

CURRICULUM VITAE

JONGHWAN SUHR

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Dept of Mechanical Engineering
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WORK EXPERIENCE

- Jan., 2007 ~ **Assistant Professor, Mechanical Engineering Dept, Univ. of Nevada, Reno**
Research area: Nanostructured Multifunctional Materials & its Engineering Application
(Materials, Structures and Structural Dynamics)
- Aug., 2005~Dec. 2006 **Postdoctoral Research Associate, NYS-Focus Center at R.P.I.**
Research Advisor: Prof. Pulickel M. Ajayan
Project: Advanced Nanocomposites for Structural Applications
(Structural Dynamics: Structural Damping & Acoustics)
- Aug., 2002~Aug., 2005 **Research Assistant, Mechanical Engineering Department at R.P.I.**
Research Advisor: Prof. Pulickel M. Ajayan/ Prof. Nikhil A. Koratkar
Project: Carbon Nanotube Polymer Composites for Structural Damping
(Sponsor: Army Research Office, Program Director: Dr. Gary Anderson)
- Jan., 2001~Apr., 2002 **Researcher, Safety and Structural Integrity Research Center (Korea)**
Project: Computational structure analysis for a large marine engine
(Sponsor: HSD Engine Co. Ltd.)
- Dec., 1996~Dec., 2000 **Senior Research Engineer, R&D Center for Hankook Tire Co. Ltd. (Korea)**
Project: Computational/experimental studies on tire wear

EDUCATIONAL BACKGROUND

- 2002~2005 Rensselaer Polytechnic Institute, Mechanical Engineering, Troy, NY, USA
Academic advisor: Prof. Nikhil A. Koratkar/Prof. Pulickel M. Ajayan
Ph.D. (Aug., 2005)
Dissertation title: **Energy dissipation mechanisms in carbon nanotube polymer composites**
- 1995~1997 Sungkyunkwan University (Korea)
M.S. in Mechanical Engineering
- 1991~1995 Sungkyunkwan University (Korea)
B.S. in Mechanical Engineering

JOURNAL

1. **J. Suhr**, P. Victor, L. Ci, S. Sreekala, X. Zhang, O. Nalamasu, P. Ajayan, "Viscoelastic Response and Fatigue Resistance of Carbon Nanotube Blocks Under Cyclic Compression", *Nature Nanotechnology*, Vol. 2, pp. 417~421, 2007.
2. **J. Suhr**, A. Joshi, L. Schadler, R. S. Kane, and N. A. Koratkar, "Effect of Filler Geometry on Interfacial Friction Damping in Polymer Nano-Composites", For special issue of *Journal of Nanoscience and Nanotechnology*, Vol. 7, No. 4-5, pp. 1684~1687, 2007.
3. J. Ryoo, P. Hajela, **J. Suhr** and N. Koratkar, "Estimation of Young's Modulus of Single-Walled Carbon Nanotube Using Cellular Automata", For special issue of *Advances In Engineering Software*, Vol. 38, pp. 531~537, 2007.
4. **J. Suhr**, W. Zhang, P. Ajayan and N. Koratkar, "Temperature Activated Interfacial Friction Damping in Carbon Nanotube Polymer Composites", *Nano Letters*, Vol. 6, No. 2, pp. 219~223, 2006.
5. **J. Suhr** and N. Koratkar, "Effect of pre-strain on nanotube-polymer sliding energy dissipation mechanism", *Journal of Nanoscience and Nanotechnology*, Vol. 6, No. 2, pp. 483~486, 2006.
6. W. Zhang, **J. Suhr** and N. Koratkar, "Observation of High Buckling Stability in Carbon Nanotube Polymer Composites", *Advanced Materials*, Vol. 18, Issue 4, pp. 452~456, No. 3, 2006.
7. **J. Suhr**, N. Koratkar, D.-X. Ye and T.-M. Lu, "Damping properties of epoxy films with nanoscale fillers", *Intelligent Materials Systems and Structures*, Vol. 17, No. 3 pp. 255-260, 2006.
8. W. Zhang, **J. Suhr**, N. Koratkar, "Multi-functional Polymer Nano-Composite for Self Strain Sensing", *Journal of Nanoscience and Nanotechnology*, Vol. 6, No. 4 pp. 960-964, 2006.
9. D.-B. Cho, **J. Suhr** and N. Koratkar, "Carbon nanotube thin film coating for improved thermal management in piezoceramic sheet actuators", *Intelligent Materials Systems and Structures*, Vol. 17, No. 3 pp. 209-216, 2006.
10. P. Ajayan, **J. Suhr** and N. Koratkar, "Utilizing Interfaces in Carbon Nanotube Reinforced Polymer Composites for Structural Damping", For special issue of *Journal of Material Science (Review Paper)*, Vol. 41, No. 23, pp. 7824~7829, 2006.
11. **J. Suhr**, N. Koratkar, P. Keblinski and P. Ajayan, "Viscoelasticity in Carbon Nanotube Composites", *Nature Materials*, Vol. 4, pp. 134~137, 2005.
12. N. Koratkar, **J. Suhr (Corresponding author)**, A. Joshi, R. Kane, L. Schadler, P. Ajayan, and S. Bartolucci, "Characterizing energy dissipation in single-walled carbon nanotube polycarbonate composites", *Applied Physics Letters*, Vol. 87, No. 6, 063102, 2005.
13. M.-W. Suh, **J. Suhr (Corresponding author)**, and W.-H. Yang, "Condensed Joint Matrix Method for the Joint structure of the Vehicle Body", *Proceedings of the Institute of Mechanical Engineers, Part D, Journal of Automobile Engineering*, Vol. 216, No. D1 pp. 35~41, 2002.

BOOK CHAPTER

N. Koratkar and **J. Suhr**, "Structural Damping in Nanocomposites", in 2nd edition of "Encyclopedia of Nanoscience and Nanotechnology", American Scientific Publishers (In press).

CONFERENCE PAPER

1. **J. Suhr** "Nanostructured Material Systems for Engineering Applications", In proceedings of the *SPIE's 14th International Symposium on Smart Structures and Integrated Systems*, San Diego, CA, March 18- March 22, (2007).
2. V. L Pushparaj, L. Ci, **J. Suhr**, O. Nalamasu and P. Ajayan, "Electromechanical Sensors Based on Ultra Long Free Standing Aligned Carbon Nanotubes", In proceedings of the MRS Fall Meeting, Boston, MA, Nov. 27 - Dec. 1, (2006).
3. **J. Suhr** and N. Koratkar, "Facilitating Interfacial Slip in Carbon Nanotube Polycarbonate Composites", In proceedings of *47th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics and Materials Conference*, May 1-4, New Port, RI (2006).
4. **J. Suhr**, N. Koratkar, and P. Ajayan, "Exploiting the Nanotube-Polymer Sliding Energy Dissipation Mechanism to Engineer Mechanical Damping in Composite Materials", In proceedings of the MRS Spring Meeting, San Francisco, CA, April 17-21, (2006).
5. **J. Suhr**, and N. Koratkar, "Effect of nanotube-matrix covalent bonding on the stiffness and damping properties of polymer nano-composites", In proceedings of the *SPIE's 13th International Symposium on Smart Structures and Integrated Systems*, San Diego, CA, February 26- March 2, (2006).
6. **J. Suhr**, N. Koratkar, and L. Schadler, "Characterization of multiwalled carbon nanotube polymer composites", In proceedings of the *SPIE's 12th International Symposium on Smart Structures and Integrated Systems*, San Diego, CA, March 6-10, (2005).
7. **J. Suhr**, L. Schadler, P. Ajayan and N. Koratkar, "Comparing damping properties of singlewalled and multiwalled carbon nanotube polymer composites", In proceedings of *46th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics and Materials Conference*, April 18-21, Austin, Texas, (2005).
8. **J. Suhr** and N. Koratkar, "Viscoelastic characterization of carbon nanotube thin films", In proceedings of the *SPIE's 11th International Symposium on Smart Structures and Integrated Systems*, San Diego, CA, March 14-18, (2004).
9. A. Modi, **J. Suhr**, E. Lass and N. Koratkar, "Temperature effects on resistivity of Mesoscopic Carbon Nanotube Ensembles" In proceedings of the *44th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics and Materials Conference*, April 7-10, Norfolk, VA (2003).

PATENTS PENDING

1. Injecting Mechanical Damping into Composite Structures using Carbon Nanotube Fillers (Disclosure

RPI Case Number 955), January 3, 2005.

2. Order of Magnitude Enhancement in Damping of Bulk Polymer System using Carbon Nanotube Fillers (Disclosure RPI Case Number 967), January 3, 2005.

PROFESSIONAL ACTIVITIES

- Member of AIAA, SPIE and MRS.
- Reviewer of the Journal of Materials Research, ASME, and AIAA.

COLLABORATORS AND DOCTORAL ADVISORS

- Dr P. Ajayan (Postdoctoral Advisor) Henry Burlage Chair Professor, RPI.
- Dr N.Koratkar (Doctoral Advisor), Professor, RPI.
- Dr G. Mathur, Boeing Technical Fellow, The Boeing (Huntington Beach, CA).
- Dr J. Sen, Boeing Technical Fellow, The Boeing (Mesa, AZ).
- Dr. J. Chung, University of Washington, Seattle.