W TERRANCE GODBEY

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DATE: December, 2016

PRIMARY APPOINTMENT

Associate Professor
Department of Chemical & Biomolecular Engineering
Tulane University, New Orleans, LA 7/10 – present

SECONDARY AND PAST APPOINTMENTS

Center for Stem Cell Research and Regenerative Medicine
Tulane University, New Orleans, LA 12/09 - present

Signaling Research Program
Tulane Cancer Center, New Orleans, LA 3/05 - present

Professor in Residence
Wall Residential College
Tulane University, New Orleans, LA 8/11 – 6/14

Paul H. and Donna D. Flower Assistant Professor in Engineering
Department of Chemical & Biomolecular Engineering
Tulane University, New Orleans, LA 7/06 – 6/10

Assistant Professor
Department of Chemical & Biomolecular Engineering
Tulane University, New Orleans, LA 7/03 – 6/06

EDUCATION:

- Harvard Medical School, Boston, Massachusetts, Department of Surgery
  Children's Hospital, Boston, Massachusetts, Department of Urology
  Postdoctoral Fellow, clinical applications of gene therapy and tissue engineering
  American Urological Association Foundation Research Scholar 10/00 – 7/03

- Rice University, Houston, Texas
  Ph.D., Institute for Biosciences and Bioengineering. Thesis title: "Poly(ethylenimine) As a Gene Delivery Vehicle, and Its Potential for Gene Therapy"
  NSF Graduate Fellow 1/97 – 8/99

- Southern Methodist University, Dallas, Texas.
  B.S., Mathematics, Concentrations in Operations Research. and Music Performance
  Caroline Jones Scholar, GPA 3.94 / 4.00 8/85 – 5/88

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HONORS:

- Torch Award, Tulane Student-Athlete Advisory Committee, given to those who represent the face, and being the name, of Tulane. Awarded 2016
- Weiss Presidential Fellow, Tulane University, for excellence in undergraduate teaching, student advising and instructional improvement and development. Awarded 2015
- Raymond V. Bailey Outstanding Teaching Award, Department of Chemical & Biomolecular Engineering, Tulane University, 2014
- Dozor Visiting Scholar, Ben-Gurion University of the Negev, 2013
- Louisiana Board of Regents Commendation for Teacher-Scholar, 2009
- National Science Foundation CAREER Award, 2009-2014
- Paul H. and Donna D. Flower Assistant Professor in Engineering (2006-2010)
- Guest Co-editor, Gene Delivery in Tissue Engineering, *Advanced Drug Delivery Reviews*, (2006).
- Visiting Professor, Rice University, 9/05 – 12/05
- American Urological Association Foundation Research Scholar, 2001-2003
- Outstanding Research Award, The Children's Hospital / Harvard Medical School, April, 2001
- National Science Foundation Graduate Fellow, 1997 – 2000
- Controlled Release Society / Capsugel Graduate Student Outstanding Research in Innovative aspects of Controlled Release, July, 2000

SCIENCE, ENGINEERING, AND PROFESSIONAL EXPERIENCE:

7/03 – present Assistant/Associate Professor, Department of Chemical & Biomolecular Engineering, Tulane University, New Orleans, LA. Research interests include the development of clinical applications of gene therapy, cellular engineering, tissue engineering, and discovery of novel gene delivery technology. Current focus is on carcinoma treatment via expression-targeted gene therapy, and the development of novel architectures of gene delivery vehicles.

10/00 – 7/03 Postdoctoral Fellow in Tissue Engineering, under Anthony Atala, M.D. Harvard Medical School / Children's Hospital, Boston, MA. Projects include expression targeting of gene therapy for directed apoptosis in prostate and bladder cancers, and engineering a novel seeding method for introducing cells into biodegradable scaffolds for tissue engineering applications.

8/99 – 9/00 Time spent in laboratory of Antonios G. Mikos, Ph.D., finishing and publishing work generated by thesis. Department of Bioengineering, Rice University, Houston, Texas.

1/97 – 8/99 Biochemistry / Bioengineering research with Drs. Frederick B. Rudolph and Antonios G. Mikos, Rice University, Houston, Texas. Project dealt with the characterization and application of poly(ethylenimine) (PEI) and PEI/DNA complexes for gene delivery in the human endothelial cell line EA.hy 926, the optimization of PEI action in gene delivery, and elucidation of the cellular mechanism of PEI-mediated transfection.

9/88 – 6/96 Owner, Chief Programmer for Godbey Consulting, Dallas, Texas. The company provided software design and development under short term contracts for an array of firms in the areas of healthcare, civil engineering, mechanical engineering, computer education, and corporate real estate.

1/94 – 6/94 Biology research assistant for Dr. Robert Marsh, The University of Texas at Dallas, Richardson, Texas. Project dealt with eukaryotic nuclear organization and structure.

1/86 – 6/88 Planetary Geophysics research assistant for Dr. Roger J. Phillips, Southern Methodist University, Dallas, Texas, in conjunction with NASA's Lunar and Planetary Institute, Clear Lake, Texas.

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Project dealt with generating 3-dimensional surface maps of portions of Venus and Mars based on gravitational data obtained from orbiting satellites.

REFEREED PUBLICATIONS:

- Hancock BM, McGuire, KL, Tsuji S, Reil K, Hernandez V, Giacalone MJ, Godbey WT. A Single Intravesical Instillation of VAX014 Inhibits Orthotopic Superficial Bladder Tumor Implantation to Increase Survival. *Anticancer Res*. (2016) **36:** 6243-6248.
- Chen X, Scapa J, Liu D, Godbey W. Cancer-specific Promoters for Expression-targeted Gene Therapy: ran, brms1, and mcm5. *J Gene Med.* (2016) **18:** 89-101.
- Tsuji S, Chen X, Hancock B, Hernandez V, Visentin B, Sabbadini R, Giacalone M, and Godbey, WT. Pre-clinical Evaluation of VAX-IP, a Novel Bacterial Minicell-Based Biopharmaceutical for Non-Muscle Invasive Bladder Cancer. *Mol Ther Oncolytics* (2016) **3:** 16004.
- Durán-Lara EF, Marple J, Giesen J, Fang Y, Jordan J, Godbey WT, Marican A, Santosc LS, and Grayson SM. Investigation of Lysine-functionalized Dendrimers as Dichlorvos Detoxification Agents. *Biomacromolecules* (2015) **16:** 3434-3444.
- Cortez MA, Godbey WT, Fang Y, Payne ME, Cafferty BJ, Kosakowska KA, Grayson SM. The Synthesis of Cyclic Poly(ethylene imine) and Exact Linear Analogues: An Evaluation of Gene Delivery Comparing Polymer Architectures. *J Am Chem Soc.* (2015) **137:** 6541-6549.
- Chen X and Godbey WT. The Potential of the Human Osteopontin Promoter and Single-nucleotide Polymorphisms for Targeted Cancer Gene Therapy. *Current Gene Therapy* (2015) **15:** 82-92.
- Fang Y, Chen X, and Godbey WT. Gene Delivery in Tissue Engineering and Regenerative Medicine. *J Biomed Mater Res B Appl Biomater.* (2015) **103:** 1679-1699 (*Epub 2014*). (Note – Senior author Godbey listed as "W T G" in PubMed)
- Abou-Kandil A, Chamias R, Huleihel M, Godbey WT, and Aboud M. Differential Role of PKC-Induced c-Jun in HTLV-1 LTR Activation by 12-O-Tetradecanoylphorbol-13-acetate in Different Human T-cell Lines. *PLoS ONE* (2012) **7:** e29934, doi:10.1371/journal.pone.0029934.
- Abou-Kandil A, Chamias R, Huleihel M, Godbey WT, and Aboud M. Role of Caspase 9 in Activation of HTLV-1 LTR Expression by DNA Damaging Agents. *Cell Cycle* (2011) **10:** 3337-3345.
- Dobek G, Zhang X, Balazs DA, and Godbey WT. Analysis of Promoters and Expression-targeted Gene Therapy, Optimization Based on Cell Behavior. *FASEB J.* (2011) **25:** 3219-3228.
- Balazs DA and Godbey WT. Liposomes for Use in Gene Delivery. *J Drug Deliv.* (2011) **2011:** 326497.
- Dobek GL and Godbey WT. An Orthotopic Model of Murine Bladder Cancer. *J Vis Exp.* (2011) **48**, pii:2535. doi: 10.3791/2535. http://www.jove.com/details.stp?id=2535.
- Zhang X and Godbey WT. Preclinical Evaluation of a Gene therapy Treatment for Transitional Cell Carcinoma. *Cancer Gene Ther.* (2011) **18:** 34-41.
- Zhang X, Turner C, and Godbey WT. Comparison of Caspase Genes for the Induction of Apoptosis following Gene Delivery. *Mol Biotechnol.* (2009) **41:** 236-246.
- Ramgopal Y, Mondal D, Venkatraman SS, Godbey WT, and Yuen GY. Controlled release of complexed DNA from polycaprolactone film: Comparison of lipoplex and polyplex release. *J Biomed Mater Res B Appl Biomater.* (2009) **89:** 439-447.

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- Grayson SM and Godbey WT. The role of macromolecular architecture in passively targeted polymeric carriers for drug and gene delivery. *J Drug Target*. (2008) **16:** 329-356.
- Ramgopal Y, Venkatraman SS, and Godbey WT. In vitro release of complexed pDNA from biodegrdable polymer films. *J Appl Polym Sci.* (2008) **108:** 659-664
- Zhang X, Atala A, and Godbey WT. Expression-targeted Gene Therapy for the Treatment of Transitional Cell Carcinoma. *Cancer Gene Ther*. (2008) **15:** 543-552
- Godbey WT, Zhang X, and Chang F. The Importance of and a Method for Including Transfection Efficiency into Real-time PCR Data Analyses. *Biotechnol Bioeng.* (2008) **100:** 765-772 **Spotlighted by the journal**
- Ramgopal Y, Mondal D, Venkatraman SS, and Godbey WT. Sustained release of complexed and naked DNA from polymer films. *J Biomed Mater Res B Appl Biomater.* (2008) **85:** 496-503.
- Zhang X and Godbey WT. Viral Vectors for Gene Delivery in Tissue Engineering. *Adv Drug Del Rev.* (2006) **58:** 515-534.
- Sahiner N, Godbey WT, McPherson GL, and John VT. Microgel, Nanogel and Hydrogel–hydrogel Semi-IPN Composites for Biomedical Applications: Synthesis and Characterization. *Colloid Polym Sci.* (2006) **284:** 1121-1129.
- Godbey WT, Joraku A, and Atala A. A directed apoptosis system for urologic tumors through expression-targeted gene delivery *J Urol.* (2004) **171:** 254-254 S
- Godbey WT, Hindy S, Sherman ME, and Atala A. A Novel Use of Centrifugal Force for Cell Seeding into Porous Scaffolds. *Biomaterials.* (2004) **25:** 2799-2805.
- Godbey WT and Atala A. Directed apoptosis in Cox-2-overexpressing cancer cells through expression-targeted gene delivery. *Gene Ther.* (2003) **10:** 1519-1527.
- Godbey WT and Atala A. In Vitro Systems for Tissue Engineering. *Ann N Y Acad Sci.* (2002) **961:** 10-26.
- Godbey WT and Mikos AG. Recent Progress in Gene Delivery using Non-viral Transfer Complexes. *J Controlled Release.* (2001) **72:** 115-125.
- Godbey WT, Wu KK, and Mikos AG. Poly(ethylenimine)-Mediated Gene Delivery Affects Endothelial Cell Function and Viability. *Biomaterials.* (2001) **22:** 471-480.
- Godbey WT, Saggau P, Barry MA, Wu KK, and Mikos, AG. Poly(ethylenimine)-Mediated Transfection: A New Paradigm for Non-Viral Gene Delivery. *J Biomed Mater Res. (*2000) **51:** 321-328.
- Godbey WT, Wu KK, and Mikos AG. Poly(ethylenimine) and its Role in Gene Therapy. *J Controlled Release.* (1999) **60**: 149-160.
- Godbey WT, Wu KK, Hirasaki GJ, and Mikos AG. Improved Packing of Poly(ethylenimine)/DNA Complexes Increases Transfection Efficiency. *Gene Ther.* (1999) **6**: 1380-1388.
- Godbey WT, Wu KK, and Mikos AG. Size Matters: Molecular Weight Affects the Efficiency of Poly(ethylenimine) as a Gene Delivery Vehicle. *J Biomed Mater Res.* (1999) **45**: 268-275.
- Godbey WT, Wu KK, and Mikos AG. Tracking the Intracellular Path of Poly(ethylenimine)/DNA Complexes for Gene Delivery. *Proc Natl Acad Sci USA. (*1999) **96:** 5177-5181.

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TEXTBOOKS AUTHORED:

- Godbey WT, An Introduction to Biotechnology
  The Science, Technology and Medical Applications
  1st ed., Academic Press, Elsevier, London, UK.
  ISBN: 978-1-907568-28-2. (2014)

BOOK CHAPTERS:

- Chen XG, Fang YL, and Godbey WT, "Molecular Biology Techniques", Biomedical Engineering Handbook, 4th edition, CRC Press/Taylor & Francis Group, John P. Fisher, editor. (2012)
- Zhang X, Balazs DA, and Godbey WT, "Nanobiomaterials for Non-viral Gene Therapy", CRC: Bionanomaterials Handbook, CRC Press/Taylor & Francis Group, Balaji Sitharaman editor. (2011)
- Munson JM and Godbey WT, "Gene Therapy", The Biomedical Engineering Handbook (3rd ed.) Volume 3: Tissue Engineering and Artificial Organs. CRC Press/Taylor & Francis Group, Joseph Bronzino editor. (2006)
- Godbey WT and Mikos AG, "Non-viral Gene Delivery," Biomaterials and Drug Delivery toward the New Millennium, K.D. Park, I.C. Kwon, N. Yui, S.Y. Jeong, K. Park (eds.) (2000)

OTHER PUBLICATIONS:

- Godbey WT. Cancer Cells Can Be Tricked into Self Destructing. *Future Oncology* (2011) **7:** 323-325.
- (LaCoste B and Godbey WT.) Tricking Cancer Cells to Go Suicidal. *Futurity.org* Health & Medicine – November 23, 2010.
- Godbey WT. An Expansion of Realtime PCR into the Realm of Gene Delivery. *Biotechnol Bioeng* (2008) **100:** fmvii.
- Godbey WT and Mikos AG. Gene Delivery for Tissue Engineering. *Adv Drug Del Rev.* (2006) **58:** 465-466.
- Godbey WT. Polymeric Scaffolds for Stem Cell Growth. *Aust J Chem.* (2005) **58:** 689-690.

PATENTS/APPLICATIONS:

- Chen X and Godbey WT, "Methods of treatment for cancer through expression-targeted gene delivery". US 61/929,826
- Fang Y and Godbey WT, "Cancer Detection using Urinary Reporter Exression-targeted Gene Delivery" US 61/929,808
- Godbey WT and Atala A, "Gene Therapy Cancer Treatment Utilizing Cox-2-directed Apoptosis", patent number **7,638,331**.
- Godbey WT and Atala A, "Novel Device for Seeding Cells into a Biodegradable Scaffold"
-

SERVICE FOR NATIONAL CONFERENCES

- Regional Organizing Committee Member, Insight Conferences: Nucleic Acids, New Orleans, LA, 2016
- Host Committee, American Society of Gene and Cell Therapy annual conference, New Orleans, LA, 2015.
- Session Chair, "Cell- and Gene-Based Therapeutics", Biomedical Engineering Society Annual Conference, Austin, TX, October, 2010.

EDITORIAL BOARDS

- The Open Tissue Engineering & Regenerative Medicine Journal 10/07 – present
- World Journal of Medical Genetics 07/12 – present

PROFESSIONAL ORGANIZATIONS

- American Institute of Chemical Engineers
- American Society of Gene & Cell Therapy
- Biomedical Engineering Society

AUTHORED COURSES

- Tulane University CENG 2500 Introduction to Biotechnology
- Tulane University CENG 4400 / 6400 Introduction to Gene Therapy
- Tulane University CENG 4450 / 6450 Applied Biochemistry I
- Tulane University CENG 4460 / 6460 Applied Biochemistry II
- Tulane University CENG 3230 Numerical Methods for Chemical Engineers
- Tulane University CENG 4500 Chemical Process Control

ADDITIONAL COURSES/COURSE SECTIONS TAUGHT

- Tulane University CENG 2110 Material and Energy Balances
- Rice University BIOE 420 Biosystems Transport and Reaction Processes

UNIVERSITY SERVICE (2016)

- Dept. of Chemical & Biomolecular Engineering, Undergraduate Program and Curriculum Committee, Chair
- School of Science & Engineering, Curriculum Committee
- Tulane University Honor Board
- Tulane Pre-health Advisory Committee
- Newcomb/Tulane College, Newcomb Fellow