MAHER S. AMER, Ph.D.
Professor of Mechanical and Materials Engineering
Wright State University
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I. AFFILIATIONS:

UPMC, Sorbonne, University of Paris, France	2013-2014
On sabbatical as a visiting Scholar	
Wright State University, Dayton, Ohio	
Professor	2008 - Current
Associate Professor (with Tenure)	2002 – 2008
Assistant Professor	1997 – 2002
Department of Mechanical and Materials Engineering	
US Air Force Research Laboratory	
NRC Fellow/ on-site Consultant	2000-2002/1998-2011
Max-Planck Institute for Solid State Research	
On Sabbatical as a Von Humboldt Fellow	2004-2005
University of Cambridge, England	
On Sabbatical as a Visiting Fitzwilliam Fellow	2004–2005
Department of Materials Science and Metallurgy	
Rensselaer Polytechnic Institute, Troy, New York	
Post-doctoral Research Associate	1996-1997
Department of Materials Science & Engineering	
Drexel University	1995-1996
Adjunct Professor & Research Associate	
Department of Materials Science & Engineering	

II. EDUCATION:

Ph.D. Materials Engineering	1992–1995
Department of Materials Engineering	
Drexel University, Philadelphia, PA, USA	
Dissertation: *Interfacial Micromechanics and Environmental Degradation in Graphite/Epoxy Composites - A Study Using Micro-Raman Spectroscopy*.	
Master in Materials Science	1989–1991
Alexandria University, Alexandria, Egypt	
B.Sc. Civil Engineering	1982 - 1987
Alexandria University, Alexandria, Egypt	

III. PROFESSIONAL READINGS & RESEARCH EXPERTISE:

Micro-Raman / Brillouin Spectroscopy:

Investigating selective adsorption phenomena in nanostructured systems.
Imaging and mechanical measurements of biological materials.

Computational Materials Science:

Investigation of nanostructured and thermodynamic small systems using Molecular Dynamics and Density Functional Theory (DFT) calculations.

Nano-structured, Ultra-thin, Self-assembled Films for Nano-composites:

Processing of ultra-thin (2-10 nm) fullerene-based functional films.
Composition-Structure-Functionality relationship in ultra-thin fullerene films.

IV. AWARDS, HONORS AND SCHOLARSHIPS:

- Selected by US National Academies to review US AID 2015-2016 program in Egypt.
- Recognition from US National Academies for service and contribution to proposal review, 2015.
- Recognition from Russian Department of Higher Education for service and contributions to their higher education programs as evaluator, 2012-2015.
- Fulbright Scholar (Finalist), Fulbright Foundation, 2013.
- Recognition from American Chemical Society for scientific contribution and service for Journal of Chemical Physics, 2012.
- Recognition from US Congress for efforts in STEM education and bridging secondary and college education in Southwest Ohio, as part of HSMD team, Dayton, OH, 2012.
- Excellence in Research Award, Russ College of Engineering, 2010 - 2011.
- AAAS Fellowship, Semi-finalist, Energy and Environment, 2009.
- Nominated for the Jefferson Fellowship Award, Department of State, 2007.
- Nominated for the Materials Research Society (MRS) Medal Award, 2005.
- Alexander von Humboldt Fellow, Max Planck Institute, Stuttgart Germany 2004-2005
- Visiting Fellow, Fitzwilliam College, University of Cambridge, England, 2004.
- National Research Council (NRC) Faculty Fellowship Award, 2000, 2001.
- Outstanding Teaching Award, College of Engineering & Computer Science, Wright State University, 2000.
- Recognition from the American Ceramic Society for co-organizing and chairing the "Damage Evolution" Session during the Society Annual Meeting, Jan. 23-28, 2000, FL.
- First Place, 1996 Materials Professional Poster Competition, The Hudson-Mohawk Chapter of TMS, November 1996.
- Outstanding student paper Award, graduate level, second place, The Minerals, Metals & Materials Society (TMS), December 1995.
- College of Engineering Award from the Drexel University Chapter of Sigma Xi, May 1995.
- Graduate Student Award, Materials Research Society (MRS), Fall 1994.
- Member in *Alpha Sigma Mu* (The Honorary Society for Metallurgical and Materials Engineering).

- Drexel University Scholar, 1992-1995
- Alexandria University Outstanding Student Scholarship, 1983-1985, 1991.

V. INVITED LECTURES:

1. "Gigantic Challenges, Nano-Solutions"
   2nd World Congress on Nanotechnology and Materials Science, April, 2016, Dubai, UAE

2. "Nanotechnology: How Your Future Would Look Like"
   STEM Lecture for Greater Dayton High school students members of the **Honor Seminars of Metropolitan Dayton**, January, 2016.

3. "Confocal Raman And Brillouin Combined Spectroscopy: A New Horizon In Biotechnology"
   3rd. International Congress on Biotechnology, Dubai, UAE, February, 2014.

4. "Self-assembly in Nano-structured Ultra-thin Films"
   UPMC, University of Paris, **Sorbonne**, October 2013.

5. "Grand Challenges, Nano-Solutions"
   Department of Materials Science & Engineering, **Drexel University**, May 2012.

6. "Raman Spectroscopy: Bridging Materials & Electrical Engineering on the Micro- and Nano-scales"
   Department of Electrical Engineering, **SUNY-Buffalo University**, April, 2010.

7. "Nanotechnology: How Your Future Would Look Like"
   General Public Lecture for the **Honor Seminars of Metropolitan Dayton**, December, 2009.

8. "Processing and Characterization of Fullerene nano-Films and Wires"
   6th. **Taiwan/US Air Force** Nanoscience Workshop, San Francisco, April 2009.

9. "Energy: A Crisis or An Opportunity, a Nanotechnology Viewpoint"
   British University, Cairo-Egypt, December 2008.

10. "On the Compressibility of Individual Fullerene Molecules"
    British University, Cairo, Egypt, July 2008.

11. "Selective Adsorption of Methanol on Fullerene Surfaces"
    CMDRI, El-Tebin, Egypt, June 2008.

12. “On the Compressibility of Individual Fullerene Molecules”
    National University of Singapore, Singapore, CCS workshop, July 2007.

13. “Selective Adsorption on Nano-surfaces: A Raman Investigation”
    Federation of Analytical Chemistry and Spectroscopy Societies, **FACCS** April 2006.

14. “Raman-based nanostructured Sensors”
    Department of Materials Science & Engineering, **Drexel University**, Philadelphia, November 2005.

15. “Surfaces and Interfaces on the Nano-scale”
    Department Arzt, **Max-Planck Institute for Metal Research**, Stuttgart, October 2004.

16. “High Pressure Behavior of Carbon Nanospecies”
    Alexander von Humboldt Foundation Annual Meeting, Stuttgart, Germany, October 2004.

17. “Experimental & Molecular Dynamics Simulation of Carbon Nanospheres Under Hydrostatic Pressure”
    Department of Materials Science & Metallurgy, **University of Cambridge**, August 2004.

18. “Carbon Nanospecies under Hydrostatic Pressure”
    Department of Materials Science, **UMIST, Manchester, England**, July 2004.

19. “Raman Spectroscopy, Probing of Boundaries and Surfaces” Department of Materials Science & Metallurgy, **University of Cambridge, England**, July 2004.

20. “Raman Mapping of Mesoscopic Systems”
    Professor Arzt Department, **Max-Planck Institute Für Metalforschung**, Stuttgart, Germany, May 2003.

21. “Raman Spectroscopy; Probing Hard and Soft Matter”
    Materials Department, **University of California Santa Barbara**, March 2003.

22. “Raman Spectroscopy: Analyzing High Temperature Superconductors”
    Department of Materials Science & Engineering, **University of Dayton**, January 2003.

23. “Nanostructured Materials; A Raman Investigation”
    Polymer Branch, **Air Force Research Laboratory**, November, 2002.

24. "Raman Spectroscopy; Sensing Mesoscopic Interactions"
    Department of Chemical & Materials Engineering, **University of Kentucky**, Sept. 2002.

25. "Micro-Raman Spectroscopy; Applications in Materials Science"
    Department of Physics, **Ain-Shams University, Cairo**, **Egypt**, July 2001.

26. "Micro-Raman Spectroscopy; Applications in Solid Mechanics"
    American Ceramic Society Annual Meeting, Indianapolis, IN, April 2001.

27. "Recent Developments in Raman characterization of YBCO films"
    Special Presentation, AFRL/Boeing, WPAFB, November 2000.

28. "Micro-Raman Spectroscopy: Overview & Micromechanical Applications"
    American Ceramic Society Annual Meeting, Coco-Beach, FL, January 2000.

29. "Micro-Raman Spectroscopy; state-of-the-art Micromechanics technique"
    University of Cairo, Department of Metallurgical Engineering, March 1999.

30. "Micro-Raman Spectroscopy; state-of-the-art Micromechanics technique"
    Alexandria University, Department of Materials Sci. & Engineering, March 1999.

31. "Micro-Raman Spectroscopy for Composite Micromechanics"
    Materials Directorate, Wright Patterson Air Force Base, December 1997.

32. "Interfacial Effect in Graphite/Epoxy Composites", Designed Interface Group (DIG), **Virginia Tech**., Blacksburg, VA, April 1996.

33. "Environmental Effects on the Interface in Graphite/Epoxy Composites", Center for Composite Materials (CCM), **University of Delaware**, March 1995.

VI. SCHOLAR AND PROFESSIONAL SERVICES:

National & International Level:

- **ABET Program Evaluator**, Materials Science and Engineering, 2006-current.
- Served on the US AID program scientific evaluation team for Egypt, 2016.
- Served on proposal evaluation team for US National Academies, 2015.

- Served on proposal evaluation team for the New Eurasia Foundation. A foundation with a mission to enhance people's lives through social and economic development programs carried out at the regional and municipal levels in Russia, 2012 till current.
- Served on proposal evaluation panel for the Qatar Foundation. A foundation responsible for the scientific and economic developments in Qatar, 2011-2015.
- Served on the US National Committee for Nano-manufacturing Strategic Planning, a 15 member committee representing US government, industry, and academia tasked with identifying promising topics for the DOD nano-manufacturing initiative, 2010.
- Served on International Universities Accreditation Team, NAQAAE, Egypt, 2010.
- Editorial Board Member, International Journal of Spectroscopy.
- President, Honor Society of Metropolitan Dayton (HSMD), (2007-2009).
- Secretary, Intelligent Processing and Manufacturing of Materials Society (IPMM), bi-annual international meetings, Gold Coast, Australia, 1997, Honolulu, USA, 1999, Vancouver, Canada 2001, Sendai, Japan 2003, Monterey, CA. USA 2005, Salerno, Italy 2007, Berth, Australia 2009.
- External examiner, Graduate Program, Department of Materials Science & Metallurgy, University of Cambridge, England.
- Proposal Evaluation panelist, National Science Foundation, USA.
- Proposal Evaluation by mail, AFOSR, Far East Division, Japan.
- Proposal Evaluation by mail, State of Kentucky Research Foundation.
- Proposal Evaluation by mail, The Agency for Science, Technology and Research (A*STAR) in Singapore. A*STAR is Singapore's national agency to foster world class scientific research and human capital for a vibrant knowledge-based Singapore.
- Reviewer for Journal of Applied Physics, Physica C, Journal of Applied Polymer Science, Journal of Raman Spectroscopy, and Journal of Applied Surface Science.
- Co-organizer and Chair for the "Damage Evolution" session during the American Ceramic Society Annual Meeting, Jan. 23-28, 2000, Cocoa beach, Florida.
- Advisory board member for "International Conference on Advanced Composites", Hurghada, Egypt, Dec. 15-18, 1998.

University Level:

- University Academic Integrity Committee, member, 2015-current.
- University Undergrad Curriculum Review Committee, member, 2014-current.
- University Academic Program Review Committee, member, 2012-2013.
- University Student Affairs Committee, Chair, 2005-2008.
- University Student Affairs Committee, Member, 2000-2005.
- University Graduate Policies Committee, Member, 1999-2000.

College Level:

- College Petition Committee, Chair, 2015-current.
- College Bylaws revision Ad. Hoc. committee, 2011-2013
- Faculty Development Committee, Member 2003-2005, 2008-2015
- ME Chair review Ad. Hoc. Committee, elected member, 2011.
- Students' Affairs Committee, Member, 2005-2010.
- General Education Reforming Ad hoc Committee, Chair, 2004-2005.
- Teaching Committee, Member, 2001-2003.
- Curriculum Committee, Member, 2000-2002.
- College Library Committee, Chair, 2000-2001.
- College Library Committee, Member, 1999-2000. ,
- Graduate Studies Committee, Member, 1999-2001.

Department Level:

- Petition, Honors& Awards Committee, Chair, 2006-Current.
- Department Bylaws Revision committee, Chair, 2013-current.
- Accounting clerk search committee, Chair, 2012.
- Faculty Development Committee, Member, 2002- current.
- Library representative, 2000- current.
- Materials engineering committee, Member
- ABET Objective revision and documentation committee, 2004- 2005.
- Served on five (5) faculty search committees.

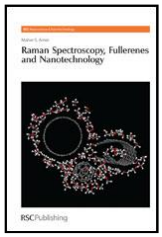
- Developed and maintained the first website for the departmental (1998-2002).

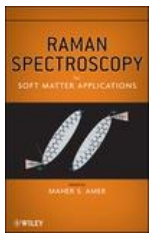
VII. PROFESSIONAL TRAINING:

- ABET Program Evaluator Training, workshop, February, 2010, 2012.
- AAAS-NSF workshop on communicating Science to the Public, Feb. 2009.
- ABET Program Evaluator Training, workshop, June 2008.
- Emotional and Social Intelligence for Leaders, workshop, April 2008.
- ABET Program Evaluator Training, workshop, March 2007.
- Effective Teaching Techniques, workshop, March 2005.
- Ethics in Engineering, workshop, 2002.
- Effective Teaching, workshop, 2001.
- Academia, Industry, and Government Roles in Composite development, NIST workshop, 1998.

VIII. PUBLICATIONS: (2015 H-index=18, i10-Index 32)

Books





- Raman Spectroscopy, Fullerenes, and Nanotechnology, M. S. Amer (Author), **ISBN:** 978-1-84755-240-2, Royal Society of Chemistry, 2010.

- Raman Spectroscopy for Soft Matter Applications, M S. Amer (Editor), **ISBN:** 978-0- 470-45383-4, Wiley publishers, 2009.

Book Chapters

- Maher S. Amer, "Self-assembly of composite carbon nanomaterials", in Comprehensive Supramolecular Chemistry II. Colin Raston Ed., Elsevier Publishers, in preparation, 2016.
- M. S. Amer, "Raman Applications in Foams", in Raman Spectroscopy for Soft Matter Applications, Amer, M. S. Ed., **ISBN** 978-0-470- 45383-4, Wiley publishers, 2009.
- M. S. Amer, "**Semiconductor Machining at the Micro-Nano Scale**", in Semiconductor Machining at the Micro-Nano Scale Yan, J. & Patten, J Eds., **ISBN:** 978-81-7895-301-4, Research Signpost Publishers, 2008.
- M. S. Amer, "**Fullerenes under Pressure, Adsorption, Selective Adsorption, and Opportunities for Engineered Adsorption**", Chapter 10, in Fullerene Research Advances, Carl N. Kramer Ed., **ISBN:** 1-60021-824-5, Nova Publishers, 2007.

Journal & Archived, Peer Reviewed Publications:

1. "Self-Assembled Structures of Fullerene Building Blocks; Single-walled Carbon Nanotubes and C60 Phases"
   Maher S. Amer
   Philosophical Magazine Letters, submitted, 2015.

2. "On the effect of [60] fullerene on the evaporation kinetics of aromatic solvents"
   Maher S. Amer, and Wenhu Chang
   Physical Chemistry Chemical Physics, submitted, 2015.

3. "Effect of Fullerene Nanospheres on Water Evaporation Kinetics and First-Order Thermal Transitions."
   Maher S. Amer and Wenhu Wang
   The Journal of Physical Chemistry C (2012) **116**(14): 8216-8222.

4. "Self-Assembled Hierarchical Structure of Fullerene Building Blocks; Single-Walled Carbon Nanotubes and C_{60}"
   Maher S. Amer, and John D. Busbee
   The Journal of Physical Chemistry C (2011) **115**(21): 10483-10488.

5. "Effect of linear alcohol molecular size on the self-assembly of fullerene whiskers"
   Maher S. Amer, Todd, T.K., and Busbee, J.D.
   Materials Chemistry and Physics (2011) **130**(1-2): 90-94.

6. "On the Evaporation kinetics of C_{60}/Toluene Mixtures"
   Maher S. Amer, and Mahmoud Abdu
   Philosophical Magazine Letters, (2009) **89**, 615-618.

7. "On the Compressibility of C_{60} Individual Molecules"
   Maher S. Amer, and John F. Maguire
   Chemical Physics Letters, (2009) **476**, 232-235.

8. "A Brillouin Scattering Study of C_{60}/Toluene Mixtures"
   Maher S. Amer, Mats Bennett, and John F. Maguire
   Chemical Physics Letters (2008), **457**, 329-331.

9. "Raman Spectroscopy and Molecular Simulation Investigations of Adsorption on the Surface of Single-Walled Carbon Nanotubes and Nanospheres"
   Maher S. Amer (Invited)
   Journal of Raman Spectroscopy, special issue on Nanotechnology (2007), **38**, 721-727.

10. "On the Development of a Confocal Rayleigh-Brillouin Microscope"
    Liptak D, Reber J, **Amer MS**, and Maguire JF
    Review of Scientific Instruments (2007), **78**, 016106.

11. "Selective Adsorption from Methanol/Water Mixtures by C_{60} Fullerene Nanospheres"
    Maher S. Amer, and Mostafa M. El-Ashry
    Chemical Physics Letters (2006) **430**, 323-325.

12. "Raman Mapping of Local Phases and Local Stress Fields in Silicon-Silicon Carbide Composites"
    Amer, MS, Durgam, L., and El-Ashry, M.
    Materials Chemistry and Physics (2006) **98**, 410-414.

13. "Calculation of Raman Frequency Shift of Fullerene C_{60} Interacting with Water Molecules"
    Amer MS, Elliot, JA, Maguire JF, and Windle, AH
    Chemical Physics Letters (2005) **411**, 395-398.

14. "Femtosecond versus nanosecond laser machining comparison of induced stresses and structural changes in silicon wafers "
    Amer M.S., El-Ashry M, Dosser L, Hex K, Maguire JF, and Irwin, B
    Applied Surface Science (2005) **242**, 162-167.

15. "Local dielectric and strain measurements in $YBa_2Cu_3O_{7-\delta}$ thin films by evanescent microscopy and Raman spectroscopy"

Richard A Kleismit, Mostafa El-Ashry, Gregory Kozlowski, **Maher S. Amer**, Marian K Kazimierczuk, and Rand R Biggers
Superconductors Science and Technology (2005) **18**, 1197-1203

16. "Vibrational behavior of the $M_{n+1}AX_n$ phases from first-order Raman scattering"
Spanier JE, Gupta S, **Amer M**, and Barsoum MW
Physical Review B (2005) **70,** 109445

17. "Raman spectroscopy investigation of functionally graded materials and inter-granular mechanics"
Maher S. Amer (Invited)
International Journal of Solids and Structures (2004), **42**, 751-757.

18. "A study of the hydrostatic pressure dependence of the Raman spectrum of single-walled carbon nanotubes and nano-spheres"
Amer MS, El-Ashry M, and Maguire MF
Journal of Chemical Physics (2004) **121**, 6, 2752-2757

19. "Raman Investigation of Fullerene [60] Under Hydrostatic Pressure"
El-Ashry M, **Amer MS**, and Maguire JF
Mechanical Properties of Nanostructured Materials, I. Ovid'ko et al. Eds.
MRS Publications, (2004) **792**, 317-321.

20. "Exploring two-dimensional soap-foam films using fullerene (C_{60}) nanosensors"
John F. Maguire, **Maher S. Amer**, and John Busbee
Applied Physics Letters (2003) **82**, 15, 2592-2594.

21. "Stress Characterization of MEMS Micro-bridges by Micro-Raman Spectroscopy"
L.A. Starman Jr., J.A. Lott, **M.S. Amer**, W.D. Cowan, J.D. Busbee
Sensors and Actuators (2003) A **104** 107-110.

22. "Sensing surface phase transitions on fullerene C_{60} nanospheres in water-methanol mixture"
El-Ashry **M, Amer**, M, and Maguire J.
IEEE Technology Proceedings on Nanotechnology (2003), pp. 489-492.

23. "Laser micro-machining of silicon wafers; induced stresses and structural changes"
Maher S. Amer, Larry Dosser, Steven LeClair, and John F. Maguire
Applied Surface Science (2002), **187**, 291-296.

24. "Effect of Grain Orientation and Local Strain on the Quality of Polycrystalline $YBa_2Cu_3O_7$ Superconductive Films"
Maher S. Amer, John F. Maguire, Rand Biggers, and Steven R. LeClair
Philosophical Magazine Letters (2002), **82**, 4, 241-245.

25. "The Introduction of Compressive Residual Stresses in Ti-6Al-4V Simulated Airfoils Via Laser Shock Processing"

M.J. Shepard, **Maher S. Amer**, and P.R. Smith
Journal of Materials Engineering & Performance (2001), **10**, 6, 670-678.

26. **"**Micro-Raman Spectroscopy in Micromechanics; The Giant Awakes"
Maher S. Amer (Invited)
In the proceedings of The American Ceramic Society Annual Meeting, 2001

27. "Effects of Processing Parameters on Axial Stiffness of Self-Reinforced Polyethylene Composites"
Maher S. Amer; and S. Ganapathiraju
Applied Polymer Science (2001), **81**, 1136-1141.

28. "Local Grain Orientation in Polycrystalline $YBa_2Cu_3O_{7-\delta}$ Superconductor Thin Films Measured by Raman Spectroscopy"
Maher S. Amer, John Maguire, L. Cai, R. Biggers, J. Busbee, S. LeClair
Journal of Applied Physics (2001)**, 89,** 12, 8030-8034.

29. "Direct Observation of Inter-granular Stress Fields in Polycrystalline Materials"
Maher S. Amer; and J. F. Maguire
Philosophical Magazine Letters (2000) **80**, 8, 543-548

30. "Residual Compression Stress Profile in High-Modulus Carbon Fiber Embedded in Isotactic Polypropylene by micro-Raman Spectroscopy,"
H.D. Wagner, **Maher S. Amer**, L.S. Schadler
Applied Composite Materials (2000) **7**, 209-217
31. "Functionally graded joints for carbon/carbon composites: micro-Raman spectroscopy characterization".
Maher Amer, T. El-Raghy, M. Barsoum, and I. Weiss.
44th International SAMPE Symposium Proceedings (1999) **1** pp. 1909-1917.

32. "Non-destructive, in-situ measurements of diamond-like-carbon film hardness using Raman and Rayleigh scattering"
Maher S. Amer,. LeClair, S., Johns, J.,Busbee, J., and Maguire, J
Journal of Raman Spectroscopy (1999) **30** (10) 947-950

33. "The Effect of Interphase Toughness on Fiber/Fiber Interaction In Graphite/Epoxy Composites: An Experimental And Modeling Study"
Maher S. Amer. and Schadler, L. S.
Journal of Raman Spectroscopy (1999) **30**: (10) 919-928

34. "The Topotaxial Transformation of Ti_3SiC_2 into a partially ordered Cubic Ti (C0.67 Si0.06) Phase by the Diffusion of Silicon into Molten Cryolite"
M. Barsoum; T. El-Raghy; L. Farber; **M. S. Amer**; R. Christini; and A. Adams
Journal of Electrochemical Society (1999) **146**: (10) 3919-3923

35. "The Raman Spectrum of Ti_3SiC_2"
    M. S. Amer; Barsoum, M.; El-Raghy, T.; Weiss, I.; Leclair, S.; and Liptak, D.
    Journal of Applied Physics (1998) **84**, No. 10, 5817-5819

36. "Mechanical Behavior of Graphite/Epoxy Composites; Part I: Effect of Fiber Sizing"
    Maher S. Amer; and Schadler, L. S.
    Science & Engineering of Composite Materials (1998) **7**, Nos. 1-2, 81-114

37. "Mechanical Behavior of Graphite/Epoxy Composites; Part II: Interfacial Durability"
    Maher S. Amer and Schadler, L. S.
    Science & Engineering of Composite Materials (1998) **7**, Nos. 1-2, 115-150

38. "A New Methodology For Predicting Deformation And Damage Propagation In Fiber Composites"
    Beyerlein, I. J., **Maher S. Amer**., Phoenix, S. L., and Schadler, L. S.
    Science & Engineering of Composite Materials (1998) **7**, Nos. 1-2, 151-204

39. "Stress Concentration Phenomenon in Graphite/Epoxy Composites; Tension / Compression Effects"
    Maher S. Amer., and Schadler, L. S.
    Composites Science & Technology (1997) **57**, 1129-1137

40. "Effect of Hydrothermal exposure on Interfacial Stress Transfer in Graphite/Epoxy Composites Loaded in Compression"
    Maher S. Amer, and Schadler, L. S.
    Advanced Composites Letters (1996) **5**, No. 6, 165-169

41. "Relating Hydrothermal Degradation in Single Fiber Composites to Degradation Behaviour in Bulk Composites"
    Maher S. Amer, Koczak M. J., and Schadler L. S.
    Composites (1996) **27A**, No. 9, 861-867

42. "Fiber Interaction in Two-dimensional Composites by micro-Raman Spectroscopy"
    Wagner, H. D., **Maher S. Amer**, and Schadler, L. S.
    Journal of Materials Science (1996) **31**, 1165-1170

43. "Experimental Measurements of Fiber/Fiber interaction Using Micro-Raman Spectroscopy"
    Schadler, L. S., **Amer, M. S.**, and Iskandarani, B.
    Mechanics of Materials (1996) **23**, No., 205-211

44. "Environmental Degradation of the Interface in Graphite/Epoxy Single Filament Composites Measured Using Laser Raman Spectroscopy: Effect of Thermal and Hydrothermal Exposure at 100°C"
    Maher S. Amer, Koczak, M. J., and Schadler, L. S.
    Composite Interfaces (1995) **3**, No. 4, 41-47

45. "Environmental Effects on Interfacial Behavior in Graphite/Epoxy Single-Fiber and Multi-Fibers Composites"
    Schadler L. S., Koczak M. J., and **Maher S. Amer** (Invited Paper)
    Polymer/Inorganic Interfaces II, Drzal et al. Ed., MRS publications (1995) **385**, 155-166.

46. "Environmental Degradation Studies of the Interface in Single-Filament Graphite/Epoxy Composites Using Laser Raman Spectroscopy"
    Maher S. Amer., Koczak, M. J, Galiotis C., and Schadler, L. S.
    Advanced Composites Letters (1994) **3**, No. 1, 17-21

In Refereed Proceedings

47. "Raman investigation of Single-walled Carbon Nanotube under Hydrostatic Pressure"
    Maher Amer, M. El-Ashry, and John Maguire
    IPMM'05, Monterey Ca, July 19-23' 2005.

48. "Molecular Dynamic Calculations of Raman Spectra of Fullerene Interacting with Water"
    Maher Amer, James Elliott, John Maguire, and Allan Windle
    IPMM'05, Monterey Ca, July 19-23, 2005.

49. "Raman Investigation of Fullerene [60] Under Hydrostatic Pressure"
    El-Ashry M, **Amer MS**, and Maguire JF
    MRS Fall meeting, Boston, USA, December, 2003.

50. **"**Micro-Raman Spectroscopy in Micromechanics: Achievements and Potentials"
    Maher S. Amer
    International conference on Mechanical behavior of Materials (ICM-9), Geneva, Switzerland May 23-28, 2003.

51. "A Study of the Pressure dependence of the Raman spectrum of C_{60} and single walled nanotubes in methanol-water mixtures"
    El-Ashry, M. **Amer, M S**, and Maguire JF
    Intelligence in a Small Materials World, J Meech et al. Eds., DEStech Publishing, 2003.

52. **"**Raman Mapping of local strain and grain orientation in YBCO Films"
    Maher S. Amer, J. F. Maguire, J. Busbee, R. Biggars, and S. LeClair
    Symposium on Intelligent Thin Films & Composites, IPMM 01, Vancouver, Canada, August 1-3, 2001.

53. "Stress Reduction Characterization Using Raman Spectroscopy Measurements on MEMS Devices"
    L. A. Starman, Jr.; J. A. Lott; **Maher S. Amer;** W. D. Cowan; and J. D. Busbee
    IEEE/LEOS Optical MEMS 2001
    Internal Conference on Optical MEMS & Applications, 25 - 28 September 2001 Okinawa, Japan

54. "Utilizing Raman Spectroscopy For Stress Imaging In MEMS Devices"
J. Busbee, L. Starman, **Maher S. Amer**, J. Reber, W. Cowan, and J. Maguire
Proceedings of IFAC Symposium On Artificial Intelligence In Real Time Control Airtc-2000, October 2-4 2000, Budapest, Hungary.

55. "Functionally Gradient Joint for Carbon/Carbon Composites; I Raman Characterization"
Maher S. Amer, T. El-Raghy, M. Barsoum, and I. Weiss
Proceedings of SAMPE'44, 1999.

56. "Interfacial Degradation in Graphite/Epoxy Composites"
Maher S. Amer.; and Schadler, L. S.
Proceedings of International Conference on Advanced Composites (ICAC'98), Hurghada, Egypt, December 15-18, 1998.

57. "Micromechanics of Compressive Failure in Fiber Polymer Composites: A Study Using Micro-Raman Spectroscopy"
Maher S. Amer, L. S. Schadler, and S. Narayanan
Society of Engineering Mechanics, 1997 annual meeting proceedings, Seattle, Washington, June 1997.

58. "Compression Failure in Graphite / Polymer Composites: Correlation of Macro and Micro Response"
J. Lankford, J. Lesko, N. Verghese, L. S. Schadler, S. Narayanan, and **Maher S. Amer**
Interfacial Phenomena in Composite Materials (IPCM'97), Hungary, July 1997.

Electronic Alerts

59. **"Tough C-C Composite Joints Easy to Machine"**
Advanced Manufacturing Technology Alert, Wiley electronic journal, June 18, 1999

IX. CONFERENCE PRESENTATIONS:

1. "On the Compressibility of Individual Fullerene Molecules"
Maher S. Amer, and John F. Maguire
IPMM'2007, Salerno, Italy, June 22-27, 2007.

2. "Raman-based Nanostructured Sensors"
MRS fall meeting, Boston, MA, November 28-December 2, 2005.

3. "Raman investigation of Single-walled Carbon Nanotube under Hydrostatic Pressure"
IPMM'05, Monterey Ca, July 19-23' 2005.

4. "Molecular Dynamic Calculations of Raman Spectra of Fullerene Interacting with Water"
IPMM'05, Monterey Ca, July 19-23, 2005.

5. “Raman Investigation of Fullerene [60] Under Hydrostatic Pressure”
   MRS Fall Meeting, Boston, December 5-8, 2003.

6. “Micro-Raman spectroscopy in Micro-mechanics: Achievements and Potentials”
   ICM-9, Geneva, Switzerland, May 23-28, 2003.

7. “Raman Spectrum of C_{60} Under high hydrostatic pressures”
   IPMM’03, Sendai, Japan May 16-22, 2003.

8. “Raman mapping of Local strain and grain orientation in HTS films”
   IPMM-2001, Vancouver, Canada, August 1-3, 2001

9. “Local Grain Orientation Measurements in HTS Films”
   ICMAT 2001, Singapore, July 1-6, 2001

10. “Functionally Gradient Joint for Carbon/Carbon Composites”
    American Ceramic Society Annual Meeting, Coco-Beach, FL, January 2000

11. “Micro-Raman Spectroscopy for mechanics of fibrous, particulate, and layered Composites”, special presentation for the advisory board of the National Center for Composites, Wright State University, June 1999

12. “Functionally Gradient Joint for Carbon/Carbon Composites”
    SAMPE’44, Long Beach, CA, May 1999

13. “Micromechanical Phenomena controlling Composite Toughness: Interfacial Toughness Effect”, Gordon Research Conference on Composites, Ventura, CA, January 1998

14. “Micromechanical Phenomena controlling Composite Toughness: Interfacial Toughness Effect”
    Materials Research Society Fall, 1997 Meeting. Boston, MA, December 1997

15. "Micromechanical Phenomena Controlling Composite Toughness; An Energy Approach", Workshop On Micromechanics Measurements Technologies For Fiber-Polymer Interface, a NIST sponsored workshop, May 28-30, 1997.

16. "Stress Concentration Phenomenon in Graphite/Epoxy Composites: Interfacial toughness Effects", 1996 Materials Poster Competition, The Hudson-Mohawk Chapter of TMS, Troy, NY, November 1996.

17. “Stress Concentration Phenomenon in Graphite/Epoxy Composites; Tension/Compression Effects”, International Conference on Composite Interfaces “ICCI-VI”, Zichron Yaacov, Israel, May 1996.

18. "Interface Degradation Mechanism in Graphite/Epoxy Single and Multi-Fiber Composites: A Study Using Micro-Raman Spectroscopy", AIChE Annual Meeting, Miami Beach, FL, November 1995

19. "Environmental Effects on the Interface in Graphite/Epoxy Composites", ONR Review, Woods Hole, MA, June 1995.

20. "Effect of Temperature on the Interfacial Degradation in Graphite/Epoxy Composites", Graduate Students Contest, MRS Fall '94 Meeting, Boston, MA, December 1994

21. "Effect of Temperature on the Interfacial Degradation in Graphite/Epoxy Composites", MRS Fall '94 Meeting, Boston, MA, December 1994

22. "Characterization of Carbon/Carbon Composites Using Laser Raman Spectroscopy", International Conference on Composite Interfaces "ICCI-V", Goetenburg, Sweden, June 1994

23. "Environmental Degradation of the Interface in Graphite/Epoxy Single Filament Composites", International Conference on Composite Interfaces "ICCI-V", Goetenburg, Sweden, June 1994

X. COURSES DEVELOPED & TAUGHT:

- (Developed) Nano-scale Science& Engineering (400/600 level course)
- (Developed) Mechanics of Fibrous Composites (700 level course)
- (Developed) Processing of Engineering Polymers (400/600 level course)
- (Developed) Structure & Properties of Engineering Polymers (400/600 level course)
- (Developed) Advanced Polymer Engineering (700 level course)
- Thermodynamic I (300 level course)
- Dynamic (200 level course)
- Mechanics of Materials (300 level course)
- Statics (200 level course)
- Fundamentals of Materials (200 level course)
- Thermodynamics of Materials (300 level course)

XI. ADVISING & MENTORSHIP:

- Advised 25 Graduate students including 7 Ph.D.'s two of which were tenured in academia.
- Supervised over 60 undergraduate students for senior design and honor thesis projects.

Currently Advising:

1. Mark Foster, Ph.D., started in Fall 2014
2. Kaitlin Kollins, MS, started Fall 2015
3. Hasanain Altalibi, MS, started Fall 2015
4. Seyed Rezaie, MS, started Fall 2015

XII. PATENTS:

Method of Reducing Internal Stress in Materials, **US Patent #** 6,893,986, Patent issued May 17, 2005.