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### BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.

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NAME Thomas D. Dziubla	POSITION TITLE Gill Professor		
eRA COMMONS USER NAME (credential, e.g., agency login)	Associate Professor of Chemical and Materials Engineering		
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	MM/YY	FIELD OF STUDY
Purdue University, West Lafayette, IN	Honors B.S.	05/98	Chemical Engineering
Drexel University, Philadelphia, PA	Ph.D.	05/02	Chemical Engineering
University of Pennsylvania School of Medicine, Philadelphia, PA	NRSA Postdoc	02-04	Pharmacology

#### A. Personal Statement

Dr. Dziubla has a successful history of developing targeted and polymeric systems for biomedical applications and the control of oxidative stress. He has developed and patented multiple approaches for the formation of protein loaded polymeric micelles, wound targeted polymers and nanoparticle systems, including studies centered on targeting filomicelles and layer by layer polymeric assemblies. Since joining the University of Kentucky (UK) in 2006, Dr. Dziubla has established a number of cross-disciplinary collaborations involving the College of Medicine, College of Engineering, College of Pharmacy and College of Arts and Sciences. The current team that he has assembled represents a clear example of this cross-disciplinary focus. As a result of these experiences, he has the needed experience to lead this effort, ensuring frequent communication among project members and of constructing a realistic research plan, timeline, and budget. He has supervised a large team research DOD research project that has so far resulted in 7 peer reviewed papers, 1 patent and a subsequent Kentucky Commercialization Fund Award to aid the in commercialization of a novel class of antioxidant polymers. In Summary, he has a demonstrated record of successful and productive research projects in an area of polymer targeting and characterization, and has the needed expertise and experience to ensure the success of the proposed project.

#### B. Positions and Honors

##### Research and Professional Experience

2004-2006	Research Associate, Institute for Environmental Medicine (IFEM), University of Pennsylvania, Philadelphia, PA
2006-Present	Assistant Professor, Department of Chemical and Materials Engineering, University of Kentucky, Lexington, Kentucky
2012-Present	Associate Professor, Department of Chemical and Materials Engineering, University of Kentucky, Lexington, Kentucky
2012-Present	Member of Drug Discovery, Delivery and Translational Therapeutics Group, Markey Cancer Center (an NCI Designated Cancer Center), University of Kentucky, Lexington, Kentucky

##### Other Experience and Professional Memberships

1995-Present	AICHE Member
2000-Present	Society for Biomaterials
2002	Visiting Scientist, Hoshi University, Tokyo, Japan
2004	AICHE Annual Meeting Session Chair, Advances in Biomaterials Design and Properties, Austin, Texas
2005-2006	UPENN, Institute for Translational Medicine and Therapeutics, Affiliate Member
2007	ASEE Chemical Engineering Faculty Summer School
2007	Society of Biomaterials Annual Meeting Session Chair, Advances in Drug Delivery, Chicago, IL

2008	ISPE Great Lakes Student Leadership Conference and Training Workshop, Conference Chair
2009	National Science Foundation Panel Review Committee, IGERT Preproposal
2010	NIH Peer Review Committee, NIAID Therapeutic Partnerships
2011-Present	Journal of Biomedical Materials Research, Part B, Editorial Board Member

#### Honors, Awards

2002-2004	NIH NRSA Postdoctoral Training Award
2009-2011	Elected, Society of Biomaterials, Drug Delivery SIG treasurer/secretary
2011-Present	Elected, Society of Biomaterials, Drug Delivery SIG Programming Chair
2011	Paper of Distinction (Top 10% of Research Presented) at Digestive Disease Week's AGA Institute (Chicago, IL)
2011	Kentucky Science and Engineering Foundation Commercialization Fund Award
2012-Present	Gill Professor of Engineering, University of Kentucky

#### **C. Selected Peer-reviewed Publications (out of over 50 peer reviewed journal articles and book chapters) (\*denotes Corresponding Author)**

Most relevant to the current application (In reverse chronological order)

1. AL Lakes, R Peyyala, JL Ebersole, DA Puleo, JZ Hilt, and **TD Dziubla\*** "Synthesis and characterization of an antibacterial hydrogel containing covalently bound vancomycin" *Biomacromolecules*. 15(8):3009-18. PMID: 25000243 (2014)
2. DB Cochran, PP Wattmwar, R Wydra, JZ Hilt, KW Anderson, RE Eitel, **TD Dziubla\***, "Suppressing Iron Oxide nanoparticle toxicity by vascular targeted antioxidant polymer nanoparticles" *Biomaterials*. 10(1):115-125 (2013)
3. M Dan, DB Cochran, RA Yokel\*, **TD Dziubla**. "Binding, transcytosis and biodistribution of anti-PECAM-1 iron oxide nanoparticles for brain-targeted delivery." *PLoS One* 8(11):e81051. PMID:24278373 (2013)
4. SC Sundararaj, MV Thomas, R Peyyala, **TD Dziubla**, DA Puleo\*, "Design of a multiple drug delivery system directed at periodontitis" *Biomaterials* 34(34):8835-42 PMID: 23948165 (2013)
5. PP Wattamwar, D Biswal, DB Cochran, A Lyvers, JZ Hilt, and **TD Dziubla\***, "Synthesis and Characterization of Poly(antioxidant  $\beta$ -amino esters) for Controlled Release of Polyphenolic Antioxidants" *Acta Biomaterialia*, 8(7):2529-37 PMID:22426289 (2012)
6. D Biswal, PP Wattamwar, **TD Dziubla**, JZ Hilt\*. "A single-step polymerization method for poly(beta-amino ester) biodegradable hydrogels" *Polymer* 52(26):5985-5992 (2011)
7. P. Wattamwar, S. Hardas, D Ambati J, Lopez AM, Cochran D, Wattamwar P, Bean K, **Dziubla** TD, Rankin SE..A. Butterfield, K. Anderson, **T. Dziubla\*** "Tuning of the Pro-oxidant and Antioxidant Activity of Trolox Through the Controlled Release from Biodegradable Poly(trolox ester) Polymers" *J. Biomed Mater Res A*, 99(2):184-91 PMID: 21976443 (2011)
8. JM Medley, E Kaplan, HS Oz, SC Sundararaj, DA Puleo, **TD Dziubla\***. "Fibrin-targeted block copolymers for the prevention of postsurgical adhesions." *J Biomed Mater Res B Appl Biomater*. 99(1):102-10 PMID: 21695779 (2011)
9. PP Wattamwar, Y Mo, R Wan, R Palli, Q Zhang, and **TD Dziubla\***. Antioxidant Activity of Degradable Polymer Poly(trolox) to Suppress Oxidative Stress Injury in the Cells . *Advanced Functional Materials* 20:147-154 (2010)
10. JM Medley, EJ Beane, SKC Sundararaj, E Kaplan, DA Puleo, and **TD Dziubla\***, Block Copolymers for the rational Design of self-forming postsurgical adhesion barriers. *Acta Biomaterialia* 6(1):72-82 PMID: 19607939 (2010)

Additional publications of importance to the field (in reverse chronological order)

1. SP Authimoolam, AL Vasilakes, NM Shah, DA Puleo and **TD Dziubla\*** "Synthetic oral mucin mimic from polymer micelle networks" *Biomacromolecules* 15(8):3099-111 PMID: 24992241 (2014)
2. SP Authimoolam, DA Puleo and **TD Dziubla\*** "Affinity Based Multilayered Polymeric Self-Assemblies for Oral Applications" *Adv Healthc Mater*. 2(7):983-92 PMID:23335358 (2013)
3. JM Medley, J Heisterberg, **TD Dziubla\***, "Synthesis and Characterization of CREKA-Targeted Polymers for the Disruption of Fibrin Gel Matrix Propagation" *J Biomater Sci Polym Ed*. 22(10): 1363-1378 PMID: 20573320 (2012)
4. M Howard, X Lu, J Rinehart, M Jay and **T Dziubla\*** "Physicochemical Characterization of Nanotemplate Engineered Solid Lipid Nanoparticles" *Langmuir* 27(5):1964-71 (2011)
5. **TD Dziubla\***, VV Shuvaev, NK Hong, B Hawkins, M Muniswamy, H Takano, E Simone, MT Nakada, A Fisher, SM Albelda, and VR Muzykantov, "Endothelial Targeting of Semi-permeable Polymer Nanocarriers for Enzyme Therapies." *Biomaterials* (2):215-27 (2008)