

YUNTIAN ZHU

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More information can be found at: <http://www.hsm-lab.com/>
(updated on Aug. 5, 2024)

Education:

- 1979-1983 **Hefei University of Technology, China**
B.S. in Metallurgy
- 1985-1988 **Institute of Metal Research, Chinese Academy of Sciences**
M.S. in Materials Science and Engineering
- 1989-1991 **Oregon Graduate Institute of Science and Technology**
M.S. in Materials Science and Engineering
- 1991-1994 **The University of Texas at Austin**
Ph.D. in Materials Science and Engineering

Professional Experience:

- 1983-1985 **Assistant Engineer**, Luoyang Bearing Research Institute, Luoyang, China
- 1994-1997 **Director's Postdoctoral Fellow**, Los Alamos National Laboratory, Los Alamos, NM
- 1997-2009 **Technical Staff Member**, Los Alamos National Laboratory
- 2006-2007 **Team Leader**, Nanomaterials, MPA-STC, Los Alamos National Laboratory
- 2007-2009 **Associate Professor**, North Carolina State University, USA
- 2009-2012 **Professor**, North Carolina State University, USA
- 2011-2020 **Thousand Talents Professor, Dean**, School of Mater. Sci. Eng.; **Adjunct Professor, Director**, Nano & Heterogeneous Materials Center, Nanjing University of Science and Technology, China
- 2012-2020 **Distinguished Professor**, North Carolina State University, USA
- 2020- **Chair Professor**, City University of Hong Kong; **Distinguished Professor Emeritus**, North Carolina State University

Honors:

- Foreign Member**, European Academy of Sciences (2024)
- Foreign Member**, Academia Europaea (The Academy of Europe) (2023)
- Fellow**, National Academy of Inventors, US (2022)
- Fellow**, ASM International (2010)
- Fellow**, American Physical Society (2011)
- Fellow**, American Association for the Advancement of Science (AAAS) (2012)
- Fellow**, The Minerals, Metals and Materials Society (TMS) (2017)
- Fellow**, Materials Research Society (MRS) (2019)
- Director's Postdoctoral Fellowship**, Los Alamos National Laboratory (1994-97)
- Achievement Award**, Los Alamos National Laboratory (1999)
- Nano50 Award**, 4-cm Long Carbon Nanotubes, by *Nanotech Briefs*, 2005.
- Best Idea Award**, Los Alamos National Lab., 2006
- Nano50 Award**, The Ultra-Strong, Stiff, and Lightweight CNT Fiber, by *Nanotech Briefs*, 2007
- TMS MPMD Distinguished Scientist/Engineer Award**, 2010

Alumni Outstanding Research Award, NC State University, 2010
Thousand Talents Plan Award, China, 2010
TMS SMD Distinguished Scientist/Engineer Award, 2012
Special Contribution Award, Nanjing University of Science and Technology, 2012
Albert Sauveur Achievement Award, ASM International, 2014
Alcoa Foundation Distinguished Engineering Research Award, NC State University, 2014
Highly Cited Researchers 2014, among 147 in Materials Science, [Thomson Reuters \(ISI\)](#)
Leadership Award, TMS, 2015
IUMRS Sômiya Award, International Union of Materials Research Societies, 2015
Highly Cited Researchers 2016, [Thomson Reuters \(ISI\)](#)
TE Connectivity Lecture, Penn. State University, Jan. 26, 2017
Lyman Handy Colloquium Lecture, University of Southern California, Sept. 21, 2017
Institute of Metals Lecture and Robert Franklin Mehl Award, TMS, 2020

Fast Breaking Paper, “Producing bulk ultrafine-grained materials by severe plastic deformation,”
ScienceWatch, April 2006

Fast Breaking Paper, “Sustained growth of ultralong carbon nanotube arrays for fiber spinning,”
April 2008

Invited Guest Editor on a special issue for the Journal of Materials Science on Nanomaterials
Science, 2006

Founding Editor-in-Chief, Materials Research Letters, 2012-present

Editorial Board, Journal of Materials Science, 2006-present

Editorial Board, Materials Science and Engineering A, 2006-present

Advisory Board, Advanced Engineering Materials, 2006-2018

Editorial Board, The Open Applied Physics Journal, 2007-present

Editorial Board, Letters on Materials, 2013-present

Editorial Board, Acta Metallurgica Sinica, 2014-present

Editorial Board, Reviews on Advanced Materials Science, 2017-present

Editorial Advisory Board, Reviews on Advanced Materials Science, 2019-present

Senior Editorial Board, Microstructures, 2022-present

Committees:

Chair, TMS Award Subcommittee (AIME Robert Lansing Hardy, Application to Practice, Cyril Stanley Smith, and Alexander Scott Distinguished Service) (2014)

2013 Nanotechnology International Prize RUSNANOPRIZE Expert Group

Advisory Board, Jiangsu Suzhou Nanotechnology Research Institute (2011-present)

One of the Six Members of the International nanoSPD Steering Committee (2002-present)

Past Chair, TMS MPMD Shaping and Forming Committee

Scientific Committee, International Conf. on Composite Eng. (2001-present)

International Advisory Committee, The Joint Conference of HSLA and ISUGS’05, Sanya, China
(Nov. 8-10, 2005)

Advisory board, International Conference on Composite Engineering (ICCE/7, 2000)

- International Advisory board**, 1st International Conference on Nanostructured Alloys, Dushanbe, Tajikistan (2012)
- Scientific Committee**, 1st International Symposium on Machining and Mechanics of Advanced Composite Materials (ISMMC2014), Hangzhou, China, June 28-30, 2014.
- Scientific Committee**, 5th International Conference on Heat Treatment (ICHT 2015), Isfahan, Iran, Oct. 6-9, 2015.
- International Advisory Committee**, 36th International Symposium on Materials Science, Risø, Demark, Sept. 7-11, 2015.
- Scientific Committee**, International Conf. of Nanomechanics and Nanocomposites, Vicenza, Italy, Sept. 14-17, 2016.
- Advisory Committee**, 4th International Conf. on Advances in Materials and Manufacturing (ICAMM-2016), Hyderabad, Telangana, India, Dec. 8-10, 2016.
- Advisory Panel**, 1st Int. Conf. on Adv. Nanotechnology in Eng. & Medical Sci., Langkawi Island, Malaysia, Nov. 20-21, 2017.
- Advisory Committee**, Carbon2019, Lexington, KY, July 14-19, 2019
- International Advisory Board of the YUCOMAT conference**, MRS-Serbia, 2019-
- International Advisory Committee**, Risoe Intl Symposium on Materials Science, Sept. 5-9, 2022, Roskilde, Denmark
- International Committee**, 8th International Conference on Magnesium (ICM 8) and the 13th International Conference on Magnesium Alloys and their Applications (Mg2024)
- TMS Nanomechanical Materials Behavior Committee
- JT. TMS-SMD/ASM-MSCTS Mechanical Behavior of Materials Committee

Society Membership:

- Member**, Tau Beta Pi (Engineering Honor Society)
- Member**, American Association for the Advancement of Science
- Member**, Minerals, Metals & Materials Society (TMS)
- Member**, Materials Research Society
- Member**, ASM International
- Member**, American Physics Society

Plenary Lectures:

1. Nano2005, Boston, MA, Nov. 10-11, 2005.
2. 1st International Symposium on Machining and Mechanics of Advanced Composite Materials (ISMMC2014), Hangzhou, China, June 28-30, 2014.
3. YUCMAT 2019 (MRS-Serbia), Herceg Novi, Montenegro, Sept. 2-6, 2019.
4. Institute of Metals/Robert Franklin Mehl Award talk, 2020 TMS Annual Meeting, San Diego, CA, Feb. 23-27, 2020.
5. The 7th International Conference on Magnesium, Shenyang, China, Nov. 19-22, 2020.
6. Magnitogorsk Materials Week, Nosov Magnitogorsk State University, Chelyabinsk, Russia, April 5-7, 2021.
7. International Symposium on the Frontiers of Metallic Structural Materials, Shenyang, China, Dec. 7-9, 2022.
8. Hetero Symposium, Japan, March 3-4, 2023.
9. 24th Annual Conference YUCOMAT 2023, Herceg Novi, Montenegro, Sept. 4-8, 2023.

Keynote and Named Lectures:

1. **Distinguished Lectureship**, Sixth International Conference on Composite Engineering, Orlando, FL, June 27-July

- 3, 1999.
2. 2nd International Conference on Nanomaterials by Severe Plastic Deformation 2: Fundamentals-Processing-Applications, Vienna, Austria, Dec. 3-9, 2002.
3. NATO Advanced Research Workshop on Nanostructured Materials by High Pressure, Donetsk, Ukraine, Sept. 22-26, 2004.
4. The 3rd International Conference on Nanomaterials by Severe Plastic Deformation (NanoSPD3), Fukuoka, Japan, Sept. 22-26, 2005.
5. THERMEC'2006, Vancouver, Canada, July 4-8, 2006.
6. German Research Unit on Ultrafine Grained Materials, Kloster Irsee, Germany, Sept. 24-27, 2006.
7. Plasticity2007, Anchorage, Alaska, June 2-6, 2007.
8. International Symposium on Bulk Nanostructured Materials (BNM 2007), Ufa, Russia, Aug. 15-18, 2007.
9. International Symposium on Giant Straining Process for Advanced Materials (GSAM), Fukuoka, Japan, Nov. 21-24, 2008.
10. Role of Twinning in Plasticity, Plasticity-2009, Virgin Island, US, Jan. 3-8, 2009.
11. Austrian Network on High Performance Bulk Nanocrystalline Materials, Planneralm, Austria, March 4-6, 2009.
12. 2nd International Symposium on Bulk Nanostructured Materials (BNM-2009), Ufa, Russia, Sept. 22-26, 2009.
13. The Second Nanotechnology International Forum (Rusnanotech09), Moscow, Russia, Oct. 6-8, 2009.
14. International Symposium on Giant Straining Process for Advanced Materials (GSAM2010), Fukuoka, Japan, Nov. 19-22, 2010.
15. Mechanical Properties Related to Interface Physics, TMS Annual Meeting, Disney World, Florida, March 11-15, 2012.
16. Seventh International Symposium on Ultrafine Grained Materials, TMS Annual Meeting, Disney World, Florida, March 11-15, 2012.
17. 33rd Risø International Symposium on Materials Science: Nanometals-Status and Perspectives, Denmark, Sept. 3-7, 2012.
18. Mechanics of Crystalline Nanostructures, 2012 Annual Meeting of the Society of Engineering Science 2012, Atlanta, Georgia, Oct. 10-12, 2012.
19. The 1st International Workshop on Nanostructured Materials – Properties and Characteristics, Beijing, China, June 17-18, 2013.
20. Deformation Mechanisms in Advanced Materials Behavior and Processing: A Symposium in Honor of Amiya K. Mukherjee, Plasticity 2014, Freeport, Bahama, Jan. 3-8, 2014.
21. Symposium on Progress Towards Rational Materials Design in the Three Decades Since the Invention of the Embedded Atom Method, 2014 TMS Annual Meeting, San Diego, CA, USA, Feb. 16-20, 2014.
22. The 15th International Conference on Rapidly Quenched & Metastable Materials, Shanghai, China, Aug. 24-28, 2014.
23. Materials Science & Technology 2014, Pittsburgh, PA, USA, Oct. 12-16, 2014.
24. 8th K. Kuo Summer School of Electron Microscopy and Crystallography & The 1st International Conference on Microstructure and Property of Materials, Hangzhou, China, May 27 – 30, 2015.
25. 3rd International Workshop on Nanostructured Materials-Properties and Characteristics, Beijing, China, June 13-14, 2015.
26. International Workshop on Giant Straining-Process for advanced Materials 2015, Fukuoka, Japan, Sept. 3-6, 2015.
27. Symposium on Nanomaterials, City University of Hong Kong, Nov. 21, 2015.
28. Third Oversea Young Scholar Zijin Forum, Nanjing University of Science and Technology, Dec. 18, 2015.
29. **Tiandi Modern Engineering Colloquium**, Nanjing University, Nanjing, China, Dec. 18, 2015.
30. High-pressure Deformation and Nano Texture Workshop, Ningpo, China, July 5, 2016.
31. Nano2016, Quebec City, Canada, Aug. 7-12, 2016.
32. 4th International Workshop on Nanostructured Materials: Properties and Characteristics, Beijing, China, Oct. 9-10, 2016.
33. **The 21st Young Materials Scientist Colloquium**, Beijing University of Science and Technology, China, Dec.

- 13, 2016.
34. **TE Connectivity Lecture Series**, Penn. State University, Jan. 26, 2017.
 35. **Distinguished Seminar Series** on Recent Breakthroughs in Engineering Fields, Chongqing University, Chongqing, China, May 29, 2017.
 36. **Lyman Handy Colloquium**, University of Southern California, Sept. 21, 2017.
 37. 17th Beijing Conf. and Exhibition on Instrumental Analysis, Beijing, China, Oct. 9-11, 2017.
 38. Mechanical Properties of Nanocrystalline Materials and High Entropy Alloys in Honor of Prof. Carl C. Koch, Plasticity'18, San Juan, Puerto Rico, Jan. 3-9, 2018.
 39. Ultrafine-Grained Materials X, TMS Annual Meeting, Phoenix, Arizona, March 11-15, 2018.
 40. International Workshop on Grain Boundaries and Dislocations towards High Performance Metals and Alloys, Beijing, China, June 21-22, 2018.
 41. Bulk and Gradient Nanomaterials, 14th International Conf. on Nanostructured Materials (NANO2018), Hong Kong, June 24-29, 2018.
 42. 4th International Symposium on Science of Intelligent and Sustainable Advanced Materials, Rio De Janeiro, Brazil, Nov. 4-7, 2018.
 43. 2nd Workshop on Gradient and Laminate Materials, Beijing, China, Nov. 20-22, 2018.
 44. The First International Workshop on Large Data of Microstructures for Advanced Materials, Beijing, China, June 20-23, 2019.
 45. Workshop on Fundamentals of Heterostructured Materials, Nanjing, China, Oct. 25-26, 2019.
 46. Institute of Metals/Robert Franklin Mehl Award Lecture, 2020 TMS Annual Meeting, San Diego, CA, Feb. 26, 2020.
 47. Frontier of Physics Lecture Series: Heterostructured Materials: New Materials Science leads to Superior Properties, Aug. 28, 2020.
 48. The 7th International Conference on Magnesium, ICM7, Chongqing, China, Nov. 2, 2020.
 49. Materials for Extreme Conditions, Mater. Res. Soc. Fall Meeting, Boston, Nov. 28-Dec. 4, 2020.
 50. Advanced Materials Lecture Series, International Association of Advanced Materials (IAAM), Sweden, Dec. 11, 2020.
 51. SmartMat Academic Seminars (Webibar), June 16, 2021.
 52. The 4th Adv. Structural Materials Workshop, Chongqing, China, July 14-17, 2021.
 53. 2022 International Conference on New Non-Ferrous Metal Materials, Nanning, China, July 16-17, 2022.
 55. Future Materials, Rome, Italy, Oct. 3-7, 2022.
 56. Second International Workshop on Superfunctional Energy/Nano Materials, Fukuoka, Japan, Aug. 31-Sept. 2, 2023.
 57. College of Engineering Lecture Series, No.59, Southern University of Science and Technology, Shenzhen, China, June 14, 2023.
 58. First Workshop on Non-uniform Nanomaterials-Advanced Materials, Beijing, China, Oct. 20-21, 2023.
 59. Science Club Lecture #400, School of Powder Metallurgy, Central South University, Changsha, China, Nov. 3, 2023.
 60. Distinguished Lecture of Central South University and the "De Cai" Forum of the School of Materials Science and Engineering, Changsha, China, Nov. 3, 2023.
 61. The 11th Pacific Rim International Conf. on Advanced Materials and Processing (PRICM11), Jeju, Korea, Nov. 19-23, 2023.
 62. 2nd International Symposium on Materials Processing (ISMP2023), Shenyang, China, Dec. 1-2, 2023.
 63. Functionally Graded Materials, China Materials Conference, Guangzhou, China, July 8-11, 2024.

Invited talks:

1. Fifth U.S. National Congress on Computational Mechanics, Boulder, CO, Aug. 4-6, 1999.
2. NATO Advanced Research Workshop on Investigations and Applications of Severe Plastic Deformation, Moscow, Russia, Aug. 2-6, 1999.
3. 1999 TMS Fall meeting, Cincinnati, OH, Oct. 31-Nov. 4, 1999.
4. 1999 Society of Engineering Science, Austin, TX. Oct. 25-27, 1999.
5. 1999 International Mechanical Engineering Congress and Exposition, Nashville, TN, Nov. 14-19, 1999.
6. The 24th Cocoa Beach Conference, Cocoa Beach, FL, Jan. 23-28, 2000.
7. Invited seminar, University of California, San Diego, CA, Oct. 27, 2000.
8. Workshop on Ultrafine Grained Materials, Hanyang University, Ansan, South Korea, April 26, 2001.
9. Annual Meeting of Korea Society of Metals and Alloys, Pusan, South Korea, April 27, 2001.
10. Invited seminar, Illinois Institute of Technology, Chicago, IL, June 4, 2001.
11. Invited seminar, University of California, Irvine, CA, Oct. 12, 2001.
12. TMS Spring Meeting, 2002, Seattle, WA, Feb. 17-21, 2002.
13. Invited seminar, Florida State University, Tallahassee, FL, April 2, 2003.
14. Symposium on Severe Plastic Deformation, THERMEC'2003, Madrid, Spain, July 7-11, 2003.
15. Nanotubes, The 2nd Annual International Conferences on the Space Elevator, Santa Fe, NM, Sept. 12-15, 2003.
16. Nanomechanics Workshop, Center for Integrated Nanotechnology, Los Alamos National Laboratory and Sandia National Laboratories, Los Alamos, NM, Oct. 23, 2003.
17. Workshop on Nano-structures in the Environment and Technology, University of New Mexico, Albuquerque, NM, Jan. 15-16, 2004.
18. Division review, Materials Science and Technology Division, Los Alamos National Lab., Los Alamos, NM, Feb. 17-19, 2004.
19. Nanostructured Metal and Alloys, MRS Symposium P: Nanoscale Materials and Modeling Relations Among Processing, Microstructure, and Mechanical Properties, San Francisco, CA, April 12-16, 2004.
20. Invited seminar, Sandia National Laboratories, Albuquerque, NM, June 24, 2004.
21. Second Symposium of Carbon Nanotube Separations, 31st Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Society, Portland, OR, Oct. 3-7, 2004.
22. International Symposium on Manufacturing, Properties and Applications of Nanocrystalline Materials, ASM International Materials Solutions Conference, Columbus, OH, Oct. 18-21, 2004.
23. Invited seminar, Florida State University, Tallahassee, FL, Nov. 1, 2004.
24. The Eleventh International Symposium on Plasticity (PLASTICITY 2005), Kauai, Hawaii, Jan. 4-8, 2005.
25. Carbon Nanotube Reinforced Composite Workshop-Toward Revolutionary Advances in Carbon Nanotube Reinforced Composite Fibers for Space & Commercial Applications, Center for Applied Energy Research, University of Kentucky, Lexington, KY, Jan. 11-12, 2005.
26. Department of Chemical and Materials Engineering, University of Kentucky, Lexington, KY, Jan. 13, 2005.
27. Center for Integrated Nanotechnologies (CINT) Workshop, Albuquerque, NM, Jan. 19-21, 2005.
28. 2005 TMS Spring Meeting, Micromechanics of Advanced Materials II (Symposium in honor of James C.M. Li's 80th Birthday), San Francisco, CA, Feb. 13-16, 2005.
29. University of California, Davis, CA, Feb. 17, 2005.
30. New Mexico State University, Las Cruces, NM, March 11, 2005.
31. University of California, Irvine, CA, April 26, 2005.
32. Nanomaterials and Nanotechnologies (NN 2005), Crete, Greece, June 14-18, 2005.
33. University of Southern California, Sept. 14, 2005.
34. Ultrafine Grained Materials, JIM-ISIJ, Hiroshima, Japan, Sept. 28, 2005.
35. MRS Fall Meeting, 2005, Symposium Z: Amorphous and Nanocrystalline Metals for Structural Applications, Boston, Massachusetts, Nov. 28-Dec. 2, 2005.
36. Institute of Mechanics, Chinese Academy of Sciences, Beijing, China, Dec. 12, 2005.
37. College of Chemistry and Molecular Engineering, Beijing University, Beijing, China, Dec. 13, 2005.

38. Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China, Dec. 16, 2005
39. School of Materials Science & Engineering, Nanjing University of Science and Technology. Dec. 23, 2005.
40. 2006 Nanomaterials: Materials and Processing for Functional Applications, TMS Annual Meeting, San Antonio, TX, March 12-16, 2006.
41. GM Research & Development Center, Warren, MI, July 31, 2006.
42. California State University, Northridge, Aug. 11, 2006.
43. North Carolina State University, Sept. 8, 2006.
44. Risø National Laboratory, Denmark, Sept. 28, 2006.
45. MS&T'06, Cincinnati, Ohio, Oct. 15-18, 2006.
46. Materials Capability Review, May 15-18, 2007.
47. University of North Carolina, Charlotte, Sept. 13, 2007.
48. Mechanics of Nanomaterials and Micro/Nanodevices-Experimental and Modeling, MS&T'07, Detroit, Michigan, Sept. 16-20, 2007.
49. Nanotailored Carbon Fibers, Air Force Institute of Technology facility, Dayton, OH, Nov. 6-7, 2007.
50. Hohai University, Nanjing, China, Dec. 17, 2007.
51. Suzhou Institute of Nano-Tech and Nano-Bionics, CAS, Suzhou, China, Dec. 18, 2007.
52. Shanghai Jiaotong University, Shanghai, China, Dec. 19, 2007.
53. Donghua University, Shanghai, China, Dec. 20, 2007.
54. Kunming University of Science and Technology, Kunming, China, Dec. 21, 2007.
55. Beijing University, Beijing, China, Dec. 25, 2007.
56. Institute of Physics, CAS, Beijing, China, Dec. 26, 2007.
57. Xi'An Jiaotong University, Xi'An, China, Dec. 28, 2007.
58. Carolinas Central Chapter, ASM International, Feb. 21, 2008.
59. Plasticity, Failure and Fatigue in Structural Materials: from Macro to Nano, TMS Annual Meeting, New Orleans, LA, March 3-13, 2008.
60. Nanotubes, Nanowires, Nanobelts and Nanocoils—Promise, Expectations and Status, MRS Fall Meeting, Boston, MA, Dec. 1-5, 2008.
61. International Workshop on the Plasticity of Nanocrystalline Metals, Lake Bostal, Germany, Sept. 28–Oct. 1, 2008.
62. Plasticity and Fracture of Nano-Materials, Plasticity-2009, Virgin Island, US, Jan. 3-8, 2009
63. 2009 Functional and Structural Nanomaterials: Fabrication, Properties, and Applications, TMS Annual Meeting, San Francisco, CA, Feb. 15-19, 2009.
64. Hehai University, Nanjing, China, May 28, 2009.
65. South China University of Technology, Guangzhou, China, June 8, 2009.
66. Shanghai Jiaotong University, Shanghai, China, June 11, 2009.
67. Donhua University, Shanghai, China, June 12, 2009
68. University of Nevada, Reno, Nevada, Nov. 20, 2009.
69. The 47th Sagamore Army Materials Research Conference, St. Michael, MD, June 14-17, 2010.
70. Tsinghua University, Beijing, China, July 14, 2010.
71. “Shaping and Forming of High Strength Steel, Titanium and Light Metals,” MS&T 2010, Houston, TX, Oct. 17-21, 2010.
72. Size Effects in Mechanical Behavior, 2011 TMS Annual Meeting, San Diego, CA, Feb. 27-March 3, 2011.
73. 2011 Functional and Structural Nanomaterials: Fabrication, Properties, Applications and Implications, 2011 TMS Annual Meeting, San Diego, CA, Feb. 27-March 3, 2011.
74. Shanghai Jiaotong University, Shanghai, China, May 30, 2011.
75. Hohai University, Nanjing, China, July 7, 2011.
76. Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China, July 19, 2011.
77. Rensselaer Polytechnic Institute, Troy, New York, Sept. 14, 2011.
78. Mechanical Properties of Nanomaterials-Experiments and Modeling, E-MRS 2011 Fall Meeting, Warsaw, Poland,

- Sept. 19-22, 2011.
79. Workshop on Complex Dynamics of Dislocations, Defects and Interfaces, Los Alamos National Laboratory, Nov. 14-16, 2011.
 80. College of Textile, NC State University, Jan. 18, 2012.
 81. Department of Physics and Astronomy, The University of Texas at San Antonio, Texas, Feb. 3, 2012.
 82. Deformation, Damage and Fracture of Light Metals and Alloys, TMS Annual Meeting, Disney World, Florida, March 11-15, 2012.
 83. Nanotube Assemblages for Structures Workshop, Atlanta, Georgia, April 17-18, 2012.
 84. Recent Development in the Processing and Properties of Ultrafine-Grained Materials, E-MRS 2011 Fall Meeting, Warsaw, Poland, Sept. 17-21, 2012.
 85. Stuttgart Nanodays 2012 Workshop, Winston-Salem, NC, Oct. 29-30, 2012.
 86. The 2012 Nanotechnology Materials and Devices Workshop, Dayton, OH, Nov. 5-6, 2012.
 87. Mechanical Behavior of Metallic Nanostructured Materials, MRS Fall meeting, Boston, Nov. 26-30, 2012.
 88. School of Materials Science and Engineering, Shanghai Jiaotong University, Dec. 11, 2012.
 89. Advanced Materials and Reservoir Engineering for Extreme Oil & Gas Environments, TMS Annual Meeting, San Antonio, TX, March 3-7, 2013.
 90. Lanzhou University, Lanzhou, China, June 12, 2013.
 91. International Workshop on Advancing Materials Performance from the Nanoscale, Xi'an, China, June 12-14, 2013.
 92. Symposium on Rare Earth, Electronic, and Magnetic Materials, The 8th Pacific Rim International Conference on Advanced Materials and Processing, Waikoloa, Hawaii, Aug. 4-9, 2013.
 93. Symposium on Light Metals and Alloys, The 8th Pacific Rim International Conference on Advanced Materials and Processing, Waikoloa, Hawaii, Aug. 4-9, 2013.
 94. Texas A&M University, College Station, TX, Jan. 22, 2014.
 95. Symposium on Mechanical Behavior Related to Interface Physics II, 2014 TMS Annual Meeting, San Diego, CA, USA, Feb. 16-20, 2014.
 96. Ultrafine Grained Materials VIII, 2014 TMS Annual Meeting, San Diego, CA, USA, Feb. 16-20, 2014.
 97. Workshop on Nanomaterials for Aerospace, National Institute of Aerospace, Hampton, VA, USA, Feb. 21, 2014.
 98. Second International Workshop on Materials Physics, Beijing, China, May 30-June 1, 2014.
 99. Friedrich-Alexander University Erlangen-Nürnberg, Germany, July 8, 2014.
 100. Eric Schmid Institute of Materials Science, Leoben, Austria, July 10, 2014.
 101. HGI Colloquium, Herbert Gleiter Institute, Nanjing Univ. Sci. & Techno., Nanjing, China, Nov. 11, 2014.
 102. Workshop on Microstructures and Mechanical Properties of Mg Alloys, Beijing, China, Nov. 13, 2014.
 103. Advanced Materials and Reservoir Engineering for Extreme Oil & Gas Environments, TMS Annual Meeting, Orlando, Florida, March 15-19, 2015.
 104. Advanced Characterization Techniques for Quantifying and Modeling Deformation Mechanisms, TMS Annual Meeting, Orlando, Florida, March 15-19, 2015.
 105. Advances in Thin Films for Electronics and Photonics, TMS Annual Meeting, Orlando, Florida, March 15-19, 2015.
 106. School of Mechanical and Materials Engineering, Washington State University, Pullman, April 17, 2015.
 107. Department of Mater. Sci. Eng., McMaster University, Hamilton, Ontario, Canada, Oct. 26, 2015.
 108. Nanostructured Materials for Nuclear Application, TMS Annual Meeting, Nashville, TN, Feb. 14-18, 2016.
 109. The 3rd International Symposium on Materials Physics, May 27-29, 2016
 110. 1st Workshop on Gradient and Laminated Metallic Materials, Shenyang, China, July 25-26, 2016.
 111. 1st International Harmonic Structured Materials, Ritsumeikan University, Kusatsu, Japan, Aug. 6, 2016.
 112. Special Symposium on Damage and Failure Mechanics: Multiscale Approach, Experimental Characterization, and Modeling, ASME 2016, Phoenix, Arizona, Nov. 11-17, 2016.
 113. Materials under Mechanical Extremes, MRS Fall Meeting, Boston, Nov. 27-Dec. 2, 2016.
 114. Shear Transformation Mechanisms and Their Effect on Mechanical Behavior of Crystalline Materials, MRS Fall

- Meeting, Boston, Nov. 27-Dec. 2, 2016.
115. Hehai University, Dec. 22, 2016.
 116. Advanced Materials and Reservoir Engineering for Extreme (AMREE) Oil & Gas, TMS Annual Meeting, San Diego, CA, Feb. 26-March 2, 2017.
 117. Frontier in Materials Science, Engineering, and Technology: An FMD Symposium in Honor of Sungho Jin, TMS Annual Meeting, San Diego, CA, Feb. 26-March 2, 2017.
 118. North Eastern University, Shenyang, China, April 4, 2017.
 119. Yanshan University, Qinhuangdao, China, May 23, 2017.
 120. Sichuan University, Chengdu, China, May 30, 2017.
 121. IUMRS-ICAM 2017, The 15th International Conference on Advanced Materials, Kyoto, Japan, Aug. 27-Sept. 1, 2017.
 122. GSAM Workshop 2017, Fukuoka, Japan, Sept. 3-6, 2017.
 123. 2nd International Workshop on Harmonic Structure Materials, Ritsumeikan University, Kusatsu, Japan, Oct. 20, 2017.
 124. Frontiers in Advanced Functional Thin Films and Nanostructured Materials, TMS Annual Meeting, Phoenix, Arizona, March 11-15, 2018.
 125. East China University of Science and Technology, Shanghai, China, May 11, 2018.
 126. City University of Hong Kong, Hong Kong, China, May 17, 2018.
 127. John P. Hirth Honorary Symposium, 18th International Conf. on the Strength of Materials (ICSMA 18), Columbus, Ohio, USA, July 15-19, 2018.
 128. Hael Mughrabi Honorary Symposium, 18th International Conf. on the Strength of Materials (ICSMA 18), Columbus, Ohio, USA, July 15-19, 2018.
 129. Materials and Engineering Initiative Seminar, Oak Ridge National Laboratory, TN, Aug. 9, 2018.
 130. 2st Workshop on Gradient and Laminated Metallic Materials, Beijing, China, Nov. 20-22, 2018.
 131. Central South University, Changsha, China, Dec. 26, 2018.
 132. The 4th International Conf. on Microstructures and Properties of Materials, Hangzhou, China, May 15-18, 2019.
 133. Shanghai University, Shanghai, China, June 17, 2019.
 134. Hehai University, Nanjing, China, June 18, 2019.
 135. Changzhou University, Changzhou, China, July 1, 2019.
 136. Kunming University of Science and Technology, Sept. 25, 2019.
 137. Southern University of Science and Technology, Shenzhen, China, Oct. 11, 2019.
 138. Shandong University, Jinan, China, Oct. 21.
 139. The Third International Symposium on Advanced Structural Materials, Chongqing, China, Nov. 2-4, 2019.
 140. Northeastern University, Shenyang, China, Nov. 24, 2019.
 141. Purveyors of Processing Science and ICME: A SMD Symposium to Honor the Many Contributions of Taylan Altan, Wei Tsu Wu, Soo-Ik Oh, and Lee Semiatin, 2020 TMS Annual Meeting, San Diego, CA, Feb. 23-27, 2020.
 142. Indian Institute of Technology Hyderabad, Webinar, Sept. 4, 2020.
 143. Dongguan University of Technology, Dongguan, Guangdong, Oct. 23, 2020.
 144. Center of Excellence for Advanced Materials, Dongguan, Guangdong, Oct. 23, 2020.
 145. Shenzhen University, Shenzhen, Guangdong, Oct. 26, 2020.
 146. Shenzhen University of Technology, Shenzhen, Guangdong, Oct. 27, 2020.
 147. Symposium on Advanced Materials and IC Technology & Discipline Development, Shenzhen Technical University, China, Nov. 6-7, 2020.
 148. Northeast University, Shenyang, China, Nov. 13, 2020.
 149. The Gleiter Symposium on Frontiers of Nanoscience, Lanzhou, China, Nov. 23, 2020.
 150. Jiangyin Electrical Alloy Ltd, Jiangyin, Jiangsu, China, Nov. 24, 2020.
 151. Beijing Research Institutes, Anshan Steel, Beijing, China, Nov. 26, 2020.

152. Kunming University of Science and Technology, Kunming, China, Dec. 2, 2020.
153. Hohai University, Nanjing, China, Dec. 4, 2020.
154. Tau Beta Pi NC-Alpha Chapter, Feb. 12, 2021.
155. MRS Webinar on Recent Developments in Nanostructured Metals and Alloys, March 24, 2021.
156. Mechanical Behavior at Micro/Nano Scale, MRS Spring Meeting, Seattle, WA, April 18-23, 2021.
157. 2022 International Workshop on Materials Behavior at Xia'an, China, May 30-June 2, 2022.
158. International Union of Theoretical and Applied Mechanics Symposium on Multiscale Architecting of Microstructures, Beijing, China, June 26-28, 2022.
159. 6th Symposium on Advanced Structural Materials, Chongqing, China, Nov. 4-6, 2022.
160. Deformation-Induced Manipulation of Defect Structures and Hierarchical Microstructures, TMS Annual Meeting, San Diego, CA, March 19-23, 2023.
161. The 10th International Workshop on Advanced Materials, Huizhou, China, March 30-April 2, 2023.
162. Shanghai Jiaotong University, Shanghai, China, May 19, 2023.
163. Baowu Steel, Shanghai, China, May 20, 2023.
164. Northeastern University, Shenyang, China, May 24, 2023.
166. Hehai University, Nanjing, China, May 25, 2023.
167. North Carolina State University, Raleigh, NC, USA, June 30, 2023.
168. Gordon Research Conference on Physical Metallurgy, Easton, MA, USA, July 9-14, 2023.
169. Department of Metallurgical Engineering, National Autonomous University of Mexico, Mexico City, Mexico, Aug. 10, 2023.
170. Heterostructured Materials: Fundamentals, Processing, Properties and Applications, 31st International Materials Research Conference, 2023, Cancun, Mexico, Aug. 13-18, 2023.
171. Lanzhou University of Technology, Lanzhou, China, Aug. 23, 2023.
172. Korea Atomic Energy Research Institute, Daejeon, South Korea, Nov. 22, 2023.
173. Advances in Multi-Principal Element Alloys III: Mechanical Behavior, TMS Annual Meeting, Orlando, Florida, March 3-7, 2024.
174. Ultrafine Grained and Heterostructured Materials XIII, TMS Annual Meeting, Orlando, Florida, March 3-7, 2024.
175. Advanced Materials Characterization and Analysis Seminar, Shanghai, China, May 30, 2024.
176. Hierarchical Materials: Mechanical Design, Manufacturing, and Applications, 2024 Society of Engineering Science (SES) Annual Meeting, Hangzhou, China, Aug. 20-23, 2024.

Symposiums Organized:

1. Co-Organizer and Co-Chairman: Symposium on Nanocomposites and Multilayered Materials, Third International Conference on Composite Engineering, New Orleans, LA, July 21-27, 1996.
2. Co-Organizer, 1999 Meeting of Society of Engineering Science, Austin, TX, Oct. 25-27, 1999
3. Co-organizer and Session Chair, Novel Ceramics and Composites, The 24th Cocoa Beach Conference, Cocoa Beach, FL, Jan. 23-28, 2000.
4. Co-Organizer, Symposium on Microstructural & Mechanical Property Relationships in Advanced Composites, ASME 2000, Orlando, FL, Nov. 5-10, 2000.
5. Primary Organizer, Second International Symposium on Ultrafine Grained Materials, The 2002 TMS Annual Meeting, Seattle, WA, Feb. 17-21, 2002.
6. Organizer, Workshop on Nanostructured Materials Processed by SPD, Los Alamos National laboratory, Los Alamos, NM 87545, Feb. 22, 2002.
7. Primary Coordinator, Symposium on Severe Plastic Deformation, THERMEC'2003, Madrid, Spain, July 7-11, 2003.
8. Primary Organizer, Third International Symposium on Ultrafine Grained Materials, The 2004 TMS Annual Meeting, Charlotte, NC, March 16-20, 2004.
9. Director, NATO Advanced Research Workshop on Nanostructured Materials by High Pressure, Donetsk, Ukraine, Sept. 22-26, 2004.

10. Primary Organizer, The Langdon Symposium, Flow and Forming of Crystalline Materials (An Symposium Honoring Prof. Langdon on the Occasion of His 65th Birthday), The 2005 TMS Annual Meeting, San Francisco, CA, Feb. 13-17, 2005.
11. Primary organizer, Fourth International Symposium on Ultrafine Grained Materials, The 2006 TMS Annual Meeting, San Antonio, TX, March 12-16, 2006.
12. Co-organizer, Processing and Mechanical Response of Engineering Materials, The 2006 TMS Annual Meeting, San Antonio, TX, March 12-16, 2006.
13. Co-Coordinator, Symposium on Severe Plastic Deformation, THERMEC'2006, Vancouver, Canada, July 4-8, 2006.
14. Co-Organizer, High Pressure-2006, Fundamentals and Applied Aspects, Sudak, Crimea, Ukraine, Sept. 17-23, 2006.
15. Co-organizer, Mechanical Behaviors of Nanostructured Materials, in Honor of Carl Koch, The 2007 TMS Annual Meeting, Orlando, FL, Feb. 26-March 1, 2007.
16. Co-organizer, Fifth International Symposium on Ultrafine Grained Materials, The 2008 TMS Annual Meeting, New Orleans, LA, March 9-13, 2008.
17. Co-organizer, Mechanical Behaviors of Nanostructured Materials, The 2009 TMS Annual Meeting, San Francisco, CA, Feb. 15-19, 2009.
18. Co-organizer, Sixth International Symposium on Ultrafine Grained Materials, The 2010 TMS Annual Meeting, Seattle, WA, Feb 14-18, 2010.
19. Co-organizer, International Symposium on Advances in Nanostructured Materials and Applications, MS&T 2011, Columbus, Ohio, USA, Oct. 16-20, 2011.
20. Primary Organizer, Bulk Metallic Glasses, Nanocrystalline Materials, and Ultrafine-Grained Materials, PRICM8, Waikiloa, Hawaii, Aug. 4-9, 2013.
21. Co-organizer, Eighth International Symposium on Ultrafine Grained Materials, The 2014 TMS Annual Meeting, San Diego, CA, Feb 16-20, 2014.
22. Co-organizer, 2014 TMS RF Mehl Medal Symposium on Frontiers in Nanostructured Materials and Their Applications, The 2014 TMS Annual Meeting, San Diego, CA, Feb 16-20, 2014.
23. Primary Organizer, Gradient and Laminate Materials, 2015 MRS Fall Meeting, Boston, MA, Nov. 29-Dec. 4, 2015.
24. Co-Organizer, Creep, Deformation and Nuclear Materials honoring Prof. K.L. Murty, Plasticity 2016, Big Island, Hawaii, Jan. 3-9, 2016.
25. Co-Organizer, Mechanical Behavior of Nanostructured Materials honoring Prof. C.C. Koch, TMS Annual Meeting 2016, San Diego, CA, Feb. 26-March 2, 2017.
26. Co-Organizer, Mechanical and Creep Behavior of Advanced Materials honoring Prof. K.L. Murty, TMS Annual Meeting 2016, San Diego, CA, Feb. 26-March 2, 2017.
27. Primary Organizer, Multiscale Architected Materials (MAM II): Tailoring Mechanical Incompatibility for Superior Properties, TMS Annual Meeting 2016, San Diego, CA, Feb. 26-March 2, 2017.
28. Mechanical Properties of Nanocrystalline Materials and High Entropy Alloys in honor of Prof. Carl Koch, Plasticity'18, San Juan, Puerto Rico, USA, Jan. 3-6, 2018.
29. Heterogeneous and Gradient Materials (HGM III): Tailoring Mechanical Incompatibility for Superior Properties, TMS Annual Meeting 2019, San Antonio, TX, March 10-14, 2019.
30. Gordon Research Conference-Heterogeneous Materials, Hong Kong, June 23-28, 2019.
31. Primary Organizer, Heterostructured and Gradient Materials (HGMI), TMS Annual Meeting 2021, Orlando, FL, March 14-18, 2021.
32. Primary Organizer, First International Conference on Heterostructure Materials, Hong Kong, July 12-15, 2022.
33. Heterostructured Materials: Fundamentals, Processing, Properties and Applications, 31st International Materials Research Conference, 2023, Cancun, Mexico, Aug. 13-18, 2023.
34. Primary Organizer, Heterostructured and Gradient Materials (HGMV), TMS Annual Meeting 2023, San Diego, CA, March 19-23, 2023.
35. Primary Organizer, Advanced Structural Materials Workshop, Hong Kong, Oct. 20, 2023.

Books Edited/Being Edited:

1. **Y.T. Zhu**, T.G. Langdon, R.S. Mishra, S.L. Semiatin, M.J. Saran, and T.C. Lowe, *Ultrafine Grained Materials II*, TMS, Warrendale, PA, 2002.
2. **Y.T. Zhu**, T.G. Langdon, R.Z. Valiev, S.L. Semiatin, D.H. Shin, and T.C. Lowe, *Ultrafine Grained Materials III*, TMS, Warrendale, PA, 2004.
3. **Y.T. Zhu**, and V. Varyukhin, *Nanostructured Materials by High-Pressure Severe Plastic Deformation*, Springer, Dordrecht, The Netherlands, 2005.
4. M.J. Zehetbauer, **Y.T. Zhu**, *Bulk Nanostructured Materials*, Wiley-VCH, Weinheim, Germany, 2006.
5. **Y.T. Zhu**, T.G. Langdon, Z. Horita, M.J. Zehetbauer, S.L. Semiatin, and T.C. Lowe, *Ultrafine Grained Materials IV*, TMS, Warrendale, PA, 2006.
6. I. Charit, Y.T. Zhu, S.A. Maloy, and P.K. Liaw, *Mechanical and Creep Behavior of Advanced Materials*, TMS/Springer, Warrendale, PA, 2016.

Guest Editors for Special Journal Issues:

1. **Y.T. Zhu**, P.B. Berbon, A.H. Chokshi, Z. Horita, S.V. Raj, K. Xia, The Langdon Symposium: Flow and Forming of Crystalline Materials, *Materials Science and Engineering A*, **410-411**, 2005.
2. J. Schneider, R.S. Mishra, T.R. Bieler, **Y.T. Zhu**, K.B. Morsi, V.L. Acoff, E.M. Taleff, R.Z. Valiev, Processing and Mechanical Response of Engineering Materials in honor of Prof. A.K. Mukherjee on the occasion of his 70th birthday, *Materials Science and Engineering A*, **463**, 2007.
3. **Y.T. Zhu**, Z.L. Wang, T.G. Langdon, and B.C. Carter, Nanostructured Materials – Processing, Structures, Properties and Applications, a special issue of *Journal of Materials Science*, **42 (#5)**, 2007.
4. X.H. Zhang, C.T. Liu, J.M. Rigsbee, C. Suryanarayana, H.Y. Wang, **Y.T. Zhu**, and D.L. Zhang, Mechanical Behavior of Nanostructured Materials, in Honor of Carl Koch, *Materials Science and Engineering A*, **493**, 2008.
5. **Y.T. Zhu**, X.Z. Liao, Z.W. Shan, T.G. Langdon, Y. Estin, R.Z. Valiev, and T.C. Lowe, *Ultrafine Grained Materials*, a special issue of *Journal of Materials Science*, **43 (#23-24)**, 2008.
6. R.Z. Valiev, T.G. Langdon, I.V. Alexandrov, **Y.T. Zhu**, Y. Estrin, and G. Kostorz, Bulk nanostructured Materials, a special issue of *Materials Science and Engineering A*, **505**, 2009.
7. X.H. Zhang, X.D. Li, N. Mara, **Y.T. Zhu**, A. Minor, and R. Huang, Mechanical Behavior of Nanostructured Materials, a special issue of *Metallurgical and Materials Transactions A*, **41A (#4)**, 2010.
8. **Y.T. Zhu**, S.N. Mathaudhu, M. Göken, T.G. Langdon, T.C. Lowe, S.L. Semiatin, N. Tsuji, Y.H. Zhao, *Ultrafine Grained Materials*, a special issue of *Journal of Materials Science*, **45 (#17)**, 2010.
9. S.N. Mathaudhu, X.X. Huang, Y.S. Kim, T.G. Langdon, T.C. Lowe, R.Z. Vaiev, X.L. Wu, M.J. Zehetbauer, **Y.T. Zhu**, *Ultrafine Grained Materials*, a special issue of *Journal of Materials Science*, **47 (#22)**, 2012.
10. **Y.T. Zhu**, *Ultrafine Grained Materials*, a special issue of *Journal of Materials Science*, **48 (#13)**, 2013.

Books

1. X.L. Wu and Y.T. Zhu, *Heterostructured Materials: Novel Materials with Unprecedented Mechanical Properties*, Jenny Stanford Publishing, Singapore, 2022.
2. Y.T. Zhu and X.L. Wu, *Introduction to Heterostructured Materials*, Elsevier, Amsterdam, Netherland, 2023. ISBN:978-0-323-99326-5. Textbook.

Book Chapters:

1. **Y.T. Zhu** and D.P. Butt, “Nanomaterials by Severe Plastic Deformation,” *Encyclopedia of Nanoscience and Nanotechnology*, American Scientific Publishers, Stevenson Ranch, CA, volume 6, 2004, pp. 843-856.
2. L.L. Shaw and **Y.T. Zhu**, “Surface Deformation,” in *Materials Processing Handbook*, Edited by M.T. Powers, E.J. Lavernia, J.R. Groza, and J.F. Shackelford, CRC Press LLC, Boca Raton, FL, USA, 2007, Chapter 31, pp. 31-1 to 31-16. DOI: 10.1201/9781420004823.ch31
3. **Y.T. Zhu**, B. Han and E.J. Lavernia “Deformation Mechanisms of Nanostructured Materials,” in *Bulk*

Nanostructured Materials, Wiley-VCH, Weinheim, Germany, 2009, pp. 89-108.

4. B. Han, J. Ye, A.P. Newberry, **Y.T. Zhu**, J.M. Schoenung, and E.J. Lavernia, "Bulk Nanostructured Materials from Ball Milling and Consolidation," in *Bulk Nanostructured Materials*, Wiley-VCH, Weinheim, Germany, 2009, pp.273-291.
5. I.J. Beyerlein, P.K. Porwal, **Y.T. Zhu**, X.F. Xu, and S.L. Phoenix, "Probabilistic strength of carbon nanotube yarns," in *Advances in Mathematical Modeling and Experimental Methods for Materials and Structures. The Jacob Aboudi Volume*. 2009.
6. X. Wang, P.D. Bradford, Q.W. Li, and Y.T. Zhu, "Aligned Carbon Nanotube Composite Prepregs," in *Nanotube Superfiber Materials: Changing Engineering Design*, edited by M.J. Schulz, V.N. Shanov, and Z.Z. Yin, Elsevier, 2014, pp. 649-670.
7. X. Wang, J.T. Di, Q.W. Li, P.D. Bradford, and Y.T. Zhu, "High Performance Composite Based on Dry-Processable Multi-walled Carbon nanotubes," in *Porous Lightweight Composites Reinforced with Fbrous Structures*, edited by Y.Q. Jiang, J.Y. YU, H.L. Xu, B.Z. Sun, Springer.
8. X.L. Ma and Y.T. Zhu, "Deformation Twinning in Nanocrystalline Metals," Reference Module in Materials Science and Materials Engineering, edited by Saleem Hashmi, Oxford:Elsevier, 2016, pp.1-19.
9. Y.T. Zhu and R.Z. Valiev, "Mechanical Behavior of Bulk Nanostructured and Heterostructured Metals," in *Comprehensive Structural Integrity*, 2nd Ed., Elsevier, Oxford, UK, (Chapter 0073), 2022, pp.163-195.

Book Review:

1. **Y.T. Zhu**, Book Review on "Plastic Deformation in Nanocrystalline Materials, by . Yu. Gutkin and I. A. Ovid'ko." *Advanced Materials*, **17**, 2513-2514 (2005).

Patents:

1. **Y.T. Zhu**, P.S. Baldonado, J.F. Bingert, T.G. Holesinger, and D.E. Peterson, "Compressive Annealing of BSCCO 2223 Superconductive Tapes." US Patent #: 6,195,870.
2. **Y.T. Zhu**, T.C. Lowe, H. Jiang and J. Huang, "Method for Producing Ultrafine-Grained Materials Using Repetitive Corrugation and Straightening." US Patent #: 6,197,129.
3. **Y.T. Zhu**, T.C. Lowe, R.Z. Valiev, V.V. Stolyarov, V.V. Latysh, G.I. Raab, "Ultrafine-Grained Titanium for Medical Implants," US Patent #: 6,399,215.
4. A. Serquis, **Y.T. Zhu**, X.Z. Liao, D.E. Peterson and F.M. Mueller, "Synthesis of Magnesium Diboride by Magnesium Vapor Infiltration Process (MVIP)," US Patent #: 6,511,943.
5. **Y.T. Zhu**, T.C. Lowe, R.Z. Valiev, and G.J. Raab, "Continuous Equal Channel Angular Extrusion," US Patent #: 7,152,448.
6. Y.H. Zhao and **Y.T. Zhu**, "Preparation of Nanostructured Materials Having Improved Ductility," US Patent #: 7,699,946.
7. H.S. Peng, **Y.T. Zhu** and Q.X. Jia, "Fibrous Composites Comprising Carbon Nanotube and Silica," US Patent #: 8,034,448.
8. Y.T. Zhu, Q. Zhang, N.N. Liang, X.G. Liu, and J.T. Wang, "Surface Nanocrystallization Equipment for Accelerated Ball Peening," Chinese Patent # [ZL 2011 1 0458558. 0](#).
9. **Y.T. Zhu**, P.N. Arendt, X.F. Zhang, Q.W. Li, L. Fu, and L.X. Zheng, "Carbon Nanotube Fiber from Wetted Ribbon," US Patent #: 8,709,372.
10. P.N. Arent, **Y.T. Zhu**, X.F. Zhang, I.O. Usov, "Increasing the specific strengths of CNT fibers," US Patent#: #: 9,180,443.
11. **Y.T. Zhu**, A. Serquis, D.L. Hammon, L. Civale, X.Z. Liao, F.M. Mueller, D.E. Peterson, V.F. Nesterenko, and, Y. Gu, "Processing of High Density MgB2 Wires and Tapes by Hot Isostatic Pressing," in review, Docket No. S-99,947.
12. **Y.T. Zhu**, R.Z. Valiev, V.V. Stolyarov, and Yu.R. Kobolov, "Processing Nanostructured Ti Foil by ECAP and Cold Rolling," in review, Docket No. S-100,547.
13. L.X. Zheng and **Y.T. Zhu**, M.J. O'Connell, J. Liu, "Synthesis of Continuous Carbon Nanotubes via Catalytic Chemical Vapor Deposition," in review, Docket No. S-102.398.

14. **Y.T. Zhu**, "Preparation of Fibers from a Supported Array of Nanotubes," in review, Docket No. S-104.824.
15. L.X. Zheng and **Y.T. Zhu**, "Preparation of Pile of Carbon Nanotubes and Fiber Therefrom," in review, Docket No. S-104,824.
16. Qingwen Li, **Y.T. Zhu**, P.N. Arendt, R. DePaula, R.J. Groves, "Long Carbon Nanotube Arrays for Spinning," in review, Docket No. S-109,040.
17. **Y.T. Zhu**, P.N. Arent, Q.W. Li, X.F. Zhang, "Arrays of Long Carbon Nanotubes for Fiber Spinning," in review.
18. P.N. Arent, **Y.T. Zhu**, I.O. Usov, and R.F. Depaula, "Preparation of Array of Long Carbon Nanotubes and Fibers Therefrom," in review.
19. **Y.T. Zhu** and C. Sheehan, "A Method for High-Speed Fabrication of Aligned Carbon Nanotube Composites," NCSU invention disclosure No. 09-015, in review.
20. H.S. Peng, **Y.T. Zhu** and Q.X. Jia, "Carbon Microtubes," in review.
21. P. Bradford and **Y.T. Zhu**, "Method for Creating Aligned Films/Papers of Ultra-Long Carbon Nanotubes Using Shear Pressing," NCSU disclosure # 10027.
22. H.S. Peng, D.E. Peterson, Y.T. Zhu and Q.X. Jia, "Carbon Nanotube/Polydiacetylene Composites," Application # 61/275,133.
23. W. Liu, X. Wang, P. Bradford and **Y.T. Zhu**, "Carbon Nanotube Composites and Methods for Fabricating Same," NCSU disclosure # 11014. Application # 61482691.
24. **Y.T. Zhu**, X. Wang, C.D. Page, L.W. Zhang, "Low Twist CNT Yarns for High Performance Textile and Composites," NCSU disclosure # 13087.
25. W.W. Jian, S.N. Mathaudhu, **Y.T. Zhu**, "Nano-spaced Stacking Faults: a New Strengthening Mechanism for Metals and Alloys to Achieve Ultrahigh Strength and Good Ductility," NCSU disclosure # 13140.
26. L.W. Zhang, X. Wang, Y.Y. Zhang, Q.W. Li, Y.T. Zhu, "Processing CNT Films and Composites using Micro-combing to Straighten CNTs," NCSU Disclosure # 15169.

Journal Publications: citation# as of Aug. 5, 2024: Google Scholar 62705, H index 129; ISI 47634, H index 114; Scopus 53106, H index 120.

(at 494 total, including 3 in Nature Materials, 3 in PNAS, 1 in Nature Nanotechnology, 3 in Nature Communication, 1 in Science Advance, 3 in Prog. Mater. Sci., 7 in Phys. Rev. Lett., 1 in J. Mech. Phys. Solids, 4 in Materials Today, 21 in Mater. Res. Lett., 10 in Adv. Mater., 2 in J. Am Chem. Soc., 5 in ACS Nano, 3 in Small, 36 in Appl. Phys. Lett., 2 in Phys. Rev. B, 9 in J. Appl. Phys, 29 in Acta Mater., 35 in Scripta Mater., 11 in Metall. Mater. Trans.)

1989-1995

1. **Y.T. Zhu**, B.L. Zhou, G.H. He and Z.G. Zheng, "A Statistical Theory of Composite Materials Strength," *J. Composite Materials*, **23**, 280-87 (1989).
2. **Y.T. Zhu** and J.H. Devletian, "Determination of Equilibrium Solid-phase Transition Temperatures Using DTA," *Metallurgical Transaction*, **22A**, 1993-98 (1991).
3. **Y.T. Zhu** and J.H. Devletian, "Precise Determination of Isomorphous and Eutectoid Transformation Temperature in Binary and Ternary Zr Alloys," *J. Mater. Sci.*, **26**, 6218-22 (1991).
4. **Y.T. Zhu** and J.H. Devletian, "Precise DTA Testing of Highly Reactive Alloys," *Advanced Materials & Processes*, October 1991, p. 51-53.
5. **Y.T. Zhu** and J.H. Devletian, "Thermal Stress and Strain Effects on Phase Transition Temperatures in Differential Thermal Analysis Testing," *Metallurgical Transaction*, **23A**, 451-55 (1992).
6. **Y.T. Zhu** and G. Zong, "On the Application of the Statistical Strength Model of Fiber-Reinforced Composites," *J. Composite Materials*, **27**, 944-59 (1993).
7. A. Manthiram and **Y.T. Zhu**, "Chemistry of Electron Doped $\text{Ln}_{2-x}\text{Ce}_x\text{CuO}_4$ Superconductors," *J. Electronic Materials*, **22**, 1195-98 (1993).
8. **Y.T. Zhu**, J.H. Devletian and A. Manthiram, "Application of Differential Thermal Analysis in Phase Diagram Determination," *J. Phase Equilibria*, **15**, 37-41 (1994).
9. **Y.T. Zhu** and A. Manthiram, "Role of Bond Length Mismatch in $\text{Ln}_{2-x}\text{Ce}_x\text{CuO}_4$," *Physical Review B*, **49**, 6293-98 (1994).

10. **Y.T. Zhu** and A. Manthiram, "A New Route for the Synthesis of Tungsten Oxide Bronzes," *J. Solid State Chemistry*, **110**, 187-89 (1994).
11. **Y.T. Zhu** and A. Manthiram, "Role of Oxygen in $\text{Ln}_{2-x}\text{Ce}_x\text{CuO}_4$ Superconductors," *Physica C*, **224**, 256-62 (1994).
12. A. Manthiram and **Y.T. Zhu**, "On the Absence of Superconductivity in $\text{Gd}_{2-x}\text{Ce}_x\text{CuO}_4$," *Physica C*, **226**, 165-69 (1994).
13. J.P. Zhou, S.M. Savoy, J. Zhao, D.R. Riley, **Y.T. Zhu**, A. Manthiram and J. T. McDevitt, "Chemically Tailored Corrosion Resistant High- T_c Phases," *J. American Chemical Society*, **116**, 9389-90 (1994).
14. **Y.T. Zhu** and A. Manthiram, "A New Route for the Synthesis of WC-Co Nanocomposites," *J. American Ceramic Society* **77**, 2777-78 (1994).
15. **Y.T. Zhu**, G. Zong, A. Manthiram and Z. Eliezer, "Strength Analysis of Random Short Fiber Reinforced Metal Matrix Composite Materials," *J. Mater. Sci.*, **29**, 6281-86 (1994).
16. A. Manthiram, A. Dananjay and **Y.T. Zhu**, "New Route to Reduced Transition Metal Oxides," *Chemistry of Materials*, **6**, 1601-02 (1994).
17. **Y.T. Zhu** and A. Manthiram, "A Thermogravimetric Study of the Influence of Internal Stress on Oxygen Variations in $\text{Ln}_{2-x}\text{Ce}_x\text{CuO}_4$," *J. Solid State Chemistry*, **114**, 491-98 (1995).
18. **Y.T. Zhu**, J.H. Devletian, S.J. Chen and A. Manthiram, "On the Nonuniform Distributions of Temperature and Thermal Stress in DTA Testing," *J. Testing and Evaluation* **23**, 63-66 (1995).
19. J.P. Zhou, S.M. Savoy, R.K. Lo, J. Zhao, M. Arendt, **Y.T. Zhu**, A. Manthiram and J.T. McDevitt, "Improved Corrosion Resistance of Cation Substituted $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$," *Appl. Phys. Lett.*, **66**, 2900-02 (1995).
20. **Y.T. Zhu**, Y.P. Gao, J.H. Devletian and A. Manthiram, "Differential Thermal Analysis of Solid Zirconium," *J. Testing and Evaluation*, **23**, 431-35 (1995).

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21. W.R. Blumenthal, **Y.T. Zhu**, T.C. Lowe, and R.J. Asaro, "Deformation State Effects on the J_c of BSCCO Tapes," *Physica C*, **260**, 33-40 (1996).
22. **Y.T. Zhu** and A. Manthiram, "Influence of Processing Parameters on the Formation of WC-Co Nanocomposite Powder Using Polymer as Carbon Source," *Composites Part B*, **27**, 407-413 (1996).
23. **Y.T. Zhu**, W.R. Blumenthal, and T.C. Lowe, "Determination of *Non-Symmetric* 3-D Fiber Orientation and Average Fiber Length in Short-Fiber Composites," *J. Composite Materials*, **31**, 1287-1301 (1997).
24. B.R. Mattes, H.L. Wang, D. Yang, **Y.T. Zhu**, W. R. Blumenthal, and M. Hundley, "Formation of conductive polyaniline fibers derived from highly concentrated emeraldine base solutions," *Synthetic Metals*, **84**, 45-49 (1997).
25. **Y.T. Zhu**, W.R. Blumenthal, S.T. Taylor, T.C. Lowe and B.L. Zhou, "Analysis of Size Dependence of Ceramic Fiber and Whisker Strength," *J. American Ceramic Society*, **80**, 1447-52 (1997).
26. **Y.T. Zhu**, W.R. Blumenthal, and T.C. Lowe, "The Tensile Strength of Short Fiber-Reinforced Composites," *J. Mater. Sci.*, **32**, 2037-43 (1997).
27. **Y.T. Zhu**, S.T. Taylor, M.G. Stout, D.P. Butt, W.R. Blumenthal, and T.C. Lowe, "On the Statistical Strength of Nicalon Fibers and its Characterization," *Ceramic Engineering and Science*, **18**, 119-26 (1997).
28. **Y.T. Zhu**, P.S. Baldonado, E.J. Peterson, D.E. Peterson, and F.M. Mueller, "Powder Diffraction Data of $\text{SmBa}_4\text{Cu}_3\text{O}_{8.5+d}$," *Powder Diffraction*, **12**, 242-44 (1997).
29. **Y.T. Zhu**, T.C. Lowe and R.J. Asaro, "Assessment of the Theoretical Basis of the *Rule of Additivity* for the Nucleation Incubation Time during Continuous Cooling," *J. Applied Physics*, **82**, 1129-37 (1997).
30. **Y.T. Zhu**, S.T. Taylor, M.G. Stout, D.P. Butt, and T.C. Lowe, "Kinetics of Thermal, Passive Oxidation of Nicalon Fibers," *J. American Ceramic Society*, **81**, 655-60 (1998).
31. **Y.T. Zhu**, D.P. Butt, S.T. Taylor and T.C. Lowe, "Evaluation of a Modified Weibull Distribution in Characterizing the Strength of Ceramic Fibers and Whiskers with Varying Diameters," *J. Testing and Evaluation*, **26**, 144-150 (1998).
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