

CURRICULUM VITAE OF SHARMILA MUKHOPADYYAY

Professor

Mechanical and Materials Engineering
Wright State University, Dayton, OH 45435
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EDUCATION

Ph.D.	Materials Science & Engineering Cornell University.	GPA: 3.99/4.00
M. S.	Solid State Physics Indian Institute of Technology, Kharagpur	First Class
B. S.	Physics Hons. Indian Institute of Technology, Kharagpur	First Class

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

PROFESSIONAL MEMBERSHIPS

- American Ceramic Society
- ASM International
- Materials Research Society
- American Vacuum Society
- American Society for Engineering Education

HONORS/ 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 and Industries
- Featured "Innovator", Dayton Business Journal, September 9, 2005.

SCHOLARSHIP

REFEREED PAPERS:

- 1) S.M.Mukhopadhyay and Tim C.S.Chen, "Ion Bombardment Induced Changes in Oxide-Metal Interactions Studied by Photoelectron Spectroscopy", Journal of Materials Research, 8, 8, 1958-1963, August, (1993).
- 2) S.M.Mukhopadhyay and Tim C.S.Chen, "Understanding Surface Activity of Oxides from Metal-Ceramic Interface Formation", Journal of Vacuum Science and Technology A, 10 (6), 3545-3549, (1992).
- 3) S.M.Mukhopadhyay and C.S.Chen, "Role of Surface Defects in Metal-Ceramic bonding", Structure and Properties of Interfaces in Materials, MRS Symp. Proc. Vol. 238, pp. 787-792, Materials Research Society, (1992).
- 4) S.M.Mukhopadhyay and J.M.Blakely, "Ionic Double Layers at the Surface of Mg-doped Aluminum Oxide: Its Effect on Segregation Properties", Journal of American Ceramic Society, 74, 1, 25-30, (1991).
- 5) S.M.Mukhopadhyay and S.H.Garofallini, "Surface Studies of TiO₂-SiO₂ Glasses by X-Ray Photoelectron Spectroscopy", Journal of Non-Crystalline Solids, 126, 202-208, (1990).
- 6) S.M.Mukhopadhyay, A.P.Jardine, J.M.Blakely & S.Baik, "Ca and Mg Segregation to the (1010) Prismatic Surface of Mg-Implanted Sapphire." Journal of the American Ceramic Society, 71 [5] 358-362,(1988).
- 7) J.M.Blakely and S.M.Mukhopadhyay, "Segregation at Ceramic Surfaces and Effects on Mass Transport", Surfaces and Interfaces of Ceramic Materials" NATO ASI Series, (1989).
- 8) S.M.Mukhopadhyay and J.M.Blakely, "Effect of Magnesia on Mass Transport at the Surface of Alumina." Characterization of the Structure and Chemistry of Defects in Materials, MRS Symp. Proc., Vol. 138, pp. 415-420, (1989).
- 9) A.P.Jardine, S.M.Mukhopadhyay and J.M.Blakely, "Mg Implantation and Characterization of Sapphire Surfaces." Beam Solid Interactions and Transient Processes, MRS Symp. Proc., pp. 365-373, Materials Research Society, (1987).
- 10) S. M. Mukhopadhyay, N. Mahadev and P. Joshi, A. K. Roy, K. Kearns and D. Anderson "Structural Investigation of Graphitic Foam", Virtual Journal of Nanoscale Science and Technology, March 11, 2002. [This is a competitively selected compilation of nanotechnology-related archival papers that gets electronically disseminated through <http://www.vjnano.org>]

BOOKS EDITED:

- 11) "MPMD FIFTH GLOBAL INNOVATIONS PROCEEDINGS: Surfaces and Interfaces in Nanostructured Materials and Trends in LIGA, Miniaturization and Nanoscale Materials", Edited by Sharmila M. Mukhopadhyay, Sudipta Seal, Narendra Dahotre, Arvind Agarwal and John E. Smugeresky, March 2004.
- 12) "Interfaces in Electronic Materials", Ed: L. Cook, D. Misra, S. Mukhopadhyay, W. Wong-Ng, O.Leonte & K. Sundaram, Electrochemical Society, 2006.

CHAPTERS IN BOOKS (INVITED):

- 13) S.M. Mukhopadhyay, "Sample Preparation Techniques for Characterization of Solid Surfaces and Films" in *Sample Preparation Techniques in Chemical Measurements*, Edited by S. Mitra, John Wiley & Sons (2003).
- 14) S.M. Mukhopadhyay and J.M. Blakely, "Long Range Space Charge Effects at Ceramic Interfaces" pp 205 -225 in *Science of Ceramic Interfaces*, Edited by J. Nowotny, Elsevier Science Publishers, (1991).

TEACHING

1. List of Courses Taught

COURSE TITLE	CAT #
Thermodynamics of Solids	ME 760
Ceramics for Advanced Applications	ME 783
Intro. to Ceramics	ME 483/683
Physical Ceramics	ME 484/684
Phase Transformation in Solids	ME 762
Materials Engineering Science	ME 370
Engineering Materials	ME 371
X-Ray Diffraction	ME 482/682
Physical Metallurgy	ME 376/576
Structure- Prop. Relationship in Crystals	PH.D. Core
Electro-ceramics	Advanced Elective
Diffusion in Solids	Part of Elective
Introduction to Engineering-parts	Freshmen Engineering
Introduction to Design-parts	Freshmen Design
Ceramics	Grad & Undergrad Core
Analytical Techniques in Materials	Grad Advanced Elective