

**SHARMILA M. MUKHOPADHYAY**  
Professor of Materials Science & Engineering

**DATE OF INITIAL APPOINTMENT:** September 1, 1997 (8 years of service)

**EDUCATION:**

Institution	Field of Study	Degree/Date
Cornell University	Materials Science & Engineering	Ph.D., 1989
Cornell University	Materials Science & Engineering	M.S., 1986
Indian Institute of Technology	Physics	B.S./M.S., 1981/1983

**PROFESSIONAL EXPERIENCE**

1997- present	Dept of Mechanical & Materials Engineering Wright State University, Dayton, Ohio.
1990-1997	Dept. of Metallurgy & Materials Science (Subsequently merged into the Chemical Engineering & Chemistry Departments), Polytechnic University, Brooklyn, NY.
1989 - 1990	Post- Doctoral Associate, Ceramic Research Center, Rutgers University, Busch Campus, Piscataway, NJ.
1983 - 1989	Graduate Research Assistant, Cornell University Dept. of Materials Science and Engineering
2000-03	Summer Faculty Fellow, Propulsion Directorate, WPAFB
Summer, 1986	Consultant, Oak Ridge National Laboratory

**SELECTED PUBLICATIONS (LAST 5 YEARS)**

- 1) S. M. Mukhopadhyay R. V. Pulikollua and A. K. Roy, "Surface modification of a microcellular porous solid: carbon foam", Applied Surface Science, Vol: 225, 1-4, March 30, 223-228, (2004)
- 2) S. M. Mukhopadhyay, R. Pulikollu, E. Ripberger & A. K. Roy, "Surface Modification of Graphitic Foam", Journal of Applied Physics, 93, 2, Jan 2003.
- 3) S. M. Mukhopadhyay et al, Editors, MPMD FIFTH GLOBAL INNOVATIONS PROCEEDINGS: Surfaces and Interfaces in Nanostructured Materials and Trends in LIGA, Miniaturization and Nanoscale Materials", TMS, 2004.
- 4) Paul N. Barnes, Sharmila M. Mukhopadhyay, Swaminathan Krishnaswami, Timothy J. Haugan, Justin C. Tolliver and Imaan Maartense, "Correlation between the XPS Peak Shapes of Y1Ba2Cu3O7-x and Film Quality", IEEE Trans. on Appl. Superconductivity, 13, 3643 (2003).
- 5) P. N. Barnes, T. J. Haugan, J. T. Grant, S. M. Mukhopadhyay, C. B. Cobb, M. Sumption, and J. C. Tolliver, AC Loss and XPS Issues of YBCO Coated Conductors, Ceramic Transactions (2004).
- 6) P.Joshi, R.Pulikollu & S.M.Mukhopadhyay, "Nanometer-scale Coatings for Nano-structured Solids", Surfaces & Interfaces in Nanostructured Materials, TMS Proceedings, 2004.
- 7) S. Sathiraju, R. Wheeler, P.N. Barnes, T.L.Peterson, I. Maartense, A.L. Campbell, R.M. Nekkanti, L. Brunke, J. Murphy, T.A. Campbell, N.A. Yust, T.J. Haugan, Q. Jia, P. Arendt, S.Mukhopadya, and S. Vemulakonda, Studies on YBa2NbO6 and YBa2Cu3-xNbxOy Buffer Layers, Proceedings of AFOSR HTS Coated Conductor Peer-Review (2004).
- 8) S.M. Mukhopadhyay, "Science & Engineering of Carbon Core Structures: Surface Engineering Issues", Proceedings of Aerospace & Materials Sciences Program Review (2004).
- 9) S. M. Mukhopadhyay, R.V.Pulikollu & A.K.Roy, "Surface Engineering Issues in Composite Core Structures" ICCM-14, July 2003, published by Society of Manufacturing Engineers, Article # TP03PUB296.
- 10) S. M. Mukhopadhyay, P. Joshi, S. Datta and J. MacDaniel, "Plasma Assisted Surface Coating Of Porous Solids", Applied Surface Science, 201, 219-226 (2002).
- 11) P.N. Barnes, S. Mukhopadhyay, R. Nekkanti, T. Haugan, R. Biggers, and I. Maartense, XPS depth profiling studies of YBCO layer on buffered substrates, Advances in Cryogenic Engineering, 48B, pp. 614-618 (2002).
- 12) S. M. Mukhopadhyay, N. Mahadev and P. Joshi, A. K. Roy, K. Kearns and D. Anderson "Structural Investigation of Graphitic Foam", Journal of Applied Physics, Vol. 91, No 5, 3415-3420, (2002).
- 13) S. M. Mukhopadhyay, P. Joshi, S. Datta, J.G.Zhao, P. France, "Plasma Assisted Hydrophobic Coatings in Porous Materials", J. Phys. D: Appl Phys, 35, 1927-1933, (2002).

- 14) S. M. Mukhopadhyay, S. Krishnaswami, P. N. Barnes, T. J. Haugan, J. C. Tolliver and C. B. Cobb "Photoelectron Spectroscopy of YBCO Coated Conductors", submitted to Physica C, in review.
- 15) S. M. Mukhopadhyay and S. Sengupta "Dopant Enhanced Processing of Superconducting Perovskites", Ceramic Transactions, Vol 104, 49-59, (2001).
- 16) C. Penache, S. Datta, S. Mukhopadhyay, P. Joshi, A. Bräuning-Demian, O. Hohn, S. Schössler, T. Jahnke and H. Schmidt-Böcking, "Large area surface modification induced by parallel operated MSE sustained glow discharges", Vol. 2 of Official Proceedings, HAKONE VIII, International Symposium on High Pressure, Low Temperature Plasma Chemistry (2002).
- 17) Paul N. Barnes, Sharmila Mukhopadhyay, Rama Nekkanti, Tim Haugan, Rand Biggers, Iman Maartense, "XPS Depth Profiling Studies of YBCO Layer on Buffered Substrates", Advances in Cryogenic Engineering, ICMC, Vol 48, 614-18, (2002).
- 18) R. N. Ghosh, S. Ezhilvalavan, B. Golding, S. M. Mukhopadhyay, N. Mahadev, P. Joshi, M. K. Das and J. A. Cooper, Jr. "Profiling of the SiO<sub>2</sub> - SiC Interface Using X-ray Photoelectron Spectroscopy", Mat. Res. Soc. Symp. Vol. 640, Materials Research Society (2001).
- 19) G. Y. McDaniel, S. T. Fenstermaker, D. E. Walker, and W.V. Lampert, S. M. Mukhopadhyay and P. H. Holloway, "Quantified conditions for reduction of ESO contamination during SiC Metalization" MATER SCI FORUM 338-3: 407-410 (2000).
- 20) G. Y. McDaniel, S. T. Fenstermaker, D. E. Walker, and W.V. Lampert, S. M. Mukhopadhyay and P. H. Holloway, "Electron Stimulated Oxidation of Silicon Carbide", Surface Science, Feb, (2000).
- 21) Sharmila M. Mukhopadhyay, N. Mahadev & S. Sengupta "Microstructural Analysis of Strongly-Linked Joint Formed in a Superconductor," Physica C, 329, 95-01 (2000).

### **PROFESSIONAL MEMBERSHIPS**

1) American ceramic Society (A.Cer.S) 2) American Vacuum Society (AVS) 3) The Materials & Metals Society (TMS) 4) American Society of Metals & Materials (ASM) 5) American Society for Engineering Education (ASEE)

### **HONORS AND AWARDS:**

- Biographed in Marquis "Who's Who in America", and in "Who's Who in Science and Engineering"
- Certificate for National Ranking (top 10) at the Indian School Certificate Examination.
- Merit Scholarship for B.S. performance.
- Multiple Research Awards from NSF, NASA, AFOSR, OBOR, DOE etc.

### **INSTITUTIONAL AND PROFESSIONAL SERVICE (LAST 5 YEARS)**

**National Organizations:** Chair, Honors and Awards Committee. Hoffman Scholarship Committee and Henry Award Committee (2001-04), currently Divisional Secretary, American Ceramic Society Electronics Division; Lead Organizer: TMS: Symposium on Surfaces and Interfaces in Nano-structured Materials, Annual Mtg., 3/04 and 3/06. Symposium Co-organizer: ACerS and Electrochemical Society, Reviewer: National Science Foundation, CRDF, Journal of Am. Ceramic Society, Journal of App Phys./Applied Phys. Letters, Journal of Membrane Research, Journal of Materials Science, Met Trans.

**University Committees:** University Honors Committee, UCAPC

**College Committees:** Curriculum Committee, Academic Computing Committee, Academic Computing Committee, Expenditure of Technology Fee, Associate Dean Search Committee

**Departmental Committees:** Petitions, Materials, Faculty Development Committee, Materials Faculty Search Committees

### **PROFESSIONAL DEVELOPMENT ACTIVITIES (LAST 5 YEARS)**

WSU Winter Quarter Faculty Workshop on Improving Student Learning, Athena Unbound Book Group (WSU), Science Glass ceiling Book Group (WSU), Workshop on Materials Education (TMS, 2000), Nanotechnology Workshop (Dayton, Ohio, 2005).