



# THE UNIVERSITY OF TEXAS AT DALLAS

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ERIK JONSSON SCHOOL OF ENGINEERING  
AND COMPUTER SCIENCE

## Walter E. Voit, Ph.D.

McDermott Faculty  
Department of Materials Science and Engineering  
Department of Mechanical Engineering

University of Texas at Dallas  
800 W. Campbell Rd  
Richardson, TX 75080

### Professional Preparation:

University of Texas at Dallas	Computer Science	B.S.	2005
University of Texas at Dallas	Intelligent Systems	M.S.	2006
The Georgia Institute of Technology	Materials Science and Engineering	Ph.D.	2009

### Appointments:

- Oct. 2012 - 2<sup>nd</sup> Executive Vice President, Council on Ionizing Radiation Measurements and Standards (CIRMS)
- Aug. 2012 - *Member*, UT System Technology Assessment Committee
- July 2012 - *Member*, UT System Horizon Fund Faculty Education Committee
- June 2012 - *Symposium Chair*, TMS 2013, "2013 and Beyond: Flexible Electronics"
- May 2012 - *Advanced Materials Strand Leader*, International Meeting on Radiation Processing 2013, Shanghai, China
- Feb. 2012 - *Associate Site Director*, NSF IUCRC Center for Energy Harvesting Materials and Systems (CEHMS)
- Nov. 2011 - *Mechanical Thrust Leader*, CEHMS
- Aug. 2011 - *Member*, DFW Biomaterials Interest Group
- Oct. 2011 - *Science and Technology Chair*, CIRMS
- Oct. 2010 - *Treasurer*, CIRMS
- June 2010 - *Assistant Professor*, Department of Materials Science & Engineering, Department of Mechanical Engineering, University of Texas at Dallas, Richardson, TX

### Professional Recognition and Honors:

- 2012 - *UTD Honors Faculty Member*
- 2011- *Faculty Inductee*, Phi Kappa Phi; *Expert*, International Atomic Energy Agency
- 2010 - *McDermott Faculty*, University of Texas at Dallas
- 2008 - *Member*, Materials Research Society (MRS); *Member*, TMS
- 2007- *Chief Technology Officer*, Syzygy Memory Plastics
- 2007 - 2009 NSF IGERT-Funded TI:GER Fellow, The Georgia Institute of Technology
- 2006 - 2009 Presidential Fellow, Georgia Institute of Technology
- 2005 - 2006 Erik Jonsson Fellow, University of Texas at Dallas
- 2001 - 2005 McDermott Scholar, University of Texas at Dallas

### Selected Publications:

1. Adrian Avendano-Bolivar, Taylor Ware, David Arreaga-Salas, D Simon and W Voit (2012). "Mechanical Cycling Stability of Organic Thin Film Transistors on Shape Memory Polymers." *Advanced Materials* published online.
2. Márcio D Lima, NL, Monica Jung De Andrade, Shaoli Fang, Jiyoung Oh, Geoffrey M Spinks, Mikhail E Kozlov, Carter S Haines, Dongseok Suh, Javad Foughi, Seon Jeong Kim, Yongsheng Chen, Taylor Ware, Min Kyoon Shin, Leonardo D Machado, Alexandre F Fonseca, John DW Madden, Walter E Voit, Douglas S Galvão, Ray H Baughman (2012). "Electrically, Chemically, and Photonically Powered Torsional and Tensile Actuation of Hybrid Carbon Nanotube Yarn Muscles." *Science* **338**(6109): 928-932
3. Taylor Ware, Dustin Simon, Robert Rennaker and W Voit (2012). "Smart Polymers for Neural Interfaces." *Polymer Reviews* **53**(1): 108-129.



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4. Ware, T, D Simon, K Hearon, C Liu, S Shah, J Reeder, N Khodaparast, MP Kilgard, DJ Maitland, RLR II and WE Voit (2012). "Three-Dimensional Flexible Electronics Enabled by Shape Memory Polymer Substrates for Responsive Neural Interfaces." *Macromolecular Materials and Engineering* **297**(12): 1193-1202
5. Ware, T, D Simon, DE Arreaga-Salas, J Reeder, R Rennaker, EW Keefer and W Voit (2012). "Fabrication of Responsive, Softening Neural Interfaces." *Advanced Functional Materials* **22**(16): 3470-3479

### Other Significant Publications:

6. Chitturi, B, W Fahle, Z Meng, L Morales, CO Shields, IH Sudborough and W Voit (2009). "An (18/11)N Upper Bound for Sorting by Prefix Reversals." *Theoretical Computer Science* **410**(36): 3372-3390
7. Voit, W, T Ware and K Gall (2010). "Radiation Crosslinked Shape-Memory Polymers." *Polymer* **51**(15): 3551-3559

### Patents

1. *Shape Memory Polymers and Process for Preparing*. Inventors: W. Voit, T. Ware, K. Gall (USPTO patent issued Oct. 2012; PCT in process) (licensed from Georgia Tech)
2. *Shape memory devices and their use in controlling device-polymer-environment interactions*. Inventors: W. Voit, T. Ware, (USPTO full patent filed June 15, 2011)
3. *A Method of Improving Adhesion and Processability of Films to Polymeric Substrates*. Inventors: W. Voit, T. Ware, (PCT full patent filed Feb. 3, 2013)

### Synergistic Activities

- 1) Founder and Chief Technology Officer for Startup Company *Syzygy Memory Plastics*.
- 2) Received Phase I, Phase IB, Phase II NSF SBIR grants totaling \$650K

### Other Collaborators

Bruce Gnade, Department of Materials Science & Engineering, *University of Texas at Dallas*  
 Dennis Smith, Department of Chemistry, *University of Texas at Dallas*  
 Rob Rennaker, School of Behavioral and Brain Sciences, *University of Texas at Dallas*  
 Manuel Quevedo, Department of Materials Science & Engineering, *University of Texas at Dallas*  
 Ed Keefer, *Plexon, Inc., UT Southwestern Medical Center*  
 Kenneth H. Lee, Otolaryngology Head & Neck Surgery, *UT Southwestern Medical Center*  
 Duncan Maitland, Department of Biomedical Engineering, *Texas A&M University*  
 Sigurd Wagner, Department of Electrical Engineering, *Princeton University*

### Courses Taught

Fall 2010	MECH 3310	Thermodynamics
Spring 2011	MECH 7V80/4V95	Materials Design and Manufacturing
Fall 2011	MECH 3310	Thermodynamics
Spring 2012	MECH 3310	Thermodynamics
Fall 2012	MECH 4360	Introduction to Nanostructured Materials

### Advisors

Masters Advisor: I. Hal Sudborough, Engineering and Computer Science, *University of Texas at Dallas*  
 Graduate Advisor: Ken Gall, Materials Science and Engineering, Mechanical Engineering, *The Georgia Institute of Technology*.

### Doctoral Thesis Advisor

Taylor Ware	NSF Graduate Fellow	University of Texas at Dallas	2010 – present
Connie King	Graduate Student	University of Texas at Dallas	2010 – present
Dustin Simon	Graduate Student	University of Texas at Dallas	2010 – present
David Arreaga	CONACYT Fellow	University of Texas at Dallas	2011 – present
Adrian Avendano	CONACYT Fellow	University of Texas at Dallas	2011 – present
Jonathan Reeder	Graduate Student	University of Texas at Dallas	2012 – present

**Notes:** Advised 35 undergraduate students since 2007; 1 received a Goldwater Fellowship; 11 received prestigious President's Undergraduate Research Awards with \$1,500 funding each