural Nanomaterials, Chicago, IL, November 9-12, 2003.
- Surface Engineering in Materials Science II, San Diego, CA, March 2-6, 2003.
- THERMEC 2000 (International Conference on Processing and Manufacturing of Advanced Materials), Las Vegas, NV, December 4-8, 2000.
- Ultrafine Grained Materials, Nashville, TN, March 12-16, 2000.
- Recent Advances in Powder Consolidation, Rosemont, IL, October 14-15, 1998.
- Processing and Properties of Nanocrystalline Materials, Cleveland, OH, October 29-November 2, 1995.
- Synthesis/Processing of Lightweight Metallic Materials, Las Vegas, NV, February 13-16, 1995.
- Seminar on Transmission Electron Microscopy in Phase Transformations, Varanasi, March 1985.
- Workshop on Electron Microscopy, Varanasi, March 1985.
- Light Metals: Science and Technology, Varanasi, India, November 14-16, 1983.
- XV Annual Conference of the Electron Microscope Society of India, December 1982.
- Regional Workshop on Non-Destructive Examination, Varanasi, December 1981.
- National Workshop on Metallic Glasses: Science and Technology (DST), Varanasi, October 1980.
- Seminar on Transmission Electron Microscopy in Phase Transformations, Varanasi, March 1978.
- Third Short Course on Field Emission and Ion Microscopy (ISTE), Varanasi, March 1972.

In addition to the above, actively involved in the Organizing Committees of the following international conferences:

- The 6th International Conference on Advanced Materials and Processing (ICAMP 6), Lijiang, Yunnan, P.R. China, July 19-23, 2010.
- International Conference on Synthesis, Characterization, Consolidation and Modelling of Nanomaterials, Coimbatore, India, March 5-6, 2010.
- International Conference on Frontiers of Metallurgy and Materials Technology, Hyderabad, India, January 29-31, 2009.

- International Conference on Metals and Alloys: Past, Present and Future, Indian Institute of Technology, Kanpur, December 7-10, 2007.
- THERMEC 2003 (International Conference on Processing and Manufacture of Advanced Materials), Madrid, Spain, July 7-11, 2003.
- International Conference on Trends in Mechanical Alloying: Science, Technology, and Applications, Jaipur, India, February 21-23, 2001.
- International Conference on Metallurgical Technologies, Varanasi, India, December 9-12, 1998.
- Second International Conference on Structural Applications of Mechanical Alloying, Vancouver, BC, Canada, September 20-22, 1993.
- First International Conference on Structural Applications of Mechanical Alloying, Myrtle Beach, SC, March 27-29, 1990.
- XVII Annual Meeting of the Electron Microscope Society of India, Chandigarh, January-February 1986.
- 37th Annual Technical Meeting of the Indian Institute of Metals, Varanasi, November 1983.
- Seminar on “High Resolution and Analytical Microscopy”, Kalpakkam, India, February 1982.
- Tenth National Conference on Crystallography, Varanasi, February 1979.
- International Conference on Metal Sciences – The Emerging Frontiers, Varanasi, November 1977.
- Summer School in Advanced Metallography, Varanasi, June-July 1971.

PROFESSIONAL SERVICE:

- Refereed research proposals for the National Science Foundation (also panelist), Department of Energy, Department of Defense, Army Research Office, American Chemical Society, NSF Program on Women’s International Science Collaboration (WISC), University of California Energy Institute, and others.

Committee Activities (outside UCF):

2012 – 2014	Alternate CECS Senator, UCF Faculty Council
2012	Reviewer for proposals submitted to Romanian Research Council
2011	Member of the International Panel to evaluate continuation of the national proposal on “High Performance Bulk Nanocrystalline Materials: Physics of Synthesis and Properties” for Fonds zur Förderung der Wissenschaftlichen Forschung (FWF), Austrian Research Foundation, Vienna
2010	Member, Apex Committee, International Winter School on Advances in Aeronautical Materials and Technologies, Hyderabad, India, December 15-19, 2010

- 2009 Member, International Advisory Committee, International Conference on Synthesis, Characterization, Consolidation and Modeling of Nanomaterials, Coimbatore, India, March 5-6, 2010.
- 2009 Member, Core Committee, International Conference on “Frontiers of Metallurgy and Materials Technology”, Hyderabad, India, January 29-31, 2009
- 2008 – to-date Member, ASM-TMS Joint Commission on Metallurgical and Materials Transactions
- 2008 Reviewer of Proposals, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia
- 2007 Member of the International Panel to evaluate a national proposal on “High Performance Bulk Nanocrystalline Materials: Physics of Synthesis and Properties” for Fonds zur Förderung der Wissenschaftlichen Forschung (FWF), Austrian Research Foundation, Vienna
- 2007 Member, ASM International Awards Committee
- 2006 – 2009 Member, ASM International NPS Committee
- 2003 – 2004 Member, Strategic Council on Membership and Services Expansion of ASM International
- 2003 – 2004 Member, Organizing Committee of ASM Materials Solutions Conference and Show, Columbus, OH, October 18-21, 2004.
- 2003 – to-date Chairman, Nanomaterials Task Force of ASM International
- 2003 – 2005 Vice Chairman, TMS Powder Materials Committee
- 2001 – 2003 Secretary, TMS Powder Materials Committee
- 1999 – 2001 Chairman, ASM International Materials Synthesis and Processing Committee
- 1998 – to-date Member, TMS Powder Materials Committee
- 1990 – to-date Member, ASM International Materials Synthesis and Processing Committee
- 1989- to date Member, TMS Titanium Committee
- 1987 – 88 Chairman, Varanasi Chapter of the Indian Institute of Metals
- 1987 – 88 Chairman, Banaras Hindu University Publications Board
- 1986 – 88 Member, Executive Committee of the Electron Microscope Society of India.
- 1986 – 88 Member, Banaras Hindu University Residential Accommodation Allotment Committee
- 1986 – 88 Alternate Member, Metallography and Heat Treatment Sectional Committee, SMDC-27 of Bureau of Indian Standards, New Delhi.
- 1980 – 81 Member, BHU-Institute of Technology Publications Committee
- 1981 – 84 Chairman, BHU-Institute of Technology Publications Committee
- 1981 – 83 Secretary, Varanasi Chapter of the Indian Institute of Metals
- 1977 – 78 Member, Executive Committee of the Indian Vacuum Society.

1971 – 73 Treasurer, Varanasi Chapter of the Indian Institute of Metals

MEMBERSHIP OF PROFESSIONAL SOCIETIES:

- Fellow, ASM International
- Fellow, Institute of Materials, Minerals and Mining, London, UK
- Member, TMS
- Life Member, Materials Research Society of India
- Life Member, The Indian Institute of Metals
- Life Member, Electron Microscope Society of India
- Life Member, Indian Vacuum Society

LIST OF PUBLICATIONS

Patent

1. R.P. Radtke, J.J. Moore, and C. Suryanarayana
A Brazing Process Utilizing a Combustion Synthesis Reaction
U.S. Patent Serial # 60/162,488 (Filed October 29, 1999).

Books

1. C. Suryanarayana
Rapidly Quenched Metals - A Bibliography 1973-1979
IFI/Plenum, New York, 1980, 278 pp.
2. T. R. Anantharaman and C. Suryanarayana
Rapidly Solidified Metals: A Technological Overview
Trans Tech Publications, Aedermannsdorf, Switzerland, 1987, 260 pp.
3. C. Suryanarayana
Bibliography on Mechanical Alloying and Milling
Cambridge International Science Publishing, Cambridge, UK, 1995, 439 pp.
4. C. Suryanarayana and M. G. Norton
X-Ray Diffraction: A Practical Approach*
Plenum Press, New York, NY, 1998, 273 pp.

***Translated into Korean language and published by Hong Reung Science Publishers in 2006.**

5. C. Suryanarayana (ed.)
Non-Equilibrium Processing of Materials
Pergamon Press, Oxford, UK, 1999, 438 pp.
6. C. Suryanarayana
Mechanical Alloying and Milling
Marcel Dekker, Inc., New York, NY, 2004, 466 pp.
7. C. Suryanarayana
Experimental Techniques in Mechanics and Materials
Wiley Custom Services, New York, NY, 2006, 388 pp.
8. C. Suryanarayana and A. Inoue
Bulk Metallic Glasses
CRC Press & Taylor & Francis, Boca Raton, FL. 2011, 543 pp.
9. C. Suryanarayana
Experimental Techniques in Materials and Mechanics
CRC Press & Taylor & Francis, Boca Raton, FL. 2011, 468 pp.

Edited Conference Proceedings

1. R. Krishnan, P. Mukhopadhyay, and C. Suryanarayana (eds.)
Proceedings of the X Annual Conference of the Electron Microscope Society of India, 1978, 116 pp.
2. C. Suryanarayana (ed.)
Fifty Years of Electron Microscopy
Special Issue of the Bulletin of the Electron Microscope Society of India, 1981, 57 pp.
3. C. Suryanarayana (ed.)
Proceedings of the XV Annual Conference of the Electron Microscope Society of India, 1983
(Vol. 7 of the Bulletin of the Electron Microscope Society of India), 215 pp.
4. C. Suryanarayana, P. M. Prasad, S. L. Malhotra, and T. R. Anantharaman (eds.)
Light Metals: Science and Technology
Proceedings of an International Symposium, TransTech Publications, Aedermannsdorf, Switzerland, 1985, 271 pp.
5. F.H. Froes, C. Suryanarayana, and C.M. Ward-Close (eds.)
Synthesis/Processing of Lightweight Metallic Materials
TMS, Warrendale, PA, 1995, 368 pp.
6. C. Suryanarayana, J. Singh and F.H. Froes (eds.)
Processing and Properties of Nanocrystalline Materials
TMS, Warrendale, PA, 1996, 494 pp.
7. R.S. Mishra, S.L. Semiatin, C. Suryanarayana, N.N. Thadhani, and T.C. Lowe (eds.)
Ultrafine Grained Materials
TMS, Warrendale, PA, 2000, 434 pp.
8. T. Chandra, K. Higashi, C. Suryanarayana, and C. Tome (eds.)
Processing and Manufacturing of Advanced Materials (THERMEC 2000)
Elsevier, Oxford, UK, 2001 (on CD-ROM and keynote contributions as Vol. 117, No. 3, 2001 of the International Journal of Materials Processing Technology as a Special Issue).
9. S. Seal, N.B. Dahotre, J.J. Moore, C. Suryanarayana, and A. Agarwal (eds.)
Surface Engineering in Materials Science II
TMS, Warrendale, PA, 2003, 333 pp.
10. L. Shaw, C. Suryanarayana and R.S. Mishra (eds.)
Processing and Properties of Structural Nanomaterials
TMS, Warrendale, PA, 2003, 222 pp.
11. C. Suryanarayana, L.L. Shaw, and R.S. Mishra (eds.)
Nanomaterials
A special issue of the “Journal of Materials Engineering and Performance”, ASM International, Vol. 14 (August 2005), pp. 415-472.

12. J.W. Burdon, C. Suryanarayana, and W.M. Mullins (eds.)
Nanomaterials
 TMS, Warrendale, PA, 2005, 79 pp.

Book Chapters

1. C. Suryanarayana
 Liquid-Quenched Metal-Metal Glasses*
 In “Structure and Properties of Amorphous Metals II”, eds. T. Masumoto and T. Imura, Suppl. Sci. Rep. Res. Inst. Tohoku Univ., **A28** (1980) 143-154.
***Listed in ASM Source Book on Rapidly Solidified Alloys**
2. C. Suryanarayana
 Electrical Properties and Applications (of Metallic Glasses)
 in "Metallic Glasses: Production, Properties and Applications", ed., T. R. Anantharaman, Trans Tech Publications, Aedermannsdorf, Switzerland, 1984, pp. 249-267.
3. C. Suryanarayana
 Rapid Solidification
 in "Materials Science and Technology - A Comprehensive Treatment", Vol. 15: Processing of Metals and Alloys, ed., R.W. Cahn, VCH Verlagsgesellschaft mbH, Weinheim, Germany, 1991, pp. 57-110.
4. F.H. Froes and C. Suryanarayana
 Aerospace Structural Materials for the Twenty-First Century
 in "Materials Science and Engineering for Manufacturing", ed., L.E. Murr, Tech Books, Fairfax, VA, 1992, pp. 31-43.
5. C. Suryanarayana and F.H. Froes
 Non-Equilibrium Processing of Lightweight Aerospace Materials: Rapid Solidification and Mechanical Alloying
 in "Materials Science and Engineering for Manufacturing", ed., L.E. Murr, Tech Books, Fairfax, VA, 1992, pp. 44-50.
6. C. Suryanarayana and F.H. Froes
 Mechanical, Chemical, and Electrical Applications of Rapidly Solidified Alloys
 in "Rapidly Solidified Alloys : Processes, Structures, Properties, Applications", ed., H.H. Liebermann, Marcel Dekker, Inc., New York, 1993, pp. 737- 754.
7. F.H. Froes, C. Suryanarayana, and I.S. Polkin
 Advanced Aerospace Materials - Titanium Aluminide Intermetallic Compounds and Metal Matrix Composites
 in "Advanced Topics in Materials Science and Engineering", eds., J.L. Moran-Lopez and J.M. Sanchez, Plenum Press, New York, 1993, pp. 23-46.
8. C. Suryanarayana
 Nanocrystalline Materials
 In "High Temperature High Performance Materials for Rocket Engines and Space Applications", ed. K. Upadhyaya, TMS, Warrendale, PA, 1995, pp. 61-119.

9. F.H. Froes and C. Suryanarayana
Titanium Aluminides
in "Physical Metallurgy and Processing of Intermetallic Compounds", eds., N.S. Stoloff and V.K. Sikka, Chapman & Hall, New York, NY, 1996, pp. 297-350.
10. C. Suryanarayana
Mechanical Alloying
in "ASM Handbook", vol. 7 (Powder Metal Technologies and Applications), ASM International, Materials Park, OH, 1998, pp. 80-90.
11. C. Suryanarayana
Mechanical Alloying
in "Non-Equilibrium Processing of Materials", ed. C. Suryanarayana, Elsevier Science Pub., Oxford, UK, 1999, pp. 49-87.
12. C. Suryanarayana and C.C. Koch
Nanostructured Materials
in "Non-Equilibrium Processing of Materials", ed. C. Suryanarayana, Elsevier Science Pub., Oxford, UK, 1999, pp. 313-346.
13. C.C. Koch and C. Suryanarayana
Nanocrystalline Materials
in "Microstructure and Properties of Materials", ed. J.C.M. Li, World Scientific Publishing Corp., Singapore, vol. 2, Chapter 6, 2000, pp. 359-403.
14. C. Suryanarayana
Nanostructured Intermetallics
in "Intermetallic Compounds: Principles and Practice", Vol. 3, Progress, eds. J.H. Westbrook and R.L. Fleischer, John Wiley & Sons Ltd., Chichester, UK, 2002, pp. 749-764.
15. C. Suryanarayana
Rapid Solidification Processing
In "Encyclopedia of Materials: Science and Technology – Updates", eds. K.H.J. Buschow, R.W. Cahn, M.C. Flemings, E.J. Kramer, and S. Mahajan, Pergamon Press, Oxford, UK, 2002, 1-10.
16. C. Suryanarayana and B. Prabhu
Synthesis of Nanostructured Materials by Inert-Gas Condensation Methods
in "Nanostructured Materials: Processing, Properties, and Applications", Second Edition, Carl C. Koch (ed.), William Andrew, Inc., Norwich, NY, 2007, pp. 47-90.
17. A. P. Newbery, C. Suryanarayana, J.A. Christodoulou, B.Q. Han, and E.J. Lavernia
Mechanical Alloying and Severe Plastic Deformation
in "CRC Materials Processing Handbook", J.R. Groza, J.F. Shackelford, E.J. Lavernia, and M.T. Powers (eds.), CRC Press LLC, Boca Raton, FL, 2007, pp. 13-1 to 13-28.
18. C. Suryanarayana and A. Inoue
Metallic Glasses
in "Ullmann's Encyclopedia of Industrial Chemistry", VCH Wiley, 2012.
DOI: 10.1002/14356007.a16_335.pub2

19. C. Suryanarayana and E. Ivanov
Mechanochemical Synthesis of Nanocrystalline Metal Powders
in “Advances in Powder Metallurgy”, edited by I.T. Chang and Y. Zhao, Woodhead Publishing
Ltd., Oxford, UK (2013)

Research and Review Papers

1. C. Suryanarayana and T. R. Anantharaman
Metallography of Rapid Solidification
Trans. Indian Inst. Metals, **21**, No.3 (1968) 67.
2. C. Suryanarayana and T. R. Anantharaman
Formation of an Intermediate Phase in the Aluminium-Germanium System
Current Sci., **37** (1968) 631-633.
3. C. Suryanarayana and T. R. Anantharaman
Impact of Quenching from Melt on Equiatomic Aluminium-Germanium Alloy
Current Sci., **39** (1970) 123-125.
4. C. Suryanarayana and T. R. Anantharaman
Solidification of Aluminium-Germanium Alloys at High Cooling Rates
J. Mater. Sci., **5** (1970) 992-1004.
5. S. Srinivasa Rao, C. Suryanarayana, and T. R. Anantharaman
Metallographic & X-Ray Studies of Phase Transformations in α - β Brasses
Indian J. Technol., **9** (1971) 11-18.
6. H. P. Singh, C. Suryanarayana, S. Misra, and T. R. Anantharaman
Energetics of the Non-Equilibrium Phases in the System Lead-Bismuth
Z. Metallkde., **62** (1971) 52-55.
7. C. Suryanarayana and T. R. Anantharaman
Metallography of Rapidly Solidified Aluminium-Germanium Alloys
Metallography, **4** (1971) 79-82.
8. P. Ramachandrarao, C. Suryanarayana, and T. R. Anantharaman
On the Origin of Metastable Intermediate Phases in Splat-Cooled Binary Alloys
Metall. Trans., **2** (1971) 617-619.
9. C. Suryanarayana
Constitution, Structure and Energetics of Splat-Cooled Alloys
Scripta Metall., **5** (1971) 337-340.
10. T. R. Anantharaman and C. Suryanarayana
Review: A Decade of Quenching from the Melt
J. Mater. Sci., **6** (1971) 1111-1135.
11. C. Suryanarayana and T. R. Anantharaman
Formation of Hexagonal Phases in α - β Brasses

- Metall. Trans., **2** (1971) 3237.
12. C. Suryanarayana
Metallography of Aluminium-Germanium Alloys Quenched from the Melt
Trans. Indian Inst. Metals, **25**, No. 1 (1972) 36-42.
 13. T. R. Anantharaman and C. Suryanarayana
Reply to "A Comment on 'A Decade of Quenching from the Melt'"
J. Mater. Sci., **7** (1972) 351-353.
 14. C. Suryanarayana and T. R. Anantharaman
On the Structure of a Metastable Phase in the Lead-Bismuth System
Solid State Commun., **12** (1973) 87-88.
 15. H. Jones and C. Suryanarayana
Rapid Quenching from the Melt: An Annotated Bibliography 1958-72
J. Mater. Sci., **8** (1973) 705-753.
 16. C. Suryanarayana
Constitution of Liquisolid-Quenched Al-W Alloys
J. Mater. Sci., **8** (1973) 760-761.
 17. C. Suryanarayana
Lattice Parameters of Liquisolid-Quenched Aluminium
Phys. Stat. Sol., (a) **18** (1973) K135-K137.
 18. Satish Misra, C. Suryanarayana, and S. Ranganathan
Structure of High-Angle Grain Boundaries in HCP Metals
Indian J. Technol., **11** (1973) 435-438.
 19. C. Suryanarayana and T. R. Anantharaman
Metastable Phases in the Aluminium-Germanium System
Z. Metallkde., **64** (1973) 800-804.
 20. C. Suryanarayana and T. R. Anantharaman
On the Crystal Structure of a Non-Equilibrium Phase in the Gold-Silicon System
Mater. Sci. & Eng., **13** (1974) 73-81.
 21. W. A. T. Clark, D. A. Smith, and C. Suryanarayana
The Dislocation Structure of High-Angle Grain Boundaries in Tungsten, Molybdenum and Gold
Canadian Met. Quart., **13** (1974) 49-58.
 22. C. Suryanarayana
A New Metastable Phase in the Silver-Silicon System
J. Less-Common Metals, **35** (1974) 347-352.
 23. G. Van Tendeloo, N. S. Mishra, and C. Suryanarayana
Electron Microscopy and Electron Diffraction Study of Ordering in Ni₄W
J. Mater. Sci., **11** (1976) 1175-1178.
 24. C. Suryanarayana
The Stacking-Fault Energy of Graphite
Trans. Indian Inst. Metals, **29** (1976) 352-354.

25. T. R. Anantharaman, P. Ramachandrarao, C. Suryanarayana, S. Lele, and K. Chattopadhyay
Structure and Constitution of Rapidly Solidified Aluminium Alloys. I. General Assessment
Trans. Indian Inst. Metals, **30** (1977) 423-433.
26. T. R. Anantharaman, P. Ramachandrarao, C. Suryanarayana, S. Lele, and K. Chattopadhyay
Structure and Constitution of Rapidly Solidified Aluminium Alloys. II. Annotated Bibliography
Trans. Indian Inst. Metals, **30** (1977) 434-448.
27. A. Ranga Rao and C. Suryanarayana
Solute-Vacancy Binding Energies in Magnesium Alloys
Phys. Stat. Sol., (a) **45** (1978) K131-K133.
28. C. Suryanarayana, S. K. Tiwari, and T. R. Anantharaman
A New Metastable Phase in the Aluminium-Magnesium System
Z. Metallkde., **69** (1978) 155-156.
29. C. Suryanarayana and R. C. Gupta
Rapid Solidification
J. Inst. Engrs. (Hindi), **59**, No. 8 (1978) 16-20.
30. G. V. S. Sastry, C. Suryanarayana, M. Van Sande, and G. Van Tendeloo
A New Ordered Phase in the Al-Pd System
Mater. Res. Bull., **13** (1978) 1065-1070
31. G. V. S. Sastry, C. Suryanarayana, O. N. Srivastava, and H. A. Davies
Crystallization of an Amorphous Al-Pd Alloy
Trans. Indian Inst. Metals, **31** (1978) 292-294.
32. G. V. S. Sastry and C. Suryanarayana
An Electron Diffraction Study of a Metastable Al₂Pd Phase
J. Less-Common Metals, **63** (1979) P89-P91.
33. S. K. Tiwari, K. Chattopadhyay, C. Suryanarayana, and T. R. Anantharaman
Decomposition Studies of a Liquisolid-Quenched Al-33 at.% Mg Alloy
Metallography, **12** (1979) 73-86.
34. A. K. Singh, C. Suryanarayana, and O. N. Srivastava
Electron Microscopic Studies of Phase Transformations in NiSe Thin Films
Phys. Stat. Sol., (a) **54** (1979) K103-K105.
35. A. Inoue, K. Kobayashi, C. Suryanarayana, and T. Masumoto
An Amorphous Phase in Co-Rich Co-Ti Alloys
Scripta Metall., **14** (1980) 119-123.
36. A. Inoue, C. Suryanarayana, T. Masumoto, and A. Hoshi
Superconductivity of Ti-Nb-Si Alloys Crystallized from the Amorphous State
Sci. Rep. Res. Inst. Tohoku Univ., **A28** (1980) 182-194.
37. C. Suryanarayana, A. Inoue, and T. Masumoto
An Electron Microscopic Study on the Crystallization of Amorphous Ti-(Fe, Co or Ni)-B Alloys

- Sci. Rep. Res. Inst. Tohoku Univ., **A28** (1980) 195-207.
38. C. Suryanarayana, W. K. Wang, H. Iwasaki, and T. Masumoto
High-Pressure Synthesis of A15 Nb₃Si Phase from Amorphous Nb-Si Alloys
Solid State Commun., **34** (1980) 861-863.
 39. C. Suryanarayana, A. Inoue, and T. Masumoto
Transformation Studies and Mechanical Properties of Melt-Quenched Amorphous Titanium-Silicon Alloys
J. Mater. Sci., **15** (1980) 1993-2000.
 40. C. Suryanarayana, A. Inoue, and T. Masumoto
New Superconductors with Metastable Ordered Structures
Scripta Metall., **14** (1980) 881-885.
 41. A. Inoue, T. Masumoto, C. Suryanarayana, and A. Hoshi
Superconductivity of Ductile Titanium-Niobium-Based Amorphous Alloys
J. Physique (Paris), **41** (1980) C8-758-761.
 42. A. Inoue, H. M. Kimura, T. Masumoto, C. Suryanarayana, and A. Hoshi
Superconductivity of Ductile Ti-Nb-Si Amorphous Alloys
J. Appl. Phys., **51** (1980) 5475-5482.
 43. A. Inoue, A. Hoshi, C. Suryanarayana, and T. Masumoto
Ductile Superconducting Ti-Nb-Si-B Alloys with a Duplex Structure of Amorphous and Crystalline Phases
Scripta Metall., **14** (1980) 1077-1082.
 44. A. Inoue, C. Suryanarayana, T. Masumoto, and A. Hoshi
Crystallization Behavior and the Resultant Superconducting Properties of Amorphous Ti-V-Si Alloys
Mater. Sci. & Eng., **47** (1981) 59-67.
 45. G. V. S. Sastry and C. Suryanarayana
Metastable Effects in Melt-Quenched Al-Pd Alloys
Mater. Sci. & Eng., **47** (1981) 193-208.
 46. A. Inoue, C. Suryanarayana, and T. Masumoto
Microstructure and Superconductivity in Annealed Cu-Nb-(Ti, Zr, Hf) Ternary Amorphous Alloys Obtained by Liquid Quenching
J. Mater. Sci., **16** (1981) 1391-1401.
 47. A. Inoue, Y. Takahashi, A. Hoshi, C. Suryanarayana, and T. Masumoto
Superconductivity in Amorphous+Crystalline Ti-(Nb or V)-Si-B Ductile Alloys Obtained by Rapid Quenching from the Melt
J. Appl. Phys., **52** (1981) 4711-4719.
 48. A. Inoue, Y. Takahashi, C. Suryanarayana, A. Hoshi, and T. Masumoto
Crystallization-Induced Superconductivity in Amorphous Ti-Ta-Si Alloys
J. Mater. Sci., **16** (1981) 3077-3086.

49. L. R. K. Rao, C. Suryanarayana, and S. Lele
Lattice Defects in Melt-Quenched Aluminium and Its Alloys
Aluminium, **58** (1982) 214-217.
50. Z. A. Chaudhury, G. V. S. Sastry, and C. Suryanarayana
Phase Transformations in Rapidly Quenched Aluminium-Ruthenium Alloys
Z. Metallkde., **73** (1982) 201-206.
51. W. K. Wang, H. Iwasaki, C. Suryanarayana, T. Masumoto, N. Toyota, T. Fukase, and F. Kogiku
Crystallization Characteristics of an Amorphous Nb₈₁Si₁₉ Alloy Under High Pressure and Formation of the A15 Phase
J. Mater. Sci., **17** (1982) 1523-1532.
52. A. Inoue, Y. Takahashi, C. Suryanarayana, and T. Masumoto
Superconducting Properties and Microstructure of Crystallized Hf-Nb-Si and Hf-V-Si Amorphous Alloys
J. Mater. Sci., **17** (1982) 1753-1764.
53. G. V. S. Sastry, C. Suryanarayana and G. Van Tendeloo
A Structural Study of Vapour-Deposited Al-Pd Alloys
Phys. Stat. Sol., (a) **73** (1982) 267-278.
54. Z. A. Chaudhury and C. Suryanarayana
Metastable Phases in Vapour-Deposited Al-Ru Alloys
J. Mater. Sci., **17** (1982) 3158-3164.
55. A. Inoue, Y. Takahashi, C. Suryanarayana, and T. Masumoto
Thermal Stability and Crystallization Behaviour of Amorphous Zr-M-Si (M= IV-VIII Group Transition Metals) Alloys
J. Mater. Sci., **17** (1982) 3253-3262.
56. Z. A. Chaudhury and C. Suryanarayana
Annealing Behaviour of Vapour-Deposited Al-Rh Thin Films
Thin Solid Films, **98** (1982) 233-239.
57. Z. A. Chaudhury and C. Suryanarayana
Al₁₃X₄-Type Phases in Aluminium- Group VIII Metal Systems
J. Less-Common Metals, **91** (1983) 181-187.
58. M. Hanumantha Rao, G. Sridhar, and C. Suryanarayana
Structure and Properties of a Rapidly Quenched Commercial Al-Mn Alloy
Z. Metallkde., **74** (1983) 585-591.
59. Z. A. Chaudhury and C. Suryanarayana
Electron Microscopic Investigations on a Melt-Quenched Al-Rh Alloy
J. Mater. Sci., **18** (1983) 3011-3022.
60. W. K. Wang, H. Iwasaki, C. Suryanarayana, and T. Masumoto
Crystallization Characteristics of an Amorphous Ti₈₀Si₂₀ Alloy at High Pressures
J. Mater. Sci., **18** (1983) 3765-3772.

61. S. Das, T. R. Ramachandran, and C. Suryanarayana
Transformation Behaviour of Rapidly Quenched 3008 Aluminium Alloy
Z. Metallkde., **75** (1984) 356-361.
62. C. Suryanarayana
Metallic Glasses
Bull. Mater. Sci. (India), **6** (1984) 579-594.
63. Z. A. Chaudhury and C. Suryanarayana
A TEM Study of Decomposition Behaviour of a Melt-Quenched Al-Zr Alloy
Metallography, **17** (1984) 231-252.
64. C. Suryanarayana, D. K. Gangopadhyay, and Z. A. Chaudhury
Decomposition Behaviour of Vapour-Deposited Al-Zr Alloys
in Proc. 3rd Asia-Pacific Conf. on "Electron Microscopy", ed., M. F. Chung, Applied Research Corporation, Singapore, 1984, pp. 245-246.
65. C. Suryanarayana and M. Hanumantha Rao
Rapid Solidification Strengthening of Commercial Aluminium Alloys
HAL Tech. Soc. Digest, **26-27**, No. 6 (1984) 3-10.
66. Z. A. Chaudhury and C. Suryanarayana
Transmission Electron Microscopy Studies of a Vapour-Deposited Al-Zr Alloy
Mater. Sci. & Eng., **67** (1984) 47-53.
67. M. Hanumantha Rao, Vakil Singh, G. Sridhar, and C. Suryanarayana
Tensile Fracture Behaviour of Rapidly Solidified Aluminium Alloy RR 58
Mater. Sci. & Eng., **67** (1984) L19-L22.
68. C. Suryanarayana
Rapid Quenching of Aluminium Alloys - Problems and Prospects
Aluminium India, **2**, No. 3-4 (1985) 3-4.
69. M. Hanumantha Rao, G. Sridhar, and C. Suryanarayana
Ageing Behaviour of a Rapidly Solidified Commercial Aluminium Alloy RR 58
Internat. J. Rapid Solidification, **1** (1985) 199-218.
70. Jyothi Menon and C. Suryanarayana
Structure of Vapour-Deposited METGLAS 2826 MB Films
Z. Metallkde., **76** (1985) 802-805.
71. S. Ranganathan and C. Suryanarayana
Amorphous to Crystalline Phase Transformations
Mater. Sci. Forum, **3** (1985) 173-185.
72. S. Singh, S. Lele, and C. Suryanarayana
An Ordered Metastable Phase in Rapidly Quenched Al-Nb Alloys
J. Mater. Sci. Letters, **5** (1986) 84-86.
73. S. K. Pandey, D. K. Gangopadhyay, and C. Suryanarayana

- A Microstructural Study of Rapidly Quenched Al-Zr Alloys
Z. Metallkde., **77** (1986) 12-16.
74. K. Aoki, T. Masumoto, and C. Suryanarayana
Crystallization of Amorphous Zr-Ni Alloys in the Presence of H₂, CO, O₂, N₂ and Argon Gases
J. Mater. Sci., **21** (1986) 793-798.
75. S. Singh, S. Lele, and C. Suryanarayana
Decomposition Behaviour of Rapidly-Quenched Al-Nb Alloys -TEM Study
Mater. Sci. & Tech., **2** (1986) 788-794.
76. G. V. S. Sastry and C. Suryanarayana
A Comparison of the Decagonal Phase in Rapidly Solidified Al-Mn and Al-Pd Alloys
Scripta Metall., **20** (1986) 1359-1360.
77. C. Suryanarayana and G. M. K. Sarma
Precipitation Hardening
The Banaras Metallurgist, **7** (1986) 35-47.
78. S. K. Pandey, D. K. Gangopadhyay, and C. Suryanarayana
Metastable Phases in Vapour-Deposited Al-Zr Thin Films
Thin Solid Films, **146** (1987) 273-282.
79. C. Suryanarayana and M. Hanumantha Rao
Rapid Quenching Studies of a Commercial Aluminium Alloy 2014
J. Mater. Sci. Letters, **6** (1987) 317-320.
80. C. Suryanarayana and Jyothi Menon
An Electron Microscopic Study of the Decagonal Phase in a Melt-Spun Al-26 wt.% Co Alloy
Scripta Metall., **21** (1987) 459-460.
81. G. Van Tendeloo, Jyothi Menon, and C. Suryanarayana
An Electron Microscopic Study of a Rapidly Solidified Al-5 wt.% Co Alloy
J. Mater. Res., **2** (1987) 547-556.
82. S. Singh, S. Lele and C. Suryanarayana
Microstructural Characterization of Rapidly Solidified Al-Ta Alloys
Metall. Trans. A, **18A** (1987) 1915-1922.
83. S. K. Pandey and C. Suryanarayana
Twinning in a Vapour-Deposited Aluminium-Iridium Alloy
J. Mater. Sci. Letters, **6** (1987) 1298-1300.
84. C. Suryanarayana, Subash Chandra, and Jyothi Menon
In-Situ Transformation Behaviour of Icosahedral and Decagonal Quasicrystalline Phases
J. Mater. Res., **3** (1988) 34-39.
85. Jyothi Menon and C. Suryanarayana
Metallography of a Melt-Quenched Aluminium-Cobalt Alloy
Metallography, **21** (1988) 179-197.

86. Jyothi Menon and C. Suryanarayana
An Amorphous Phase in a Rapidly Solidified Al-14 at.% Co Alloy
Internat. J. Rapid Solidification, **3** (1988) 189-198.
87. Jyothi Menon and C. Suryanarayana
The Al-Co Decagonal Phase
Phys. Stat. Sol., (a) **107** (1988) 693-708.
88. C. Suryanarayana and H. Jones
Formation and Characteristics of Quasicrystalline Phases: A Review
Internat. J. Rapid Solidification, **3** (1988) 253-293.
89. Jyothi Menon and C. Suryanarayana
Dislocation Loops in a Decagonal Al-Co Alloy
Scripta Metall., **22** (1988) 1125-1127.
90. Subash Chandra and C. Suryanarayana
Quasicrystalline-to-Crystalline Transformation in Rapidly Solidified $Mg_{32}(Al,Zn)_{49}$
Phil. Mag. B, **B58** (1988) 185-202.
91. S. K. Pandey and C. Suryanarayana
Transformation Behaviour of a Rapidly Solidified Al-Ir Alloy
Z. Metallkde., **80** (1989) 9-14.
92. C. Suryanarayana
Structure and Periodicity of Decagonal Quasicrystalline Phases
Scripta Metall., **23** (1989) 189-191.
93. Jyothi Menon, C. Suryanarayana, and Govind Singh
Polytypism in a Decagonal Quasicrystalline Al-Co Phase
J. Appl. Cryst., **22** (1989) 96-99.
94. S. K. Pandey and C. Suryanarayana
Structure and Transformation Behavior of a Rapidly Solidified Al-6.4 wt.% Hf Alloy
Mater. Sci. & Eng., **A111** (1989) 181-187.
95. F.H. Froes and C. Suryanarayana
Nanocrystalline Metals for Structural Applications
JOM, **41**, No. 6 (1989) 12-17.
96. C. Suryanarayana and F.H. Froes
Rapid Solidification and Mechanical Alloying of Light Metals
Light Metal Age, **47**, Nos. 5,6 (1989) 18-20.
97. Jyothi Menon and C. Suryanarayana
On the Nature of the Quasicrystalline Phase in Rapidly Solidified Al-Co-Si Alloys
Mater. Trans., JIM, **30** (1989) 878-885.
98. C. Suryanarayana, F.H. Froes, S. Krishnamurthy, and Y-W. Kim
Development of Light Alloys Through Rapid Solidification Processing
Key Eng. Mater., **38-39** (1989) 343-366.

99. C. Suryanarayana and F.H. Froes
The Current Status of Titanium Rapid Solidification
JOM, **42**, No. 3 (1990) 22-25.
100. F.H. Froes, D. Eylon, and C. Suryanarayana
Thermochemical Processing of Titanium Alloys
JOM, **42**, No. 3 (1990) 26-29.
101. C. Suryanarayana, F.H. Froes, S. Krishnamurthy, and Y-W. Kim
Development of Light Alloys by Rapid Solidification Processing
Internat. J. Powder Met., **26** (1990) 117-129.
102. C. Suryanarayana and F.H. Froes
Nanocrystalline Titanium-Magnesium Alloys through Mechanical Alloying
J. Mater. Res., **5** (1990) 1880-1886.
103. C. Suryanarayana and R. Sundaresan
Metastable Phases in Mechanically Alloyed Al-Mn Powder Mixtures
Mater. Sci. & Eng., **A131** (1991) 237-242.
104. D. Eliezer, F.H. Froes, and C. Suryanarayana
The Effects of Hydrogen on Titanium Aluminides
JOM, **43**, No. 3 (1991) 59-62.
105. C. Suryanarayana, F.H. Froes, and R.G. Rowe
Rapid Solidification Processing of Titanium Alloys
Internat. Mater. Rev., **36** (1991) 85-123.
106. F.H. Froes, C. Suryanarayana, E. Lavernia, and G.E. Bobeck
Innovations in Light Metals Synthesis for the 1990's
SAMPE Quarterly, **22**, No. 4 (1991) 11-20.
107. S.N. Patankar, C. Suryanarayana, and F.H. Froes
Influence of Tin Dioxide Interphase on the Residual Stresses in Alumina Fiber/Glass Composites
Scripta Metall. Mater., **25** (1991) 1787-1792.
108. C.D. Singh, V. Ramaswamy, and C. Suryanarayana
Texture Evolution in a Hot Rolled Austenitic Stainless Steel
Textures and Microstructures, **13** (1991) 227-241.
109. F.H. Froes, C. Suryanarayana, and D. Eliezer
Production, Characteristics, and Commercialization of Titanium Aluminides
Iron and Steel Inst. Japan International, **31** (1991) 1235-1248.
110. Guo-Hao Chen, C. Suryanarayana, and F.H. Froes
Synthesis of B2 Phase in Ti-Al-Nb Alloys by Mechanical Alloying
Scripta Metall. Mater., **25** (1991) 2537-2540.
111. C. Suryanarayana and F.H. Froes
Light Metals Synthesis by Mechanical Alloying

- Mater. Sci. Forum, **88-90** (1992) 445-452.
112. C. Suryanarayana, R. Sundaresan, and F.H. Froes
TiAl Formation by Mechanical Alloying
Mater. Sci. & Eng., **A150** (1992) 117-121.
113. S.N. Patankar, C. Suryanarayana, D. Upadhyaya, and F.H. Froes
Influence of Tin Dioxide Interphase on the Residual Stresses in Alumina Fiber/Glass Composites.
Reply to Comments by Venkatesh et al.
Scripta Metall. Mater., **26** (1992) 861-864.
114. C. Suryanarayana and D.S. Lee
Phase Relations in Ti-Al-Nb Alloys at 1200 °C
Scripta Metall. Mater., **26** (1992) 919-924.
115. F.H. Froes and C. Suryanarayana
Powder Metallurgy at the University of Idaho
Internat. J. Powder Metall., **28** (1992) 202-208.
116. C. Suryanarayana and F.H. Froes
The Structure and Mechanical Properties of Metallic Nanocrystals
Metall. Trans. A, **23A** (1992) 1071-1081.
117. F.H. Froes, C. Suryanarayana, Guo-Hao Chen, Abdulbaset Frefer, and G.R. Hyde
Nanostructure Processing for Titanium-Based Materials
JOM, **44**, No. 5 (1992) 26-29.
118. C. Suryanarayana and F.H. Froes
Production of Nanostructure Titanium-Based Alloys by Mechanical Alloying
NanoStructured Mater., **1** (1992) 191-196.
119. C. Suryanarayana, Guo-Hao Chen, and F.H. Froes
Milling Maps for Phase Identification during Mechanical Alloying
Scripta Metall. Mater., **26** (1992) 1727-1732.
120. F.H. Froes, C. Suryanarayana, and S.B. Bhaduri
On the Nature of Grain Boundaries in Metals and Ceramics
SAMPE Quarterly, **23**, No. 4 (1992) 39-45.
121. S.N. Patankar, C. Suryanarayana, D. Blacketter, and F.H. Froes
Thermally Induced Residual Stresses in Carbon Fiber Reinforced Aluminum Matrix Composites
J. Mater. Sci. Lett., **11** (1992) 947-949.
122. C. Suryanarayana, D. Mukhopadhyay, S.N. Patankar, and F.H. Froes
Grain Size Effects in Nanocrystalline Materials
J. Mater. Res., **7** (1992) 2114-2118.
123. J. Singh and C. Suryanarayana
Review: Influence of Some Alloying Elements on Decomposition of a Co-3 wt.% Ti Alloy
J. Mater. Sci., **27** (1992) 4261-4281.

124. Zhixue Peng, C. Suryanarayana, and F.H. Froes
Synthesis of Metastable Phases in Al-Nb Powders by Mechanical Alloying
Scripta Metall. Mater., **27** (1992) 475-480.
125. F.H. Froes, C. Suryanarayana, and D. Eliezer
Review: Synthesis, Properties, and Applications of Titanium Aluminides
J. Mater. Sci., **27** (1992) 5113-5140.
126. C. Suryanarayana, Guo-Hao Chen, Abdulbaset Frefer, and F.H. Froes
Structural Evolution of Mechanically Alloyed Ti-Al Alloys
Mater. Sci. & Eng., **A158** (1992) 93-101.
127. C.D. Singh, V. Ramaswamy, and C. Suryanarayana
Development of Rolling Textures in an Austenitic Stainless Steel
Textures and Microstructures, **19** (1992) 101-121.
128. F.H. Froes, C. Suryanarayana, W. Quist, E. Lavernia, B.I. Bondarev, N.F. Anoshkin, I.S. Polkin, O.K. Fatkullin, V. Samarov, and A.B. Notkin
Advanced Aerospace Metals Requirements and Characteristics -An Overview
Key Eng. Mater., **77-78** (1993) 1-37.
129. C. Suryanarayana and F.H. Froes
Mechanical Alloying of Titanium-Base Alloys
Advanced Materials, **5** (1993) 96-106.
130. F.H. Froes and C. Suryanarayana
Powder Processing of Titanium Alloys
Reviews in Particulate Materials, **1** (1993) 223-276.
131. C. Suryanarayana, G.E. Korth, Guo-Hao Chen, A. Frefer, and F.H. Froes
Thermal stability of Nanostructured Titanium Aluminides
NanoStructured Mater., **2** (1993) 527-535.
132. C. Suryanarayana and F.H. Froes
Nanocrystalline Structures from Amorphous Precursors
NanoStructured Mater., **3** (1993) 147-153.
133. Guo-Hao Chen, C. Suryanarayana, and F.H. Froes
Influence of Process Variables on the Structure of Mechanically Alloyed Ti₃Al-Base Intermetallics
Rare Metals (China), **12** (1993) 241-249.
134. D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
Extended Solid Solutions in Cd-Zn Alloys by Mechanical Alloying
Scripta Metall. Mater., **30** (1994) 133-137.
135. C. Suryanarayana, Enhong Zhou, Zhixue Peng, and F.H. Froes
Synthesis of Ordered Al₃Nb Intermetallic by Mechanical Alloying
Scripta Metall. Mater., **30** (1994) 781-785.
136. C. Suryanarayana and Jyothi Menon

- Electron Microscopy of Metastable Phases in Rapidly Solidified Al-Co Alloys
Bull. Mater. Sci. (India), **17** (1994) 121-139.
137. C. Suryanarayana and F.H. Froes
Nanostructured Titanium Aluminides
Mater. Sci. & Eng., **A 179/180** (1994) 108-111.
138. D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
Synthesis of Nanocrystalline Al_5Fe_2 by Mechanical Alloying
Scripta Metall. Mater., **31** (1994) 333-338.
139. V. Jacob, J. Mishurda, A. Frefer, R. Baccino, F. Moret, C. Suryanarayana, and F.H. Froes
Transformations Microstructurales lors de la Mecanosynthese de l'alliage Ti-47.5Al-3Cr
J. de Physique IV, **4**, Colloq. C3 (1994) C3-243-250.
140. C. Suryanarayana
Current Status of Research and Development in Nanocrystalline Materials
Metallurgia & Materiais, **50** (1994) 799-804.
141. C. Suryanarayana
Structure and Properties of Nanocrystalline Materials
Bull. Mater. Sci. (India), **17** (1994) 307-346.
142. C. Suryanarayana, Wenkai Li, and F.H. Froes
Synthesis of Metastable $L1_2$ Cubic Phases in $(Al,M)_3Zr$ (M=Fe,Ni) Powders by Mechanical Alloying
Scripta Metall. Mater., **31** (1994) 1465-1470.
143. F.H. Froes, C. Suryanarayana, K. Russell, and C.G. Li
Synthesis of Intermetallics by Mechanical Alloying
Internat. J. Mechanochemistry and Mechanical Alloying, **1** (1994) 112-124.
144. S.K. Pradhan, T. Chakraborty, S.P. Sen Gupta, C. Suryanarayana, A. Frefer, and F.H. Froes
X-Ray Powder Profile Analyses on Nanostructured Niobium Metal Powders
NanoStructured Mater., **5** (1995) 53-61.
145. C. Suryanarayana
Does a Disordered γ -TiAl Phase Exist in Mechanically Alloyed Ti-Al Powders?
Intermetallics, **3** (1995) 153-160.
146. F.H. Froes, C. Suryanarayana, K. Russell, and C.-G. Li
Synthesis of Intermetallics by Mechanical Alloying
Mater. Sci. & Eng., **A192/193** (1995) 612-623.
147. Enhong Zhou, C. Suryanarayana, and F.H. Froes
Effect of Premilling Elemental Powders on Solid Solubility Extension of Magnesium in Titanium by Mechanical Alloying
Mater. Lett., **23** (1995) 27-31.
148. C. Suryanarayana
Nanocrystalline Materials

Internat. Mater. Rev., **40** (1995) 41-64.

(Listed under "Treasures from the IMR")

149. Guo-Hao Chen, C. Suryanarayana, and F.H. Froes
Structure of Mechanically Alloyed Ti-Al-Nb Powders
Metall. Mater. Trans. A, **26A** (1995) 1379-1387.
150. D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
Structural Evolution in Mechanically Alloyed Al-Fe Powders
Metall. Mater. Trans. A, **26A** (1995) 1939-1946.
151. F.H. Froes, C. Suryanarayana, D.K. Mukhopadhyay, C.-G. Li, and K. Brand
Synthesis of Intermetallics by Mechanical Alloying
Acta Metall. Sinica, **8** (1995) 441-446.
152. Zhixue Peng, C. Suryanarayana, and F.H. Froes
Mechanical Alloying of Nb-Al Powders
Metall. Mater. Trans. A, **27A** (1996) 41-48.
153. M.L. Ovecoglu, C. Suryanarayana, and W.D. Nix
Identification of Precipitate Phases in a Mechanically Alloyed Rapidly Solidified Al-Fe-Ce Alloy
Metall. Mater. Trans., **27A** (1996) 1033-1041.
154. R.S. Mishra, A.K. Mukherjee, D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
High Temperature Deformation Behavior of Nanocrystalline Titanium Aluminide
Scripta Mater., **34** (1996) 1765-1769.
155. F.H. Froes, C. Suryanarayana, P.R. Taylor, C.M. Ward-Close, and P. Goodwin
Synthesis of Advanced Lightweight Metals by Powder Metallurgy Techniques
Powder Metallurgy, **39** (1996) 63-65.
156. M.L. Ovecoglu, B. Ozkal, and C. Suryanarayana
A Comparison of the Sintering Characteristics of Ball-Milled and Attritor-Milled W-Ni-Fe Heavy Alloy
J. Mater. Res., **11** (1996) 1673-1682.
157. J. Hebeisen, P. Tylus, D. Zick, D.K. Mukhopadhyay, K. Brand, C. Suryanarayana, and F.H. Froes
Hot Isostatic Pressing of Nanometer Sized γ -TiAl Powders
Metals and Materials (Korea), **2** (1996) 71-74.
158. C. Suryanarayana
Electron Microscopic Characterization of a γ -TiAl Alloy
Mater. Letters, **29** (1996) 281-284.
159. C. Suryanarayana
Recent Advances in the Synthesis of Alloy Phases by Mechanical Alloying/Milling
Metals & Materials, **2** (1996) 195-209.
160. K. Brand, C. Suryanarayana, B.F. Kieback, and F.H. Froes

- Phase Formation during Ball Milling of Ti-Al-B Powders
Mater. Sci. Forum, **225-227** (1996) 471-476.
161. F.S. Biancaniello, F.W. Gayle, C. Suryanarayana, and F.H. Froes
Minimization of Nitride Formation during Mechanical Alloying of Ti-Al-Nb
Mater. Sci. Forum, **225-227** (1996) 483-488.
162. H. Zoz, D. Ernst, H. Weiss, M. Magini, C. Powell, C. Suryanarayana, and F.H. Froes
Mechanical Alloying of Ti-24Al-11Nb (at.%) Using the Simoloyer (Zoz-Horizontal Rotary Ball Mill)
Metall, **50** (9) (1996) 575-579.
163. C. Suryanarayana, G.E. Korth, and F.H. Froes
Compaction and Characterization of Mechanically Alloyed Nanocrystalline Titanium Aluminides
Metall. Mater. Trans. A, **28A** (1997) 293-302.
164. C.R. Clark, C. Wright, C. Suryanarayana, E.G. Baburaj, and F.H. Froes
Synthesis of Mg₂X (X=Si, Ge or Sn) Intermetallics by Mechanical Alloying
Mater. Letters, **33** (1997) 71-75.
165. H. Zoz, D. Ernst, H. Weiss, M. Magini, C. Powell, C. Suryanarayana, and F.H. Froes
Mechanical Alloying of Ti-24Al-11Nb (at.%) Using the Simoloyer (Zoz-Horizontal Rotary Ball Mill)
Mater. Sci. Forum, **235-238** (1997) 59-66.
166. E. Ivanov, C. Suryanarayana, and B.D. Bryskin
Synthesis of a Nanocrystalline W-25 wt.% Re Alloy by Mechanical Alloying
Mater. Sci. & Eng., **A251** (1998) 255-261.
167. H.S. Kim, C. Suryanarayana, S-J. Kim, and B.S. Chun
Numerical Investigation of Mechanical Behaviour of Nanocrystalline Copper
Powder Metallurgy, **41**(1998) 217-220.
168. S.S. Cho, B.S. Chun, C.W. Won, H.K. Kim, B.S. Lee, K.H. Yim, S.H. Eom, H. Baek, B.J. Song, and C. Suryanarayana
Microstructure and Mechanical Properties of Rapidly Solidified Hypereutectic Al-Si and Al-Si-Fe Alloys
J. Mater. Synth. Processing, **6** (1998) 123-131.
169. C. Suryanarayana, E. Ivanov, R. Noufi, M.A. Contreras, and J.J. Moore
Synthesis and Processing of a Cu-In-Ga-Se Sputtering Target
Thin Solid Films, **332** (1998) 340-344.
170. F.H. Froes, C.R. Clark, C. Suryanarayana, E.G. Baburaj, and B.D. Bryskin
Formation of W-Re Solid Solution by Mechanical Alloying
Mater. & Manufactur. Processes, **13** (1998) 657-670.
171. C. Suryanarayana, E. Ivanov, R. Noufi, M.A. Contreras, and J.J. Moore
Phase Selection in a Mechanically Alloyed Cu-In-Ga-Se Powder Mixture
J. Mater. Res., **14** (1999) 377-383.

172. S. Govindarajan, J.J. Moore, J. Disam, and C. Suryanarayana
Development of a Diffusion Barrier Layer for Silicon and Carbon in Molybdenum – A Physical Vapor Deposition Approach
Metall. Mater. Trans., **30A** (1999) 799-806.
173. S.S. Cho, B.S. Chun, C.W. Won, S.D. Kim, B.S. Lee, H. Baek, and C. Suryanarayana
Structure and Properties of Rapidly Solidified Mg-Al Alloys
J. Mater. Sci., **34** (1999) 4311-4320.
174. S. Govindarajan, C. Suryanarayana, J.J. Moore, and J. Disam
Synthesis and Characterization of a Diffusion Barrier Layer for Molybdenum
J. Advanced Mater., **31** (1999) 23-33.
175. C. Suryanarayana and G.E. Korth
Consolidation of Nanocrystalline Powders
Metals and Materials, **5** (1999) 121-128.
176. T.S. Kim, C. Suryanarayana, and B.S. Chun
Effect of Alloying Elements and Degassing Pressure on the Structure and Mechanical Properties of Rapidly Solidified Al-20Si-5Fe-2X (X = Cr, Zr, or Ni) Alloys
Mater. Sci. & Eng. A, **A278** (2000) 113-120.
177. H.M. Kim, T.S. Kim, C. Suryanarayana, and B.S. Chun
Microstructure and Wear Characteristics of Rapidly Solidified Al-Pb-Cu Alloys
Mater. Sci. & Eng. A, **A287** (2000) 59-65.
178. E. Ivanov and C. Suryanarayana
Materials and Process Design through Mechanochemical Routes
J. Mater. Synth. & Proc., **8** (2000) 235-244.
179. C. Suryanarayana and C.C. Koch
Nanocrystalline Materials – Current Research and Future Directions
Hyperfine Interactions, **130** (2000) 5-44.
180. C. Suryanarayana
Mechanical Alloying and Milling
Prog. Mater. Sci., **46** (2001) 1-184.
181. C. Suryanarayana, J.J. Moore, and R.P. Radtke
Novel Methods of Brazing Dissimilar Materials
Adv. Mater. & Proc., **159**, No. 3 (2001) 29-31.
182. S.J. Hong, T.S. Kim, C. Suryanarayana, and B.S. Chun
Mechanical Milling of Gas-Atomized Al-Ni-Mm (Mm = Misch Metal) Alloy Powders
Metall. Mater. Trans. A, **32A** (2001) 821-829.
183. S.I. Hong and C. Suryanarayana
Is Ductilization of Intermetallics by Nanostructure Processing A Possibility?
Mater. Trans., JIM., **42** (2001) 502-508.
184. C. Suryanarayana, E. Ivanov, and V.V. Boldyrev

- The Science and Technology of Mechanical Alloying
Mater. Sci. & Eng. A, **A304-306** (2001) 151-158.
185. S.J. Hong, T.S. Kim, C. Suryanarayana, D.H. Cho, and B.S. Chun
Microstructural Evolution during Mechanical Milling of Rapidly Solidified Al-14Ni-14Mm
(Mm=Misch Metal) Alloy Powders
J. Mater. Synth. & Proc., **9** (2001) 39-47.
186. S.J. Hong, C. Suryanarayana, and B.S. Chun
Size-Dependent Structure and Properties of Rapidly Solidified Aluminum Alloy Powders
Scripta Mater., **45** (2001) 1341-1347.
187. C. Suryanarayana, S.H. Yoo, and J.R. Groza
Consolidation of Mechanically Alloyed Cu-In-Ga-Se Powders
J. Mater. Sci. Lett., **20** (2001) 2179-2181.
188. C. Suryanarayana
Non-Equilibrium Processing of Ultrafine Grained Titanium Aluminides
Internat. J. Non-equilibrium Processing, **11** (2002) 325-345.
189. C. Suryanarayana
The Structure and Properties of Nanocrystalline Materials: Issues and Concerns
JOM, **54** (9) (2002) 24-27.
190. S.J. Hong, H.M. Kim, D. Huh, C. Suryanarayana, and B.S. Chun
Effect of Clustering on the Mechanical Properties of SiC Particulate-Reinforced Aluminum Alloy
2024 Metal Matrix Composites
Mater. Sci. & Eng., **A 347** (2003) 198-204.
191. H.T. Son, T.S. Kim, C. Suryanarayana, and B.S. Chun
Homogeneous Dispersion of Graphite in a 6061 Aluminum Alloy by Ball Milling
Mater. Sci. & Eng., **A348** (2003) 163-169.
192. D. Singh, C. Suryanarayana, L. Mertus, and R-H. Chen
Extended Homogeneity Range of Intermetallic Phases in Mechanically Alloyed Mg-Al Alloys
Intermetallics, **11** (2003) 373-376.
193. S.J. Hong, H.S. Kim, C. Suryanarayana, and B.S. Chun
Isothermal Nanocrystallization Behavior of a Melt-Spun Al₈₆Ni₉Mm₅ (Mm=Misch Metal)
Amorphous Alloy
Mater. Sci. & Technol., **19** (2003) 966-972.
194. S.J. Hong, C. Suryanarayana, and B.S. Chun
Section-Dependent Microstructure and Mechanical Properties of Rapidly Solidified and Extruded
Al-20 Si Alloy
Mater. Res. Bull., **39** (2004) 465-474.
195. S.J. Hong and C. Suryanarayana
Mechanism of Low-Temperature θ -CuGa₂ Phase Formation in Cu-Ga Alloys by Mechanical
Alloying
J. Appl. Phys., **96** (2004) 6120-6126.

196. U. Patil, S.J. Hong, and C. Suryanarayana
An Unusual Phase Transformation during Mechanical Alloying of an Fe-based Bulk Metallic Glass Composition
J. Alloys & Compounds, **389** (2005) 121-126.
197. S.J. Hong and C. Suryanarayana
Mechanical Properties and Fracture Behavior of an Ultrafine-Grained Al-20 Wt Pct Si Alloy
Metall. Mater. Trans., **36A** (2005) 715-723.
198. S.J. Hong, C. Suryanarayana, and B.S. Chun
Structure and Properties of Rapidly Solidified and Mechanically Milled Nanostructured Al-Ni-Mn Alloys
J. Metastable & Nanocryst. Mater., **24-25** (2005) 703-708.
199. S.J. Hong and C. Suryanarayana
Low Temperature Phase Formation in Mechanically Alloyed Cu-Ga Powders
J. Metastable & Nanocryst. Mater., **24-25** (2005) 193-196.
200. Y. Wang, C. Suryanarayana, and L. An
Phase Transformation in Nanometer-Sized γ -Alumina by Mechanical Milling
J. Amer. Ceram. Soc., **88** (2005) 780-783.
201. C. Suryanarayana
Recent Developments in Nanostructured Materials
Adv. Eng. Mater., **7** (2005) 983-992.
202. B. Prabhu, C. Suryanarayana, L. An, and R. Vaidyanathan
Synthesis and Characterization of High Volume Fraction Al-Al₂O₃ Nanocomposite Powders by High-Energy Milling
Mater. Sci. & Eng. A, **A425** (2006) 192-200.
203. R.H. Chen, C. Suryanarayana, and M. Chaos
Combustion Characteristics of Mechanically Alloyed Ultrafine-Grained Al-Mg Powders
Adv. Eng. Mater., **8** (2006) 563-567.
204. S. Sharma, R. Vaidyanathan, and C. Suryanarayana
Criterion for Predicting the Glass-Forming Ability of Alloys
Appl. Phys. Letters, **90** (March 2007) 111915-1 to 111915-3. (DOI: 10.1063/1.2713867)
205. Satyajeet Sharma and C. Suryanarayana
Mechanical Crystallization of Fe-based Amorphous Alloys
J. Appl. Phys., **102** (October 2007) 083544-1 to 083544-7.
206. Satyajeet Sharma and C. Suryanarayana
Effect of Carbon Addition on the Glass-Forming Ability of Mechanically Alloyed Fe-based Alloys
J. Appl. Phys., **103** (January 2008) 013504-1 to 013504-5.
207. Satyajeet Sharma and C. Suryanarayana
Effect of Nb on the Glass-Forming Ability of Mechanically Alloyed Fe-Ni-Zr-B Alloys

- Scripta Mater., **58** (March 2008) 508-511.
208. C. Suryanarayana
Structure and Properties of Ultrafine-Grained $\text{MoSi}_2+\text{Si}_3\text{N}_4$ Composites Synthesized by Mechanical Alloying
Mater. Sci. & Eng. A, **479** (April 2008) 23-30.
209. N. Al-Aqeeli, G. Mendoza-Suarez, C. Suryanarayana, and R.A.L. Drew
Development of New Al-based Nanocomposites by Mechanical Alloying
Mater. Sci. & Eng. A, **480** (May 2008) 392-396.
210. T. Klassen, C. Suryanarayana and R. Bormann
Low Temperature Superplasticity in Ultrafine-Grained $\text{Ti}_5\text{Si}_3\text{-TiAl}$ Composites
Scripta Mater., **59** (August 2008) 455-458.
211. C. Suryanarayana
Recent Developments in Mechanical Alloying
Rev. Adv. Mater. Sci., **18** (2008) 203-211.
212. C. Suryanarayana
Six Decades of Metallurgical Education and Research: A Magnificent Obsession. A Tribute to Professor T.R. Anantharaman
Trans. Indian Inst. Metals, **61** (April-June 2008) 63-72.
213. C. Suryanarayana and Satyajeeet Sharma
Lattice Contraction during Amorphization by Mechanical Alloying
J. Appl. Phys., **104** (November 2008) 103503-1 to 103503-08.
214. C. Suryanarayana, I. Seki, and A. Inoue
A Critical Analysis of the Glass-forming Ability of Alloys
J. Non-Cryst. Solids, **355** (March 2009) 355-360.
215. U.M.R. Seelam and C. Suryanarayana
Mechanically Induced FCC Phase Formation in Nanocrystalline Hafnium
J. Appl. Phys., **105** (March 2009) 063524-1 to 063524-8.
216. Dmitri V. Louzguine-Luzgin, Guoqiang Xie, Song Li, Qingsheng Zhang, Wei Zhang, C. Suryanarayana and Akihisa Inoue
Glass Forming Ability and Differences in the Crystallization Behavior of Ribbons and Rods of $\text{Cu}_{36}\text{Zr}_{48}\text{Al}_8\text{Ag}_8$ Bulk Glass-Forming Alloy
J. Mater. Res., **24** (May 2009) 1886-1895.
217. B. Srinivasarao, C. Suryanarayana, K. Oh-ishi, and K. Hono
Microstructure and Mechanical Properties of Al-Zr Nanocomposite Materials
Mater. Sci. & Eng., A **518** (August 2009) 100-107.
218. U.M.R. Seelam, Gagik Barkhordarian, and C. Suryanarayana
Is There a Hexagonal Close-Packed (HCP) \rightarrow Face-Centered Cubic (FCC) Allotropic Transformation in Mechanically Milled Group IVB Elements?
J. Mater. Res., **24** (November 2009) 3454-3461.

219. C. Suryanarayana and Satyajeet Sharma
Glass Formation in Mechanically Alloyed Fe-Based Systems
Functional Mater. Lett., **2** (2009) 147-155.
220. D.V. Louzguine-Luzgin, G. Xie, Q. Zhang, C. Suryanarayana, and A. Inoue
Formation, Structure and Crystallization Behavior of Cu-based Bulk Glass-Forming Alloys
Metall. Mater. Trans. A, **41A** (July 2010) 1664-1669. (DOI: 10.1007/s11661-009-0087-8)
221. D.V. Louzguine-Luzgin, I. Seki, T. Yamamoto, H. Kawaji, C. Suryanarayana, and A. Inoue
Double Stage Glass Transition in a Metallic Glass
Phys. Rev., **B81** (April 2010) 144202-1 to 144202-6. (DOI: 10.1103/PhysRevB.81.144202)
222. D.V. Louzguine-Luzgin, C. Suryanarayana, T. Saito, Q.S. Zhang, N. Chen, J. Saida, and A. Inoue
Unusual Solidification Behavior of a Zr-Cu-Ni-Al Bulk Glassy Alloy Made from Low-Purity Zr
Intermetallics, **18** (August 2010) 1531-1536. (doi:10.1016/j.intermet.2010.04.003)
223. Abhishek Saha, Saptarshi Basu, C. Suryanarayana, and Ranganathan Kumar
Experimental Analysis of Thermo-Physical Processes in Acoustically Levitated Heated Droplets
Internat. J. Heat and Mass Transfer, **53** (December 2010) 5663-5674.
(DOI:10.1016/j.ijheatmasstransfer.2010.08.016)
224. C. Suryanarayana
Synthesis of Nanocomposites by Mechanical Alloying
J. Alloys & Compounds, **509** (June 2011) S229-S234. (DOI:10.1016/j.jallcom.2010.09.063)
225. T. Miyazaki, D. Terada, Y. Miyajima, C. Suryanarayana, R. Muraio, Y. Yokoyama, K. Sugiyama, M. Umemoto, Y. Todaka, and N. Tsuji
Synthesis of Non-equilibrium Phases in Immiscible Metals Mechanically Mixed by High Pressure Torsion
J. Mater. Sci., **46** (June 2011) 4296-4301. (DOI: 10.1007/s10853-010-5240-7)
226. C. Suryanarayana, T. Klassen, and E. Ivanov
Synthesis of Nanocomposites and Amorphous Alloys by Mechanical Alloying
J. Mater. Sci., **46** (October 2011) 6301-6315. (DOI: 10.1007/s10853-011-5287-0)
227. N. Orlovskaya, Z.L. Xi, M. Klimov, H. Heinrich, D. Restrepo, R. Blair, and C. Suryanarayana
Mechanochemical Synthesis of ReB₂ Powder
J. Mater. Res., **26** (November 2011) 2772-2779. (DOI: 10.1557/jmr.2011.249)
228. Dmitri V. Louzguine-Luzgin, I. Seki, T. Yamamoto, H. Kawaji, C. Suryanarayana, and Akihisa Inoue
Structural Relaxation and Crystallization Processes in Cu₅₅Hf₂₅Ti₁₅Pd₅ Metallic Glassy Alloy
Intermetallics, **23** (April 2012) 177-181. (<http://dx.doi.org/10.1016/j.intermet.2011.11.019>)
229. U.M.R. Seelam, C. Suryanarayana, H. Heinrich, T. Ohkubo, K. Hono, and N.S. Cheruvu
Structural Characterization of Sputter-Deposited 304 Stainless Steel+10 wt pct Al Coatings
Metall. Mater. Trans. A, **43A** (August 2012) 2945-2954. (DOI: 10.1007/s11661-012-1128-2)
230. C. Suryanarayana and Jinling Liu
Processing and Characterization of Mechanically Alloyed Immiscible Metals
Internat. J. Mater. Res., **103** (September 2012) 1125-1129.

(DOI 10.1179/1743280412Y.0000000007)

231. C. Suryanarayana
Mechanical Behavior of Emerging Materials
Materials Today, **15** (November 2012) 486-498.
232. C. Suryanarayana and A. Inoue
Iron-Based Bulk Metallic Glasses
Internat. Mater. Rev., **58** (April 2013) 131-166. (DOI: 10.1179/1743280412Y.0000000007)
233. N. Al-Aqeeli, K. Abdullahi, A.S. Hakeem, C. Suryanarayana, T. Laoui, and S. Nouari
Synthesis, Characterisation and Mechanical Properties of SiC Reinforced Al-based Nanocomposites Processed by MA and SPS
Powder Metall., **56** (April 2013) 149-157. (DOI: 10.1179/1743290112Y.0000000029)
234. C. Suryanarayana and N. Al-Aqeeli
Mechanically Alloyed Nanocomposites
Prog. Mater. Sci., **58** (May 2013) 383-502.
(DOI: <http://dx.doi.org/10.1016/j.pmatsci.2012.10.001>)
235. Jinling Liu, C. Suryanarayana, D. Ghosh, G. Subhash, and L. An
Synthesis of Mg-Al₂O₃ Nanocomposites by Mechanical Alloying
J. Alloys & Compounds, **563** (June 2013) 165-170.
(DOI: <http://dx.doi.org/10.1016/j.jallcom.2013.01.113>)
236. C. Suryanarayana, R. Behn, T. Klassen, and R. Bormann
Mechanical Characterization of Mechanically Alloyed Ultrafine-Grained Ti₅Si₃ + 40 vol.% γ -TiAl Composites
Mater. Sci. & Eng., **A579** (September 2013) 18-25.
(<http://dx.doi.org/10.1016/j.msea.2013.04.092>)
237. N. Al-Aqeeli, K. Abdullahi, C. Suryanarayana, T. Laoui, and S. Nouari
Structure of Mechanically Milled CNT-Reinforced Al-alloy Nanocomposites
Mater. & Manufact. Process. (2013, in press) (DOI: 10.1080/10426914.2012.746703).
238. U.M.R. Seelam and C. Suryanarayana
Metallography of Sputter-Deposited SS304+Al Coatings
Metall. Microstr. Analysis, (2013, in press).
239. N. Al-Aqeeli, C. Suryanarayana, and M.A. Hussein
An amorphous Phase in the Immiscible Nb–Zr System by Mechanical Alloying
J. Appl. Phys. (submitted).
240. M. Babu, J.H. Lee, H.S. Kim, C. Suryanarayana, and S.J. Hong
Effect of Atmosphere and Milling Time on the Coarsening of Copper Nano Powders during Mechanical Milling
Mater. Characterization (submitted).
241. N.K. Mukhopadhyay, F. Ali, S. Scudino, M. Samadi Khoshkhoo, M. Stoica, V.C. Srivastava, V. Uhlenwinkel, G. Vaughan, C. Suryanarayana, and J. Eckert

An Investigation on the Inverse Hall-Petch Behavior in Nanostructured $\text{Al}_{62.5}\text{Cu}_{25}\text{Fe}_{12.5}$
Quasicrystals
Appl. Phys. Lett. (submitted)

241. C. Borchers, T. Schmidt, M. Schulze, H. Assadi, C. Suryanarayana, F. Gärtner, and T. Klassen
Strain-Induced Phase Formation in Cold Sprayed CoNiCrAlY Coatings
Acta Mater. (to be submitted).
242. C. Suryanarayana and E. Ivanov
Mechanical Alloying – Scientific Advances and Technological Applications
Adv. Eng. Mater. (to be submitted).

Papers Published in Conference Proceedings

1. S. Ranganathan and C. Suryanarayana
Recent Advances in Field-Ion Microscopy
in "Recent Developments in Metallurgical Science & Technology", The Indian Inst. Metals, New Delhi, 1972, Physical Metallurgy, pp. 155-184.
2. C. Suryanarayana and M. N. Chandrasekharaiah
Field-Ion Microscopy in Surface Studies
in Proc. DAE Symposium on "Chemistry and Physics of Surface of Metals and Their Oxides", Kalpakkam, India, 1976, pp. 323-342.
3. S. K. Tiwari, K. Chattopadhyay, C. Suryanarayana, and T. R. Anantharaman
Structure of a Splat-Cooled Al-30% Mg Alloy
Bull. Electron Microscope Soc. India, **2** (1978) 35-36.
4. T. R. Anantharaman, P. Ramachandrarao, C. Suryanarayana, S. Lele, K. Chattopadhyay, G. V. S. Sastry, and H. A. Davies
Rapid Quenching of Aluminium Alloys
in "Rapidly Quenched Metals III", ed., B. Cantor, The Metals Society, London, 1978, Vol. I, pp. 126-137.
5. T. R. Anantharaman, P. Ramachandrarao, and C. Suryanarayana
Non-Equilibrium Solidification in Some FCC-DC Metal Binary Systems
in "Metal Sciences - The Emerging Frontiers" (Proc. ICMS-77), eds., T. R. Anantharaman, S. L. Malhotra, S. Ranganathan and P. Rama Rao, The Indian Inst. Metals, Calcutta, 1979, pp. 25-41.
6. C. Suryanarayana, A. Inoue, and T. Masumoto
Crystallization Behavior of Titanium-Base Amorphous Alloys
in "Titanium '80 - Science and Technology", eds., H. Kimura and O. Izumi, The Metallurgical Soc. AIME, Warrendale, PA, 1980, Vol. I, pp. 699-707.
7. G. V. S. Sastry, C. Suryanarayana, and G. Van Tendeloo
A High Resolution Electron Microscopy Study of Phase Transformations in Vapour-Deposited Al-Pd Alloys
in "Rapidly Quenched Metals IV", eds., T. Masumoto and K. Suzuki, The Japan Inst. Metals, Sendai, 1982, Vol. I, pp. 443-446.
8. A. Inoue, C. Suryanarayana, J. Kanehira, and T. Masumoto
On the Crystallization of Co-(Ti, Zr, Hf) Binary Amorphous Alloys
in "Rapidly Quenched Metals IV", eds., T. Masumoto and K. Suzuki, The Japan Inst. Metals, Sendai, 1982, Vol. I, pp. 655-658.
9. W. K. Wang, H. Iwasaki, C. Suryanarayana, T. Masumoto, K. Fukamichi, Y. Syono, and T. Goto
Crystallization of Amorphous Alloys Under High Pressure and Its Application to the Synthesis of New Crystalline Phases
in "Rapidly Quenched Metals IV", eds., T. Masumoto and K. Suzuki, The Japan Inst. Metals, Sendai, 1982, Vol. I, pp. 663-666.

10. T. R. Ramachandran and C. Suryanarayana
Zirconium in Aluminium Alloys
in Proc. Seminar on "High Strength Aluminium Alloys in Defence and Industry", R & DE (Engrs), Pune, February 1984.
11. C. Suryanarayana, P. Ramachandrarao, and T. R. Anantharaman
High Strength Aluminium Alloys Through Rapid Solidification Processing
in "Light Metals : Science and Technology", eds., C. Suryanarayana, P. M. Prasad, S. L. Malhotra and T.R. Anantharaman, Trans Tech Publications, Aedermansdorf, Switzerland, 1985, p. 85-107.
12. Jyothi Menon and C. Suryanarayana
Evolution of Microstructures in a Melt-Spun Al-Co Alloy
in Proc. XI International Congress on "Electron Microscopy", eds., T. Imura, S. Maruse and T. Suzuki, Japan Soc. Electr. Micro., Tokyo, 1986, Vol. II, pp. 1621-1622.
13. Jyothi Menon and C. Suryanarayana
Characterization of a Rapidly Solidified Al-Co Alloy
in Proc. II Internat. Symp. on "Electron Microscopy & Biophysics", Chandigarh, 1986, pp. 163-166.
14. S. Singh, S. Lele, and C. Suryanarayana
A Structural Study of a Rapidly Solidified Al-3%Ta Alloy
in Proc. II Internat. Symp. on "Electron Microscopy & Biophysics", Chandigarh, 1986, pp. 263-266.
15. M. Hanumantha Rao, C. Suryanarayana, and T. R. Anantharaman
An Analytical Electron Microscopic Study of Rapidly Quenched Aluminium-Cobalt Alloys
in "Proc. International Conf. on Aluminium " (INCAL-85), eds., D. Kumar, E. S. Dwarakadasa and S. K. Gupta, Secretariat, INCAL-85, New Delhi, 1987, Vol. 3, pp. 319-328.
16. C. Suryanarayana
Phase Transformations in Rapidly Solidified Alloys
in "Proc. IVth Asia-Pacific Conference and Workshop on Electron Microscopy", eds., V. Manglaviraj, W. Banchorndhevakul and P. Ingkaninun, Bangkok, Thailand, 1988, pp. 191-196.
17. C. Suryanarayana, R. Sundaresan, and F.H. Froes
Mechanical Alloying of Reactive and Refractory Metals
in "Advances in Powder Metallurgy - 1989", compiled by T.G. Gasbarre and W.F. Jandeska, Jr., Metal Powder Industries Federation, Princeton, NJ, 1989, Vol. 3, pp. 175-188.
18. Z.A. Chaudhury and C. Suryanarayana
Annealing Behaviour of a Few Vapour-Deposited Aluminium-Base Alloys
in "Physics of Materials", ed., C.W. Lung, Academia Sinica, Shenyang, China, 1989, pp. F5.1-F5.8.
19. C. Suryanarayana and F.H. Froes
Nanocrystalline Metals: A Review
in "Physical Chemistry of Powder Metals Production and Processing", ed., W. Murray Small, TMS, Warrendale, PA, 1989, pp. 279-296.

20. C. Suryanarayana, R. Sundaresan, and F.H. Froes
Hydrogen-Assisted TiAl Formation During Mechanical Alloying
in "Solid State Powder Processing", eds., A.H. Clauer and J.J. deBarbadillo, TMS, Warrendale, PA, 1990, pp. 55-64.
21. F.H. Froes, J.J. deBarbadillo, and C. Suryanarayana
Development, Technology Transfer, and Application of Advanced Aerospace Structural Materials
in "Structural Applications of Mechanical Alloying", eds., F.H. Froes and J.J. deBarbadillo, ASM International, Materials Park, OH, 1990, pp. 1-14.
22. C. Suryanarayana, R. Sundaresan, and F.H. Froes
Mechanical Alloying of Titanium Alloys
in "Structural Applications of Mechanical Alloying", eds., F.H. Froes and J.J. deBarbadillo, ASM International, Materials Park, OH, 1990, pp. 193-201.
23. C. Suryanarayana and F.H. Froes
Non-Equilibrium Processing of Aluminum Alloys
in "Aluminium - Strategies for the Nineties and Beyond" (INCAL-91), eds., E.S. Dwarakadasa, S. Seshan and K.P. Abraham, Aluminium Association of India, Bangalore, Vol. II, 1991, p. 593-601.
24. C. Suryanarayana and F.H. Froes
Non-Equilibrium Processing: Rapid Solidification and Mechanical Alloying
in "Heat Resistant Materials", eds., K. Natesan and D.J. Tillack, ASM International, Materials Park, OH, 1991, pp. 25-34.
25. F.H. Froes, C. Suryanarayana, and E. Lavernia
Synthesis of Light Metals for Aerospace Applications
in "Science and Engineering of Light Metals", eds., K. Hirano, H. Oikawa and K. Ikeda, Japan Inst. of Light Metals, Tokyo, 1991, pp. 43-50.
26. C. Suryanarayana, F.H. Froes, and W.E. Quist
Non-Equilibrium Processing of Powder Alloys for Aerospace Applications
in "Advances in Powder Metallurgy - 1991", compiled by L.F. Pease III and R.J. Sansoucy, MPIF, Princeton, NJ, 1991, Vol. 6, pp. 15-29.
27. C. Suryanarayana, Guo-Hao Chen, and F.H. Froes
Mechanical Alloying of Ti-Al-Nb Alloys
in "Advancements in Synthesis and Processing", eds., F.H. Froes, W. Wallace, R.A. Cull and E. Struckholt, SAMPE, Covina, CA, 1992, pp. M671-M683.
28. F.H. Froes, C. Suryanarayana, and S.B. Bhaduri
Grain Boundaries in Metallic Materials
in "Grain Boundary Controlled Properties of Fine Ceramics", eds., K. Ishizaki, K. Niihara, M. Isotani and R.G. Ford, Elsevier Applied Science, London, 1992, pp. 229-237.
29. Guo-Hao Chen, C. Suryanarayana, and F.H. Froes
Formation of the B2 Phase in Ti-Al-Nb Alloys by Mechanical Alloying
in "Advances in Powder Metallurgy & Particulate Materials -1992", Vol. 7 (Novel Powder Processing), compiled by J.M. Capus and R.M. German, MPIF, Princeton, NJ, 1992, pp. 183-194.

30. D.K. Mukhopadhyay, C. Suryanarayana, F.H. Froes, and C.F. Yolton
Combined Mechanical Alloying and Thermochemical Processing Approach to Synthesize Titanium Aluminides
in "Advanced Synthesis of Engineered Structural Materials", eds., J.J. Moore, E.J. Lavernia and F.H. Froes, ASM International, Materials Park, OH, 1993, pp. 181-188.
31. D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
Mechanical Alloying of Aluminum-Iron Alloys
in "Advanced Synthesis of Engineered Structural Materials", eds., J.J. Moore, E.J. Lavernia and F.H. Froes, ASM International, Materials Park, OH, 1993, pp. 189-195.
32. Guo-Hao Chen, C. Suryanarayana, and F.H. Froes
Effect of Processing Parameters on Mechanical Alloying of Ti₃Al-Base Alloys
in "Advanced Synthesis of Engineered Structural Materials", eds., J.J. Moore, E.J. Lavernia and F.H. Froes, ASM International, Materials Park, OH, 1993, pp. 205-212.
33. Abdulbaset Frefer, C. Suryanarayana, and F.H. Froes
Effect of Mechanical Alloying on γ -TiAl alloys
in "Advanced Synthesis of Engineered Structural Materials", eds., J.J. Moore, E.J. Lavernia and F.H. Froes, ASM International, Materials Park, OH, 1993, pp. 213-219.
34. K. Sato, K. Ishizaki, G.H. Chen, A. Frefer, C. Suryanarayana, and F.H. Froes
Fine Structure Analysis of Mechanically Alloyed Titanium Aluminides
in "Advanced Synthesis of Engineered Structural Materials", eds., J.J. Moore, E.J. Lavernia and F.H. Froes, ASM International, Materials Park, OH, 1993, pp. 221-225.
35. F.H. Froes, C. Suryanarayana, Guo-Hao Chen, A. Frefer, and D. Mukhopadhyay
Synthesis of Titanium Aluminide Intermetallics by Mechanical Alloying
in "Powder Metallurgy in Aerospace, Defense and Demanding Applications - 1993", ed., F.H. Froes, Metal Powder Industries Federation, Princeton, NJ, 1993, pp. 3-24.
36. F.H. Froes, P. Tsakirooulos, C. Suryanarayana, and W. Baeslack
Light Metal Synthesis for Aerospace Applications
in "Light Materials for Transportation Systems", ed., N.J. Kim, Center for Advanced Aerospace Materials, Pohang University of Science and Technology, Pohang, Korea, 1993, pp. 27-60.
37. V. Jacob, R. Baccino, F. Moret, C. Suryanarayana, F.H. Froes, J. Mishurda, and A. Frefer
Microstructural Transformation During the Mechanical Alloying of Ti-47.5Al-3Cr Titanium Aluminide Powder
in "Mechanical Alloying for Structural Applications", eds., J.J. deBarbadillo, F.H. Froes and R. Schwarz, ASM International, Materials Park, OH, 1993, pp. 33-39.
38. D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
Synergistic Effect of Mechanical Alloying and Thermochemical Processing on Microstructural Refinement of Titanium Aluminides
in "Mechanical Alloying for Structural Applications", eds., J.J. deBarbadillo, F.H. Froes and R. Schwarz, ASM International, Materials Park, OH, 1993, pp. 131-138.

39. I.S. Polkin, A.B. Borzov, F.H. Froes, and C. Suryanarayana
New Materials Produced by Mechanical Alloying
in "Mechanical Alloying for Structural Applications", eds., J.J. deBarbadillo, F.H. Froes and R. Schwarz, ASM International, Materials Park, OH, 1993, pp. 157-164.
40. Zhixue Peng, C. Suryanarayana, and F.H. Froes
Synthesis of Niobium Aluminides by Mechanical Alloying
in "Mechanical Alloying for Structural Applications", eds., J.J. deBarbadillo, F.H. Froes and R. Schwarz, ASM International, Materials Park, OH, 1993, pp. 335-341.
41. D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
Mechanical Alloying of the Cd-Zn System
in "Mechanical Alloying for Structural Applications", eds., J.J. deBarbadillo, F.H. Froes and R. Schwarz, ASM International, Materials Park, OH, 1993, pp. 361-366.
42. Guo-Hao Chen, C. Suryanarayana, and F.H. Froes
Mechanical Alloying of Zr-50 at.% Al Powder
in "Mechanical Alloying for Structural Applications", eds., J.J. deBarbadillo, F.H. Froes and R. Schwarz, ASM International, Materials Park, OH, 1993, pp. 367-375.
43. D. Upadhyaya, D.M. Blackketter, C. Suryanarayana, and F. H. Froes
Microstructure and Mechanical Properties of β -21S Titanium Alloy
in "Titanium '92: Science and Technology", eds., F.H. Froes and I.L. Caplan, TMS, Warrendale, PA, 1993, pp. 447-454.
44. D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
Synthesis of Titanium Aluminides Using a Combined Mechanical Alloying and Thermochemical Processing Approach
in "Titanium '92: Science and Technology", eds., F.H. Froes and I.L. Caplan, TMS, Warrendale, PA, 1993, pp. 829-835.
45. Guo-Hao Chen, C. Suryanarayana, and F.H. Froes
Nanostructure Formation in a Mechanically Alloyed Ti-24Al-11Nb Alloy
in "Titanium '92: Science and Technology", eds., F.H. Froes and I.L. Caplan, TMS, Warrendale, PA, 1993, pp. 903-910.
46. Abdulbaset Prefer, C. Suryanarayana, and F.H. Froes
Synthesis of γ -TiAl by Mechanical Alloying of Elemental Powders
in "Titanium '92: Science and Technology", eds., F.H. Froes and I.L. Caplan, TMS, Warrendale, PA, 1993, pp. 933-940.
47. F.H. Froes and C. Suryanarayana
Developments in Nonferrous Powder Metallurgy Materials
in "Proc 1993 Powder Metallurgy World Congress", eds., Y. Bando and K. Kosuge, Japan Soc. Powder Powder Metall., Kyoto, Japan, 1993, pp. 541-545.

48. C. Suryanarayana, F.H. Froes, D.K. Mukhopadhyay, G. Cizmich, G.H. Chen, Z. Peng, and J. Mishurda
Synthesis of Intermetallics by Mechanical Alloying
in "Processing and Fabrication of Advanced Materials III", eds., V.A. Ravi, T.S. Srivatsan and J.J. Moore, TMS, Warrendale, PA, 1994, pp. 567-584.
49. C. Suryanarayana and F.H. Froes
Production and Properties of Lightweight Alloys by Mechanical Alloying
in Proceedings of the Third IUMRS International Conference on "Advanced Materials (ICAM-93)", eds., T. Masumoto, M. Doyama, K. Kuribayashi and T. Kishi, Elsevier Sci. Publ., B.V., Amsterdam, The Netherlands, Trans. Mater. Res. Soc. Japan, **16A** (1994) 81-86.
50. F.H. Froes, E. Evangelista, S. Antolovich, C. Suryanarayana, C.M. Ward-Close, and W.A. Baeslack
Recent Developments in Advanced Metallic Materials
in "Proc. of the Eighth CIMTEC Forum on New Materials", Florence, Italy, June 29-July 4, 1994.
51. V. Jacob, R. Baccino, F. Moret, F.H. Froes, J.C. Mishurda, and C. Suryanarayana
Microstructural Transformations during the Mechanical Alloying of Ti-47.5Al-3Cr Alloy
in "Powder Metallurgy World Congress (PM '94)", Editions de Physique, Ulis, France, Vol. 2 (1994) 1235-1238.
52. F.H. Froes, C. Suryanarayana, K.C. Russell, and C.M. Ward-Close
Far From Equilibrium Processing of Light Metals
in "Novel Techniques in Synthesis and Processing of Advanced Materials", eds., J. Singh and S.M. Copley, TMS, Warrendale, PA, 1995, pp. 1-21.
53. M.L. Ovecoglu, C. Suryanarayana, F.H. Froes, and M.J. Tan
Mechanical Alloying as a Means of Providing SiC Dispersions in a Prealloyed Al-Matrix
in "Proc. 8th International Metallurgy & Materials Congress", Istanbul, Turkey, 1995, pp. 1249-1257.
54. D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
Mechanical Alloying of Al-Fe Powder Mixtures
in "Proc. 8th International Metallurgy & Materials Congress", Istanbul, Turkey, 1995, pp. 1259-1264.
55. F.H. Froes, C. Suryanarayana, and C.M. Ward-Close
Synthesis/Processing of Lightweight Metals
in "Synthesis/Processing of Lightweight Metallic Materials", eds., F.H. Froes, C. Suryanarayana and C.M. Ward-Close, TMS, Warrendale, PA, 1995, pp. 3-16.
56. Enhong Zhou, C. Suryanarayana, and F.H. Froes
Solid Solubility Extension of Magnesium in Titanium by Mechanical Alloying
in "Synthesis/Processing of Lightweight Metallic Materials", eds., F.H. Froes, C. Suryanarayana and C.M. Ward-Close, TMS, Warrendale, PA, 1995, pp. 43-51.

57. D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
Synthesis of Metastable Phases in Blended Elemental Ti-Al-Ta Powders by Mechanical Alloying
in "Synthesis/Processing of Lightweight Metallic Materials", eds., F.H. Froes, C. Suryanarayana and C.M. Ward-Close, TMS, Warrendale, PA, 1995, pp. 65-73.
58. F.S. Biancaniello, F.W. Gayle, C. Suryanarayana, and F.H. Froes
Control of BCC and FCC Phase Formation during Mechanical Alloying of Ti-Al-Nb
in "Synthesis/Processing of Lightweight Metallic Materials", eds., F.H. Froes, C. Suryanarayana and C.M. Ward-Close, TMS, Warrendale, PA, 1995, pp. 75-83.
59. C.R. Clark, C. Suryanarayana, and F.H. Froes
Solid Solubility Extensions in Lightweight Alloys by Mechanical Alloying
in "Synthesis/Processing of Lightweight Metallic Materials", eds., F.H. Froes, C. Suryanarayana and C.M. Ward-Close, TMS, Warrendale, PA, 1995, pp. 175-182.
60. D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
Structural Evolution in Mechanically Alloyed Al-Fe Powders
in "Synthesis/Processing of Lightweight Metallic Materials", eds., F.H. Froes, C. Suryanarayana and C.M. Ward-Close, TMS, Warrendale, PA, 1995, pp. 191-202.
61. Wenkai Li, C. Suryanarayana, and F.H. Froes
Metastable $L1_2$ Cubic Phases in Al-Fe-Zr and Al-Ni-Zr Powders Produced by Mechanical Alloying
in "Synthesis/Processing of Lightweight Metallic Materials", eds., F.H. Froes, C. Suryanarayana and C.M. Ward-Close, TMS, Warrendale, PA, 1995, pp. 203-213.
62. D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
Mechanical Milling of Nb_3Al Intermetallic
in "Advances in Powder Metallurgy and Particulate Materials", compiled by M.A. Phillips and J. Porter, Metal Powder Industries Federation, Princeton, NJ, 1995, Part 1, pp. 123-133.
63. C.R. Clark, C. Suryanarayana, and F.H. Froes
Solid Solubility Extension in Binary Aluminum and Magnesium Alloys by Mechanical Alloying
in "Advances in Powder Metallurgy and Particulate Materials", compiled by M.A. Phillips and J. Porter, Metal Powder Industries Federation, Princeton, NJ, 1995, Part 1, pp. 135-143.
64. Wenkai Li, C. Suryanarayana, and F.H. Froes
Synthesis of Metastable $L1_2$ Cubic Phases in $(Al,M)_3Zr$ and $(Al,M)_3Hf$ (M=Fe or Ni) Powders by Mechanical Alloying
in "Advances in Powder Metallurgy and Particulate Materials", compiled by M.A. Phillips and J. Porter, Metal Powder Industries Federation, Princeton, NJ, 1995, Part 1, pp. 145-157.
65. F.H. Froes, C. Suryanarayana, D.K. Mukhopadhyay, K. Brand, G.E. Korth, D. Zick, P. Tylus, and J. Hebeisen
Compaction of Nanograined Gamma TiAl by Hot Isostatic Pressing
in "Advances in Powder Metallurgy and Particulate Materials", compiled by M.A. Phillips and J. Porter, Metal Powder Industries Federation, Princeton, NJ, 1995, Part 12, pp. 63-76.

66. J. Hebeisen, P. Tylus, D. Zick, D.K. Mukhopadhyay, K. Brand, C. Suryanarayana, and F.H. Froes
Hot Isostatic Pressing of Nanometer Sized γ -TiAl Powders
in "P/M in Aerospace, Defense, and Demanding Applications - 1995", ed., F.H. Froes, Metal Powder Industries Federation, Princeton, NJ, 1995, pp. 363-368.
67. C. Suryanarayana, G.E. Korth, F.H. Froes, and J. Hebeisen
Synthesis of Nanostructured Titanium Aluminides by Mechanical Alloying and Hot Isostatic Pressing
in "Synthesis and Processing of Nanocrystalline Powder", ed., D.L. Bourell, TMS, Warrendale, PA, 1996, pp. 133-142.
68. D.K. Mukhopadhyay, K.A. Prisbrey, C. Suryanarayana, and F.H. Froes
Ball Milling, A Novel Extraction Process for Production of W from WO_3 using Mg as a Reductant
in "Tungsten and Refractory Metals 3", eds., A. Bose and R.J. Dowding, Metal Powder Industries Federation, Princeton, NJ, 1996, pp. 239-246.
69. C. Suryanarayana, G.E. Korth, and F.H. Froes
Consolidation and Characterization of Nanostructured Titanium Aluminides
in "Processing and Properties of Nanocrystalline Materials", eds., C. Suryanarayana, J. Singh and F.H. Froes, TMS, Warrendale, PA, 1996, pp. 291-302.
70. D. Eliezer, F.H. Froes, C. Suryanarayana, and H. Nelson
Hydrogen Effects in Titanium Aluminide Alloys
in "Hydrogen Effects in Materials", eds., A.W. Thompson and N.R. Moody, TMS, Warrendale, PA, 1996, pp. 755-763.
71. R.S. Mishra, A.K. Mukherjee, D.K. Mukhopadhyay, C. Suryanarayana, F.H. Froes and J. Hebeisen
Superplastic Behavior of Mechanically Alloyed and Hot Isostatically Pressed Ti- 47.5Al-3Cr (at.%)
in "Hot Isostatic Pressing", eds., F.H. Froes, R. Widmer and J. Hebeisen, ASM International, Materials Park, OH, 1996, pp. 115-119.
72. D.K. Mukhopadhyay, C. Suryanarayana, F.H. Froes, J. Hebeisen, and D.S. Gelles
Development of Oxide Dispersion Strengthened Ferritic Steels for Fusion Reactors
in "Hot Isostatic Pressing", eds., F.H. Froes, R. Widmer and J. Hebeisen, ASM International, Materials Park, OH, 1996, pp. 175-179.
73. F.H. Froes, C. Suryanarayana, P.R. Taylor, S.A. Pirzada, and C.M. Ward-Close
Synthesis of Metals by Far From Equilibrium Processing
in "Processing and Fabrication of Advanced Materials IV", eds., T.S. Srivatsan and J.J. Moore, TMS, Warrendale, PA, 1996, pp. 721-730.
74. C. Suryanarayana
Recent Developments in Mechanical Alloying
in "Processing and Fabrication of Advanced Materials V", eds., T.S. Srivatsan and J.J. Moore, TMS, Warrendale, PA, 1996, pp. 147-163.

75. P.S. Goodwin, C.R. Powell, C. Suryanarayana, F.H. Froes, and C.M. Ward-Close
Effect of Milling Atmosphere on the Mechanical Alloying of Titanium Aluminide Powder
in "Processing and Fabrication of Advanced Materials V", eds., T.S. Srivatsan and J.J. Moore,
TMS, Warrendale, PA, 1996, 391-398.
76. D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
Phase Transformations in Mechanically Alloyed Ti-Al-Ta Powders
in "Titanium '95", eds., P.A. Blenkinsop, W.J. Evans and H.M. Flower, Inst. of Materials,
London, UK, Vol. 1, 1996, pp. 209-216.
77. P.S. Goodwin, D.K. Mukhopadhyay, C. Suryanarayana, F.H. Froes, and C.M. Ward-Close
Control of Interstitial Contamination during Mechanical Alloying of Titanium-Based Materials
in "Titanium '95", eds., P.A. Blenkinsop, W.J. Evans and H.M. Flower, Inst. of Materials,
London, UK, Vol. 3, 1996, pp. 2626-2633.
78. Enhong Zhou, C. Suryanarayana, and F.H. Froes
Mechanical Alloying of Titanium-Magnesium Powders
in "Titanium '95", eds., P.A. Blenkinsop, W.J. Evans and H.M. Flower, Inst. of Materials,
London, UK, Vol. 3, 1996, pp. 2657-2664.
79. K. Brand, C. Suryanarayana, B.F. Kieback, and F.H. Froes
Phase Formation during Mechanical Alloying and Hot Isostatic Pressing of Ti-Al-B Powders
in "Advances in Powder Metallurgy and Particulate Materials - 1996", compiled by T.M. Cadle
and K. S. Narasimhan, Metal Powder Industries Federation, Princeton, NJ, 1996, Part 2, pp. 49-
58.
80. F.H. Froes, C. Suryanarayana, N. Srisukhumbowornchai, X. Chen, D.K. Mukhopadhyay, M.L.
Ovecoglu, K. Brand, and J. Hebeisen
Processing of Nanostructured Gamma TiAl by Mechanical Alloying and Hot Isostatic Pressing
in "Advances in the Science and Technology of Titanium Alloy Processing", eds., I. Weiss, R.
Srinivasan, P.J. Bania, D. Eylon, and S.L. Semiatin, TMS, Warrendale, PA, 1997, pp. 387-395.
81. R.S. Mishra, A.K. Mukherjee, D.K. Mukhopadhyay, C. Suryanarayana, and F.H. Froes
Flow Behavior of a Mechanically Alloyed and HIPped Nanocrystalline γ -TiAl
in "Advances in the Science and Technology of Titanium Alloy Processing", eds., I. Weiss, R.
Srinivasan, P.J. Bania, D. Eylon, and S.L. Semiatin, TMS, Warrendale, PA, 1997, pp. 405-411.
82. C. Suryanarayana
Nanocrystalline Metals - An Overview
in "Advanced PM Processing II", eds. S.H. Ahn and N.J. Kim, Research Inst. of Industrial Sci. &
Tech., Center for Advanced Aerospace Materials, POSTECH, Pohang, Korea, 1997, pp. 238-249.
83. F.H. Froes, B.D. Bryskin, C.R. Clark, C. Suryanarayana, and E.G. Baburaj
Mechanical Alloying of W-25wt.%Re Powder
in "Rhenium and Rhenium Alloys", ed. B.D. Bryskin, TMS, Warrendale, PA, 1997, pp. 569-583.
84. E.G. Baburaj, K.T. Hubert, C. Powell, C. Suryanarayana, and F.H. Froes
Preparation of Ti Powder by a Mechanical Milling Induced Reduction Reaction
in "Synthesis/Processing of Lightweight Metallic Materials II", eds. C.M. Ward-Close, F.H. Froes,
D.J. Chellman, and S.S. Cho, TMS, Warrendale, PA, 1997, pp. 279-287.

85. C.R. Clark, C. Suryanarayana, E.G. Baburaj, and F.H. Froes
Formation of Intermetallics in Mg-X (X = Si, Ge, or Sn) Binary Systems by Mechanical Alloying in “Advanced Particulate Materials & Processes – 1997”, eds. F.H. Froes and J.C. Hebeisen, MPIF, Princeton, NJ, 1997, pp. 169-175.
86. C.R. Clark, C. Wright, C. Suryanarayana, S.S. Cho, B.S. Chun, E.G. Baburaj, and F.H. Froes
Comparison of Solid Solubility of Al in Mg by Mechanical Alloying and Rapid Solidification in “Advanced Particulate Materials & Processes – 1997”, eds. F.H. Froes and J.C. Hebeisen, MPIF, Princeton, NJ, 1997, pp. 395-400.
87. D.A. Buell, C. Suryanarayana, D.L. Williamson, and J.J. Moore
Characterization of a Diffusion Barrier Layer for Molybdenum Electrodes in “Surface Modification Technologies XII”, eds. T.S. Sudarshan, K.A. Khor, and M. Jeandin, ASM International, Materials Park, OH, 1998, pp. 85-90.
88. C. Suryanarayana, E. Hixson, G.W. Mustoe, and J.J. Moore
Finite Element Modeling of Thermal Stresses in MoSi₂ and MoSi₂+SiC Composite Coatings: A Preliminary Study in “Surface Engineering in Materials Science I”, eds. S. Seal, N.B. Dahotre, J.J. Moore, and B. Mishra, TMS, Warrendale, PA, 2000, pp. 3-12.
89. D.L. Olson, D.W. Wenman, V.I. Kaydanov, C. Suryanarayana, and D. Eliezer
The Search for Room Temperature Cubic Magnesium Alloys in “Magnesium 2000”, eds. E. Aghion and D. Eliezer, Magnesium Research Institute (MRI) Ltd., Israel, 2000, pp. 165-172.
90. R.D. Torres, C. Suryanarayana, J.J. Moore, J. Chapa, and R.P. Radtke
A Finite Element Modeling of Thermal Residual Stresses during Brazing of Diamond to Tungsten Carbide in “Surface Engineering: Science and Technology I”, eds. A. Kumar, Y.W. Chang, J.J. Moore, and J. Smugeresky, TMS, Warrendale, PA, 1999, pp. 497-506.
91. D.A. Buell, C. Suryanarayana, D.L. Williamson, J.J. Moore, and J. Disam
Development of a Diffusion Barrier Layer for High-Temperature Molybdenum Electrodes in “Elevated Temperature Coatings: Science and Technology III”, eds. J. Hampikian and N.B. Dahotre, TMS, Warrendale, PA, 1999, pp. 361-370.
92. C. Suryanarayana, E. Ivanov, and I.G. Konstanchuk
Mechanically Alloyed Magnesium Alloys for Hydrogen Storage in LiMAT 2001, eds. N.J. Kim, C.S. Lee, and D. Eylon, Pohang University of Science and Technology, Pohang, Korea, 2001, vol. 1, pp. 261-268.
93. E.C. Hixson, C. Suryanarayana, G.G.W. Mustoe, and J.J. Moore
Finite Element Modeling of Thermal Stresses in MoSi₂ and MoSi₂+SiC Composite Coatings on Molybdenum in “Processing and Manufacturing of Advanced Materials (THERMEC 2000)”, eds. T. Chandra, K. Higashi, C. Suryanarayana, and C.N. Tome, Elsevier, Oxford, UK, 2001.
94. E.C. Hixson, C. Suryanarayana, G.G.W. Mustoe, and J.J. Moore

- Modeling Thermal Stresses and Measuring Thin Film CTE in MoSi₂ and MoSi₂+SiC Composite Coatings on Molybdenum
in “Elevated Temperature Coatings: Science and Technology IV”, eds. N.B. Dahotre, J. Hampikian and J. Morral, TMS, Warrendale, PA, 2001, pp. 109-118.
95. S.J. Hong, H.S. Kim, C. Suryanarayana, and B.S. Chun
Crystallization Behavior of a Melt-Spun Al₈₆Ni₉Mm₅ Alloy
in “Science and Technology of Interfaces”, eds. S. Ankem, C.S. Pande, I.A. Ovidko, and S. Ranganathan, TMS, Warrendale, PA, 2002, pp. 171-182.
96. T. Klassen, R. Bohn, C. Suryanarayana, G. Fanta, and R. Bormann
Mechanical Properties of Ultrafine-Grained Titanium Aluminide/Titanium Silicide Composites Prepared by High Energy Milling
in “Processing and Properties of Structural Nanomaterials”, eds. L. Shaw, C. Suryanarayana, and R.S. Mishra, TMS, Warrendale, PA, 2003, pp. 93-100.
97. S.J. Hong and C. Suryanarayana
Mechanical Properties and Fracture Mechanisms of Nanostructured Al-20 wt% Si Alloy
in “Processing and Properties of Structural Nanomaterials”, eds. L. Shaw, C. Suryanarayana, and R.S. Mishra, TMS, Warrendale, PA, 2003, pp. 133-140.
98. C. Suryanarayana and E. Ivanov
Mechanical Alloying for Advanced Materials
in “Powder Materials: Current Research and Industrial Practices III”, ed. F.D.S. Marquis, TMS, Warrendale, PA, 2003, pp. 169-178.
99. P. Mohan, C. Suryanarayana, and V. Desai
Corrosion Properties of MoSi₂+Si₃N₄ Nanocomposites
In “Nanomaterials: Synthesis, Characterisation, and Application”, eds. S. Bandyopadhyay et al., Tata McGraw-Hill Publ. Co. Ltd., New Delhi, India, 2004, pp. 171-181.
100. P. Mohan, C. Suryanarayana, T. Du, and V. Desai
Corrosion Properties of MoSi₂+Si₃N₄ Nanocomposites in Acidic and Basic Aqueous Environments
Proc. 206th ECS PV 2005-14, pp. 461-472.
101. S.J. Hong, H. Bhatt, C. Suryanarayana, and S. Kalita
Synthesis of Nano-Size Hydroxyapatite (HAp) Powders by Mechanical Alloying
in Proceedings of 29th International Conference on Advanced Ceramics & Composites, Cocoa Beach, FL, S8: Bioceramics, edited by D. Zhu and W. M. Kriven, 2005, *Ceramic Engineering and Science Proceedings* 26 (6), pp. 33-39.
102. E. Ivanov and C. Suryanarayana
Fabrication of CIGS Alloy by Mechanical Alloying Process
In Proc. of the 23rd European Photovoltaic Solar Energy Conference, September 1-5, 2008, Valencia, Spain, pp. 2513-2516.
103. C. Suryanarayana, T. Klassen, and E. Ivanov
Synthesis of Advanced Materials by Mechanical Alloying
WPI-AIMR News, **10** (2010) 123-135.

104. C. Suryanarayana
Non-equilibrium Processing of Advanced Materials
In “Frontiers of Metallurgy and Materials Technology”, ed. V.V. Kutumba Rao, BS Publications,
Hyderabad, India, 2011, pp. 3-25.

Popular Articles

1. C. Suryanarayana
Superconductivity and Metallurgy
COMMET, **11** (1966) 15-20.
2. T. R. Anantharaman and C. Suryanarayana
Crystalline Imperfections in Metals
Tenth Annual Number, Govt. Polytechnic, Vijayawada, 1968, pp. 9-12.
3. C. Suryanarayana
Splat Cooling
Science Reporter, **10** (1973) 19-21.
4. C. Suryanarayana
When Metals Turn Glassy
Science Today, **15**, No. 5 (1981) 58-63.
5. Z. A. Chaudhury and C. Suryanarayana
Precipitation in Splat-Quenched Al-Zr Alloys
Philips Electron Optics Bulletin No. 118 (1982) 23-24.
6. F.H. Froes and C. Suryanarayana
Powder Metallurgy at the University of Idaho
International Journal of Powder Metallurgy, **28** (1992) 202-208.
7. F.H. Froes and C. Suryanarayana
Mechanical Alloying Research Broadens its Scope
Metal Powder Report, **49**(1) (1994) 14-18.
8. J.J. Moore, C. Suryanarayana, and B. Mishra
Surface Engineering at the Colorado School of Mines
Surface Engineering, **15** (1999) 97-100.
9. J. J. Moore, C. Suryanarayana, and B. Mishra
Oxidation-Resistant Coatings for Molybdenum Electrodes Developed at the Colorado School of Mines
British Corrosion Journal, **34** (1999) 13-14.
10. C. Suryanarayana
Nano Nano
Advanced Materials & Processes, **162**(4) (2004) 4.

Conference Reviews

1. III Asia-Pacific Conference and Workshop on Electron Microscopy, Singapore, August 24-September 2, 1984
International Science News & INSA Delegation Reports, 3 (October 1985) 25-28.

2. International Symposium on Light Metals: Science and Technology, Varanasi, India, November 14-16, 1983.
J. Sci. & Ind. Res., **43** (January 1984) 8-9.
3. International Conference on Mechanical Alloying, Kyoto, Japan, May 7-10, 1991.
Metal Powder Report, **46** (October 1991) 12-13.
4. Advances in Titanium Powder Metallurgy (Seventh World Titanium Conference), San Diego, CA, June 28-July 2, 1992.
Metal Powder Report, **47** (November 1992) 18-19 (Part I) and (December 1992) 14-15 (Part II).

Book Reviews

1. **The Structure of Non-Crystalline Materials: Liquids and Amorphous Solids** by Yoshio Waseda, McGraw-Hill International Book Co., Inc., New York, 1980, 326 pp.
J. Sci. Ind. Res., 41 (January 1982) 58-59.
2. **Images of Materials**, edited by D.B. Williams, A.R. Pelton, and R. Gronsky, Oxford University Press, Oxford, UK, 1991, 379 pages (ISBN # 0-19-505856-9)
JOM, Vol. 44 (12) (December 1992), p. 52.
3. **Transmission Electron Energy Loss Spectrometry in Materials Science**, edited by M.M. Disko, C.C. Ahn, and B. Fultz, TMS, Warrendale, PA, 1992, 27 pages (ISBN # 0-87339-180-2)
JOM, Vol. 46 (January 1994).
4. **Recent Advances in Titanium Metal Matrix Composites**, edited by F.H. Froes and J. Storer, TMS, Warrendale, PA, 1995, 293 pages (ISBN # 0-87339-285-X)
Materials Technology, July/August 1995.
5. **Processing, Properties, and Applications of Iron Aluminides**, edited by J.H. Schneibel and M.A. Crimp, TMS, Warrendale, PA, 1994, 345 pages (ISBN # 0-87339-240-X)
JOM, Vol. 48 (1996).
6. **Nanophase Materials – Synthesis, Properties, Applications**, edited by G.C. Hadjipanayis and R.W. Siegel, Kluwer Academic Publishers, Dordrecht, Netherlands, 1994, 808pages (ISBN # 0-7923-2754-3)
JOM, Vol. 48 (February 1996).
7. **Light Alloys – Metallurgy of the Light Metals**, by I.J. Polmear, Halsted Press, London, UK, 1996, 362 pages (ISBN # 0-470-23565-9)
JOM, Vol. 48 (11) (November 1996), p. S6.
8. **Mechanical Alloying** by L. Lu and M.O. Lai, Kluwer Academic Publishers, Boston, MA, 1998, 276 pages. (ISBN # 0-7923-8066-5)
JOM, Vol. 51 (7) (July 1999), p. 48.
9. **Handbook of Physical Vapor Deposition (PVD) Processing** by Donald M. Mattox, Noyes Publication, Westwood, NJ, 1998, 917 pages. (ISBN # 0-8155-1422-0)
JOM, Vol. 52 (6) (June 2000), p. 48.

10. **Amorphous and Nanocrystalline Materials**, edited by A. Inoue and K. Hashimoto, Springer-Verlag, 2001, 206 pages. (ISBN # 3-540-67271-0)
Materials World (UK), Vol. 10 (January 2002), p. 28.
11. **Gas Phase Nanoparticle Synthesis**, edited by C. Granqvist, L. Kish, and W. Marlow
Springer-Verlag, 2004, 186 pages. (ISBN # 1-4020-2443-6)
Materials Today (UK), Vol. 8 (October 2005), p. 53.
12. **High-Energy Ball Milling. Mechanochemical Processing of Nanopowders**, edited by
Małgorzata Sopicka-Lizer
Woodhead Publishing/CRC Press, 2010, 422 pages. (ISBN # 9781845695316)
Materials World (UK), Vol. 19, No. 9 (September 2011), p. 47.