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EDUCATION

Ph.D. Mechanical Engineering, August 2005
Northwestern University, Evanston, IL
Thesis Advisor: Prof. Rodney S. Ruoff
Thesis Title: Nanoscale Pullout Test and Mechanics of Nanostructures

M.S. Mechanical Engineering, June 2002
Northwestern University, Evanston, IL

B.E. Mechanical Engineering, July 1999
Tsinghua University, Beijing, China

PROFESSIONAL EXPERIENCE

Assistant Professor	Clarkson University	Aug. 2006 - Present
Postdoctoral Fellow	Northwestern University	Oct. 2005 - July 2006
Teaching Assistant	Northwestern University	Sept. 2004 - Dec. 2004
Research Assistant	Northwestern University	Sept. 2000 - Aug. 2005

HONORS AND AWARDS

Royal E. Cabell Fellowship, Northwestern University, 2005
2nd Prize in the Student Poster Competition of 17th Annual Technical Conference of American Society for Composites, West Lafayette, IN. Oct. 21-23, 2002
Student Scholarship for 1st International Conference and School on Nanoscale/Molecular Mechanics, Maui, HI. May 12-17, 2002

PUBLICATIONS

Refereed Journal Articles:

17. **W. Ding**, "Micro/nano-particle manipulation and adhesion studies", *Journal of Adhesion Science and Technology*, accepted (2007)
16. **W. Ding**, A.J. Howard, M.D. M. Peri, C. Cetinkaya, "Rolling resistance moment of microsphere on surfaces: contact measurements", *Philosophical Magazine*, **87**(36), 5685-5696 (2007)
15. **W. Ding**, L. Calabri, K. M. Kohlhaas, X. Chen, D. Dikin, R. S. Ruoff, "Modulus, fracture strength, and brittle vs. plastic response of the outer shell of arc-grown multi-wall carbon nanotubes", *Experimental Mechanics*, **47**(1), 25-36 (2007).

14. **W. Ding**, Z. Guo, R. S. Ruoff, "Effect of cantilever nonlinearity in nanoscale tensile test", *Journal of Applied Physics*, **101**(3), 034316:1-10 (2007).
13. S. Lu, Z. Guo, **W. Ding**, D. Dikin, J. Lee, R. S. Ruoff, "In-situ mechanical testing of templated carbon nanotubes", *Review of Scientific Instruments*, **77**, 125101:1-6 (2006).
12. W. Rong, **W. Ding**, L. Madler, R. S. Ruoff, S. K. Friedlander, "Mechanical properties of nanoparticle chain aggregates by combined AFM and SEM: isolated aggregates and networks", *Nano Letters*, **6**(12), 2646-2655 (2006).
11. L. Calabri, N. Pugno, **W. Ding**, R. S. Ruoff, "Resonance of curved nanowires", *Journal of Physics – Condensed Matter*, **18**(33), S2175-2183 (2006)
10. **W. Ding**, L. Calabri, X. Chen, K. M. Kohlhaas, R. S. Ruoff, "Mechanics of crystalline boron nanowires", *Composites Science and Technology*, **66**, 1109-1121 (2006).
9. S. Lu, Z. Guo, **W. Ding**, R. S. Ruoff, "An analysis of the use of a MEMS testing stage to measure the mechanical properties of nanostructures", *Review of Scientific Instruments*, **77**(5), 1-4 (2006).
8. R. S. Ruoff, L. Calabri, **W. Ding**, N. Pugno, "Experimental tests on fracture strength of nanotubes", *Reviews on Advanced Materials Science*, **10**(2), 110-117 (2005).
7. E. Zussman, X. Chen, **W. Ding**, L. Calabri, D. Dikin, J. Quintana, R. S. Ruoff, "Mechanical and structural characterization of PAN-derived carbon nanofibers", *Carbon*, **43**, 2175-2185 (2005).
6. **W. Ding**, D. Dikin, X. Chen, X. Wang, X. Li, R. Piner, R. S. Ruoff, E. Zussman, "Mechanics of hydrogenated amorphous carbon deposits from electron beam induced deposition of a paraffin precursor", *Journal of Applied Physics*, **98**(1), 014905:1-7 (2005).
5. Z. Huang, D. Dikin, **W. Ding**, Y. Qiao, X. Chen, Y. Fridman, R. S. Ruoff, "Three-dimensional representation of curved nanowires", *Journal of Microscopy*, **216**, 206-214 (2004).
4. X. Chen, S. Zhang, G. Wagner, **W. Ding**, R. S. Ruoff, "Mechanical resonance of quartz microfibers and boundary condition effects", *Journal of Applied Physics*, **95**(9), 4823-4828 (2004).
3. **W. Ding**, A. Eitan, F. T. Fisher, X. Chen, D. Dikin, R. Andrews, L. C. Brinson, L. S. Schadler, R. S. Ruoff, "Direct observation of polymer sheathing in carbon nanotube-polycarbonate composites", *Nano Letters*, **3**(11), 1593-1597 (2003).
2. X. Chen, S. Zhang, D. Dikin, **W. Ding**, R. S. Ruoff, L. Pan, Y. Nakayama, "Mechanics of a carbon nanocoil", *Nano Letters*, **3**(9), 1299-1304 (2003).
1. D. Dikin, X. Chen, **W. Ding**, G. Wagner, R. S. Ruoff, "Resonance vibration of amorphous SiO₂ nanowires driven by mechanical or electrical field excitation", *Journal of Applied Physics*, **93**(1), 226-230 (2003).

Conference Proceedings/Abstracts:

7. W. Ding, L. Calabri, K. M. Kohlhaas, X. Chen, R. S. Ruoff, "Fracture mechanics of one-dimensional nanostructures", *ECF 16 – 16th European Conference of Fracture: Failure Analysis of Nano and Engineering Materials and Structures*, July 3-7, Alexandroupolis, Greece (2006).
6. R. S. Ruoff, W. Ding, R. D. Piner, S. Stankovich, "Remarkable mechanics of extremely thin graphite platelets", *Abstracts of Papers of the American Chemical Society* 229:U1146-U1146 227-PMSE Part 2, Mar 13 (2005).
5. R. S. Ruoff, L. Calabri, W. Ding, N. Pugno, "Fracture strength of nanotubes", *ICF11 - 11th International Conference on Fracture*, Mar. 20-25, Politecnico di Torino, Turin, Italy (2005).

4. W. Ding, F. T. Fisher, X. Chen, D. Dikin, R. S. Ruoff, "Nanotube-polymer composite characterization via nanomanipulation experiments", *11th US-Japan Conference on Composite Materials*, Sept. 9-11, Yamagata University, Japan (2004).
3. Z. Huang, D. Dikin, W. Ding, Y. Qiao, Y. Fridman, R. S. Ruoff, "Three-dimensional representation of curved nanostructure", *MRS proceedings 820: Nanoengineered Assemblies and Advanced Micro/Nanosystems*, R8.4, Apr. 12-16, San Francisco, CA (2004).
2. R. S. Ruoff, X. Chen, D. Dikin, W. Ding, M-F. Yu, G. Wagner, "Mechanics of nanowires", *Microscopy and Microanalysis, 8 Supplement S02*, Aug. 4-8, Quebec City, Canada, 304-305 (2002).
1. R. S. Ruoff, D. Qian, W. Liu, W. Ding, X. Chen, D. Dikin, "What kind of carbon nanofiber is ideal for structural applications?", *43rd AIAA/ASME/ASCE/AHS Structures, Structural Dynamics, and Materials Conference*, Apr. 22-25, Denver, CO (2002).

INVITED SEMINARS

4. W. Ding, "Mechanics of one-dimensional nanostructures", Oct. 12, 2007, School of Engineering, University of Vermont, Burlington, VT.
3. W. Ding, "Experimental study of nanomaterials mechanics and microsphere-surface interaction", Mar. 02, 2007, Xerox Research Center Webster, Webster, NY.
2. W. Ding, "Mechanics of nanomaterials", Jan. 26, 2007, Electrical and Computer Engineering Department, Clarkson University, Potsdam, NY.
1. W. Ding, "Mechanics of nanostructures and nanocomposites", Oct. 5, 2005, Los Alamos National Lab, Center for Integrated Nanotechnologies, Los Alamos, NM.

CONFERENCE PRESENTATIONS / POSTERS

18. W. Ding, A. J. Howard, M. Peri, C. Cetinkaya (2007). "Determination of rolling resistance moment and work-of-adhesion of microspheres on surfaces through nanomanipulation", *Materials Research Society (MRS) Fall Meeting*, Nov. 26-30, Boston, MA.
17. W. Ding, M. Huang, J. Hone, R. S. Ruoff (2007), "Tensile tests of individual carbon nanotubes", *Materials Research Society (MRS) Fall Meeting*, Nov. 26-30, Boston, MA. (Poster)
16. W. Ding, R. S. Ruoff (2007). "Mechanics of one-dimensional nanostructures", *NIST Workshop on Materials Characterization for Nanoscale Reliability*, Aug. 14-16, Boulder, CO. (Poster)
15. W. Ding, M. Huang, J. Hone, R.S. Ruoff (2007). "The tensile properties of single-wall carbon nanotubes", *ASME Applied Mechanics and Materials Conference (McMAT 2007)*, June 3-7, Austin, TX.
14. W. Ding, A.J. Howard, M.D. M. Peri, C. Cetinkaya (2007). "Rolling resistance moment and work-of-adhesion of microsphere on surfaces: contact measurements", *Center of Advanced Materials Processing (CAMP) Annual Meeting*, May 16-18, Canandaigua, NY. (Poster)
13. W. Ding, M. Huang, J. Hone, R.S. Ruoff (2007). "The tensile properties of single-wall carbon nanotubes", *4th U.S. Air Force-Taiwan Nanoscience Initiative Workshop*, Feb. 8-9, Houston, TX.
12. W. Ding (2006). "Mechanics of nanomaterials", *Center of Advanced Materials Processing (CAMP) Fall Meeting*, Oct. 18-20, Potsdam, NY.
11. W. Ding, L. Calabri, X. Chen, K. M. Kohlhaas, R. S. Ruoff (2006). "Mechanics of crystalline boron nanowires", *Materials Research Society (MRS) Spring Meeting*, Apr.17-21, San Francisco, CA.

10. W. Ding, X. Chen, K. M. Kohlhaas, R. S. Ruoff (2005). "Mechanics of Nanostructures: an essential aspect of nanocomposites", *American Society of Mechanical Engineers (ASME) International Mechanical Engineering Congress & Exposition*, Nov. 5-11, Orlando, FL.
9. W. Ding, L. Calabri, X. Chen, K. Kohlhaas, R. S. Ruoff (2005). "Fracture Strength of Multiwall Carbon Nanotubes", *8th International Conference on Applications of Diamond and Related materials/1st NanoCarbon Joint Conference*, May 15-19, Argonne National Laboratory, IL.
8. W. Ding, L. Calabri, X. Chen, R. S. Ruoff (2005). "Mechanics of crystalline boron nanowires", *American Physics Society (APS) March Meeting*, Mar. 21-25, Los Angeles, CA.
7. W. Ding, L. Calabri, D. Dikin, X. Chen, X. Wang, X. Li, R. Piner, E. Zussman, R. S. Ruoff (2005). "Mechanics of nanoscale clamps", *American Physics Society (APS) March Meeting*, Mar. 21-25, Los Angeles, CA.
6. W. Ding, L. Calabri, X. Chen, R. S. Ruoff (2005). "Mechanics of crystalline boron nanowires", *Midwest Microscopy and Microanalysis Society*, Mar. 24, Evanston, IL. (Poster)
5. W. Ding, F. T. Fisher, X. Chen, D. Dikin, R. S. Ruoff (2004). "Nanotube-polymer composite characterization via nanomanipulation experiments", *11th US-Japan Conference on Composite Materials*, Sept. 9-11, Yamagata University, Japan.
4. W. Ding, A. Eitan, F. T. Fisher, X. Chen, D. Dikin, R. Andrews, L. C. Brinson, L. S. Schadler, R. S. Ruoff (2003). "Direct observation of polymer sheathing in carbon nanotube-polycarbonate composites", *18th Annual Technical Conference of American Society for Composites (ASC)*, Oct. 19-22, Gainesville, FL.
3. W. Ding, A. Eitan, X. Chen, D. Dikin, F. T. Fisher, L. C. Brinson, R. S. Ruoff (2003). "Polymer sheathing on carbon nanotubes projecting from fracture surfaces in MWCNT/Polycarbonate composites", *Swiss/US Nano-forum*, Oct. 13-14, Basel, Switzerland.
2. W. Ding, X. Chen, R. S. Ruoff (2002). "Nanoscale pullout measurement", *17th Annual Technical Conference of American Society for Composites (ASC)*, Oct. 21-23, West Lafayette, IN. (Poster)
1. W. Ding, D. Dikin, X. Chen, R. S. Ruoff (2002). "Mechanical properties of SiO₂ nanowires", *1st International Conference of Nanoscale/Molecular Mechanics*, May 12-17, Maui, HI. (Poster)

TEACHING ACTIVITIES

Fall 2006/2007

ES 222 Strength of Materials

Spring 2007/2008

AE457/CE421/ME457 Composite Mechanics and Design

CE521/ME557 Advanced Mechanics of Composite Materials

ADVISING

Graduate Students

2006 -	Andrea J. Howard	MS/PhD student	Mechanical Engineering
2006 -	Sean White (co-advised)	MS student	Mechanical Engineering
2007 -	Huan Zhang (co-advised)	MS/PhD student	Mechanical Engineering
2007 -	Xiarong Tong (co-advised)	MS student	Mechanical Engineering

Undergraduate Researcher

Spring 2008	Wai Lam	Senior	ME	Clarkson
Spring 2007	Joshua Kehs	Senior	ME	Clarkson
Summer 2007	Eric Konicki	Junior	ME	U of. Rochester (NSF REU)
Summer 2007	Melissa Merrill	Junior	ME	U of Akron (NSF REU, co-advised)

Graduate Thesis Committees

Oct. 2006	Ganesh Subramanian	MS Committee Member	Mechanical Engineering
May 2007	Tomas Dunbar	MS Committee Member	Mechanical Engineering
Sept. 2007	Ilgaz Akseli	PhD Committee Member	Mechanical Engineering
Oct. 2007	Christopher Libordi	MS Committee Member	Mechanical Engineering
Jan. 2008	Xingyu Zhang	PhD committee Member	Mechanical Engineering

MEMBERSHIP IN TECHNICAL SOCIETIES

APS (American Physical Society), 2004-present

MRS (Materials Research Society), 2006-present

ASC (American Society for Composites), 2002-present

ASME (American Society of Mechanical Engineers), 2003-present

ASEE (American Society for Engineering Education), 2007-present

OTHER PROFESSIONAL ACTIVITIES

Reviewing:

Reviewer of scientific articles submitted to Applied Physics Letters (2005/6), Physical Review Letters (2005), Composites Science and Technology (2006), Carbon (2006/7), MRS Meeting Proceedings (2006), ASME Annual Meeting (2006/7), Journal of Adhesion Science and Technology (2007), Micro & Nano Letters (2007), Materials Science and Engineering C (2007), Science (2007).

Service:

MAE graduate committee; MAE laboratory & facilities committee; MAE safety officer; Qualifying exam; Organizing MAE department seminar series.