

## Maher S. Amer

Professor

**Date of Initial Appointment:** September 1, 1997

### Education

Institution	Field of Study	Degree/Date
Drexel University	Materials Science & Engineering	Ph.D., 1992-1995
University of Alexandria, Egypt	Materials Science & Engineering	M. Sc., 1989-1991
University of Alexandria, Egypt	Civil Engineering	B.Sc., 1982-1987

### Professional Experience

Position	Institution	Dates
Professor	Wright State University	09/08-present
Associate Professor	Wright State University	09/02-09/08
Visiting Fellow	Max Plank Institute for Solid State Research	09/04-12/04
Visiting Fellow	University of Cambridge, England	06/04-09/04
Assistant Professor	Wright State University	09/97-08/02
Post-Doctoral Research Associate	Rensselaer Polytechnic Institute	06/96-09/97
Post-Doctoral Research Associate	Drexel University, Dept. of Materials Eng.	09/95-06/96
Adjunct Professor	Drexel University, Dept. of Materials. Eng.	09/95-06/96
Graduate Research Assistant	Drexel University, Dept. of Materials. Eng	01/93-09/95
Graduate Teaching Assistant	Drexel University, Dept. of Materials. Eng	09/92-01/93

### Most Recent 20 Publications

1. 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.
2. "A Brillouin Scattering Study of C<sub>60</sub>/Toluene Mixtures" Maher S. Amer, Mats Bennett, and John F. Maguire Chemical Physics Letters (2008), **457**, pp 329-331.
3. 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
4. "On the Development of a Confocal Rayleigh-Brillouin Microscope", Liptak D, Reber J, Amer M, and Maguire J, Review of Scientific Instruments (2007), **78**, 016106.
5. "Selective Adsorption from Methanol/Water Mixtures by C<sub>60</sub> Fullerene Nanospheres", Maher S. Amer, and Mostafa M. El-Ashry, Chemical Physics Letters (2006) **430**, 323-325.
6. "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.
7. "Calculation of Raman Frequency Shift of Fullerene C<sub>60</sub> Interacting with Water Molecules", Amer MS, Elliot, JA, Maguire JF, and Windle, AH, Chemical Physics Letters (2005) **411**, 395-398.
8. "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
9. "Vibrational behavior of the M<sub>n+1</sub>AX<sub>n</sub> phases from first-order Raman scattering", Spanier JE, Gupta S, Amer M, and Barsoum MW, Physical Review B (2004) **70**, 109445
10. "Raman spectroscopy investigation of functionally graded materials and inter-granular mechanics" Maher S. Amer, International Journal of Solids and Structures (2004), **42**, 751-757.
11. "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
12. "Exploring two-dimensional soap-foam films using fullerene (C<sub>60</sub>) nanosensors" John F. Maguire, Maher S. Amer, and John Busbee, Applied Physics Letters (2003) **82**, 15, 2592-2594.
13. "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.
14. "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.

15. "Effect of Grain Orientation and Local Strain on the Quality of Polycrystalline  $\text{YBa}_2\text{Cu}_3\text{O}_7$  Superconductive Films" Maheer S. Amer, John F. Maguire, Rand Biggers, and Steven R. LeClair, *Philosophical Magazine Letters* (2002), **82**, 4, 241-245.
16. "The Introduction of Compressive Residual Stresses in Ti-6Al-4V Simulated Airfoils Via Laser Shock Processing" M.J. Shepard, Maheer S. Amer, and P.R. Smith, *Journal of Materials Engineering & Performance* (2001), **10**, 6, 670-678.
17. "Effects of Processing Parameters on Axial Stiffness of Self-Reinforced Polyethylene Composites" Maheer S. Amer; and S. Ganapathiraju, *Applied Polymer Science* (2001), **81**, 1136-1141.
18. "Local Grain Orientation in Polycrystalline  $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$  Superconductor Thin Films Measured by Raman Spectroscopy" Maheer S. Amer, John Maguire, L. Cai, R. Biggers, J. Busbee, S. LeClair, *J. Applied Physics* (2001), **89**, 12, 8030-8034.
19. "Direct Observation of Inter-granular Stress Fields in Polycrystalline Materials" Maheer S. Amer; and J. F. Maguire, *Philosophical Magazine Lett.* (2000) **80**, 8, 543-548
20. "Residual Compression Stress Profile in High-Modulus Carbon Fiber Embedded in Isotactic Polypropylene by micro-Raman Spectroscopy," H.D. Wagner, Maheer S. Amer, L.S. Schadler, *Applied Composite Materials* (2000) **7**, 209-217.

### **Professional Memberships**

1) American Society for Engineering Education (ASEE), 2) ASM International 3) Sigma Xi, The Scientific Research Society, 4) MRS, Materials Research Society 5) American Association of University Professors

### **Institutional and Professional Service (Last 5 years)**

Department Committees: Library representative, Curriculum committee, Member, Materials Engineering Committee, Member, Served in five (5) faculty search committees.

College Committees: Faculty Development Committee, Member, Teaching Committee, Member (2001-2003) Curriculum Committee, Member (2000-2002) Library Committee, chair (1999-2000), member (2000-2001) Graduate Studies Committee, Member (1999-2001) General Education Reforming Committee, Chair (2000-2001)

University Committees: University Student Affairs Committee, Chair (2005-2008), Member (2000-2003) University Graduate Policies Committee, Member (1999-2000)

Reviewer for Professional Journals: *Journal of Applied Physics*; *Physica C*; *Journal of Applied Surface Science*; *Journal of Applied Polymer Science*; *Composites Science and Technology*

National & International Professional Service: Editorial Board Member, *International Journal of Spectroscopy*, President, HSMD, Secretary, IPMM Society, Graduate external examiner, Department of Materials Science & Metallurgy, University of Cambridge, England. Proposal evaluator for NSF, Proposal evaluator for AFOSR, Far East Division, 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.

### **Professional Development Activities (Last 3 years)**

- 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.