SUROJIT GUPTA

Professional Preparation:

University of Calcutta	Ceramic Engineering	B.S. 2001 (First Class with Honors)
Drexel University	Materials Science and Engineering	Ph.D. 2001-2006
The Pennsylvania State University	Materials Science and Engineering	Postdoctoral 2006-2008
University of Massachusetts, Amherst	MBA	2013-2016

Academic Appointments:

2012-Present: Assistant Professor, University of North Dakota, Grand Forks, North Dakota

2014: Adjunct Professor in Henan Polytechnic Institute, China

2008 - 2012: Faculty Research Assistant, Rutgers University, Piscataway, New Jersey

2006- 2008: Postdoctoral Fellow, The Pennsylvania State University, State College, Pennsylvania

2001-2006: Research Fellow, Drexel University, Philadelphia, PA

Industrial Positions/Collaboration:

2017-present – Veloxint Inc.
2014-2016 – TAG Inc.
2008-2012: Technical Advisor/Consultant of Solidia Technologies
2008-2012: CTL Group, Skokie, IL 60077-1030
2006–2008: Environmental Materials Division, Corning Incorporated.
2007-2008: Consultant for EPCOS, Austria.
2003-2006: Aerospace Division of Honeywell International.
2003-2006: 3one2, NJ (a startup company).

Five Publications Related to Proposed Research (h-index 21 and 1300 citations):

1. "Design of novel lignin based biocomposites", S. Gupta and Y. Ji, UND Disclosure ID#16-09.
2. "Novel Self Lubricating Natural Nanolaminates Reinforced Epoxy Composites", S. Gupta, T. Hammann, R. Johnson, and M.F.Riyad, Tribology Transactions, 58:3, 560-566, DOI: 10.1080/10402004.2014.996308.
3. "Bonding Element, Bonding Matrix, and Composite Materials having the Bonding Element, and Method of Manufacturing Thereof", R. R. Riman, S. Gupta, V. Atakan, and Q. Li. (International Patent Submitted in several countries) (Publication Number – US20130122267 A1 – Filing Date, Mar 2, 2012)
4. "On the Tribology of MAX Phases and Their Composites – A Review", S. Gupta and M. W. Barsoum, Wear **271**, 1878– 1894 (2011).
5. "Thermomechanical Behavior of Ceramic Green Bodies during Pre-sintering", S. Gupta, D J. Green, G L. Messing and I. Peterson, J. Am. Cer. Soc. **93,** 2611–2616 (2010).

Additional Publications and Patents:

1. "Vibrational behavior of the $M_{n+1}AX_n$ phases from first-order Raman scattering (M = Ti, V, Cr; A = Si; X = C, N)", Spanier, J. E., Gupta, S., Amer, M. and Barsoum, M. W., Phys. Rev. B **71,** 012103 (2005).
2. "Tribological behavior of select MAX phases against Al_2O_3 at elevated temperatures", S. Gupta, D. Filimonov, T. Palanisamy and M. W. Barsoum, Wear 265, 560-565 (2008).
3. "MAX phases as solid lubricant materials", S. Gupta, T. Palanisamy, M.W. Barsoum and C.W. Li, (U.S Patent 7,553,564 BA, June 30, 2009).
4. "High-temperature oxidation of Ti_3GeC_2 and $Ti_3Ge_{0.5}Si_{0.5}C_2$ in air", S. Gupta, A. Ganguly, D. Filiminov and M. W. Barsoum, J. Electrochem. Soc. 153(7), J61-J68 (2006).

5. "Ternary Carbide and Nitride Composites having Tribological Applications and Methods of Making Same", T. Palanisamy, S. Gupta, C. W. Li and M. W. Barsoum, (US Patent 7,572,313 B2, Aug. 11, 2009).
6. "Ternary carbide and nitride materials having tribological applications and methods of making same", S. Gupta, T. Palanisamy, M.W. Barsoum and C.W. Li, (U.S Patent 7,553,564 BA, June 30, 2009).

Synergistic Activities:

1. Co-invented a green manufacturing technology platform for producing novel cementitious structural materials by CO_2 sequestration with unique microstructure (this technology is licensed by Solidia Technologies (a startup company founded by Kliner Perkin Caulfield Byers), and have 30-50 employees).
2. Research work on Nanowires was featured in the "Physics Update" section of the February, 2005 issue of *Physics Today*
3. Nominated member of Sigma Xi, The Scientific Research Society.
4. Reviewer for Carbon, Material Letters, Journal of Materials Science, Surface and Coatings Technology, Journal of Alloys and Compounds, Journal of Crystal Growth, Journal of Physics and Chemistry of Solids, Applied Surface Science, Machining Science and Technology, Wear, and Tribology Transactions.
5. Committee member of Intellectual Property, USAT evaluation, and University Assessment of University of North Dakota.
6. Global Young Investigator (YIG) by the ECD of the American Ceramics Society.

Collaborators and Other Affiliations:

1. Dr. C. Tang, Department of Mechanical Engineering, University of North Dakota
2. Dr. Y. Ji, Department of Chemical Engineering, University of North Dakota
3. Dr. M. Hoffman, Department of Chemistry, University of North Dakota
4. Dr. L. Tang, Ivoclar Vivadent AG
5. Prof. M. Cavalli, Department of Mechanical Engineering, University of North Dakota
6. Prof. M. Mann, Department of Chemical Engineering, University of North Dakota
7. Prof. M. W. Barsoum, Department of Materials Science and Engineering, Drexel University.
8. Prof. R.E. Riman, Department of Materials Science and Engineering, Rutgers University.

Advisors and Mentors:

1. Ph.D Thesis Advisor: Prof. Michel W. Barsoum, Dept. of Materials Science and Engineering, Drexel University.
2. Postdoctoral Advisors: Profs. Gary L. Messing, and David J. Green, Dept. of Materials Science and Engineering, The Pennsylvania State University.

Current and Pending Support:

1. High Speed Tribology of Self-Lubricating Structural Composite Materials Durability of Functionalized Tailored Materials for High Temperature Propulsion Materials, CRADA with ARL, $359,110 (current).
2. Commercialization of Lignin Reinforced Bioplastics by Using Game Changing Additive Manufacturing Practices, $99,852 (current).
3. Young Investigator Forum: Design and Application of Next-Generation Multifunctional Materials — Addressing the New Millennium's Societal Challenges (PACRIM – 2017), NSF, $10,000 (current).
4. Collaborative Materials Research Program in University of North Dakota, NSF EPSCoR, $35,190 (current).