

GREGORY D. FREDERICK, Ph.D.

CONTACT INFORMATION

LeTourneau Univeristy
Department of Biology,
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EDUCATION

Graduate Studies; 20 hours toward M. Div. 1994
Southwestern Baptist Theological Seminary, Ft. Worth, TX
Courses required by the IMB before appointment for mission service

Ph.D.; Department of Microbiology, Immunology and Molecular Genetics
Kansas University Medical Center, Kansas City, KS 1990
Dissertation topics: Regulation of NADP-Specific Glutamate Dehydrogenase; Molecular
Analysis of Transcriptional Regulatory Sequences

Doctoral Dissertation - Regulation of NADP-Specific Glutamate
Dehydrogenase; Molecular Analysis of Transcriptional Regulatory Sequences

B.A.; Microbiology
University of Kansas, Lawrence, KS 1983

B.A.; Biology
University of Kansas, Lawrence, KS 1980

PROFESSIONAL SOCIETY MEMBERSHIPS

American Society for Microbiology – National
American Society for Microbiology – Texas Branch
American Association for the Advancement of Science
Beta Beta Beta National Honor Society
European Federation of Biotechnology
International Society for Computational Biology
Sigma Xi – The Scientific Research Society
Southwestern Association of Clinical Microbiology
Texas Academy of Science

GRANT AWARDS, RECOGNITION, AND HONOR AWARDS

- June 2010 Recipient of the UMHB Faculty Summer Development Grant; \$10,000
- May 2009 Recipient of the UMHB Summer Development Leave Award; \$10,000 for Research on Human Parthenogenesis with faculty at Scott and White Hospital, Texas A&M University Health Science Center and the Temple Veterans' Administration Hospital.
- April 2007 Recipient of a UMHB Faculty Development Award; \$15,675
BATTLING FIRE WITH FIRE: Using microorganisms to extinguish the burn. (Bio-control of fire ants)
- Nov. 2000 Honored by the Liaoning China Provincial Governor as the "Province's Most Valued Foreign Expert." Selected from the Province's 10,000+ foreign experts for excellence in education, community health training, and community development.

COURSES TAUGHT

Microbiology	BIOL 2480
Anatomy and Physiology	BIOL 2440
Bacteriology	BIOL 4461
Immunology	BIOL 3340
Ecology	BIOL 3470
Invertebrate Zoology	BIOL 3450
Freshman Seminar	UMHB1101

Additional courses which I would gladly teach include: Genetics, Cell Biology, Developmental Biology, Virology, and others.

UNIVERSITY COMMITTEE EXPERIENCE

- UMHB Institutional Review Board Member 2013 – 2014
- UMHB Faculty Assembly Executive Committee, 2013 – 2014
President (UMHB Faculty Senate equivalent)
- UMHB Faculty Assembly Executive Committee, 2012 – 2013
President Elect (UMHB Faculty Senate equivalent)
- UMHB Educational Technology Committee – Chair 2009 – 2012
- UMHB Scholars Day Committee 2009 – 2014
- UMHB Committee for Institutional Effectiveness 2008 – 2010
- UMHB Committee for Student Development 2007 – 2009
- UMHB Health Professions Advising Committee 2006 – 2014

PROFESSIONAL EXPERIENCE

Faculty – Professor and Department Chairman **2014 – Present**
LeTourneau University, Department of Biology, Longview, TX, U.S.A.

Faculty - Associate Professor, Tenured **2011 – 2014**
University of Mary Hardin-Baylor, Department of Biology, Belton, TX, U.S.A.

Faculty - Assistant Professor **2005 – 2011**
University of Mary Hardin-Baylor, Department of Biology, Belton, TX, U.S.A.

East Asia Strategy Coordinator **1994 – 2005**
International Board, Richmond, VA, U.S.A.
Facilitated, developed and implemented access strategies in North China. Worked with teams from the USA and also local, state and Chinese national governments in community development implementation.

Owner and C.E.O. **2001 – 2005**
Open Door Information Resource Company, Fengcheng, CHINA
Founded and directed corporation to facilitate cooperation between Chinese governmental, industrial, educational, and individual concerns with their counterparts in other countries.

Director and Chief Representative **1998 – 2001**
Global Partners (U.K.) Ltd., N.E. China Representative Office, Shenyang, CHINA
Established and directed representative office for a British humanitarian aid organization in N.E. China.

Director and Chief Representative **1996 – 1998**
BioChem Ventures Ltd. (Singapore), N.E. China Office, Shenyang, CHINA
Registered and directed a representative office for a Singaporean pharmaceutical company in N.E. China.

Faculty – Instructor, Department of Pathology **1991 - 1994**
U.T. Southwestern Medical Center at Dallas, Dallas, TX, U.S.A.
Studied DNA repair and transcription control in human cells affected by xeroderma pigmentosum (XP-D). Trained medical students and residents in Molecular Pathology techniques.

Research Scientist – Biotechnology Postdoctoral Scientist **1989 – 1991**
Ciba-Geigy (now Novartis Intl. AG) Biotechnology Division, Basel, Switzerland
Developed vectors and host strains, characterized and synthesized genes encoding human proteins and introduced them into cells using transformation for use in pharmaceutical production of human proteins.

Graduate Teaching Instructor – Medical Microbiology **1984 – 1989**
Kansas University Medical Center, Department of Microbiology, Immunology and Molecular Genetics, Kansas City, MO
Taught medical students basic medical microbiology including bacteriology, mycology and virology.

Graduate Teaching Instructor – Virology and Microbiology **1983 – 1984**
University of Kansas, Department of Microbiology, Lawrence, KS

Taught undergraduate laboratory sections of introductory microbiology and introductory virology.

Research Technician

1981 – 1983

University of Kansas, Department of Pharmaceutical Chemistry, Lawrence, KS
Studied drug absorption mechanisms and augmentation by various formulations and adjuvants.

Quality Assurance - Virology Section Head

1980 – 1981

Abbott Laboratories (currently Sanofi Aventis Group), Vaccine Production Section, Lenexa, KS Led the virology QA section in assay and control of viral-based vaccines produced according to USDA regulations and corporate guidelines.

SERVICE AND CONSULTING – Professional Societies and Community

TX Branch Am. Society for Microbiology – Treasurer

2011 – Present

Maintain accurate financial records, bank accounts and investment funds for the Texas Branch of the American Society for Microbiology.

TX Branch Am. Society for Microbiology – Executive Board

2008 – Present

Current Branch Treasurer. I have also served as Past Branch Archivist and Alternate Councilor

Biology – HOA Journal – Associate Editor

2013 – Present

Serve as an Associate Editor for [the journal](#) and review articles and reports which are submitted to the journal for consideration of publication.

Microbiology Discovery – Journal Editorial Board Member

2013 - Present

Serve as a member of the [editorial board](#) and review articles and reports which are submitted to the journal for consideration of publication.

J. of Microbiology and Biology Education – Editorial Board

2011 – Present

Serve as a member of the [editorial board](#) and review articles and reports which are submitted to the journal for consideration of publication.

Scott and White Hospital Institutional Biosafety Committee

2011 – Present

Serve the hospital as an off-site member of their I.B.C. to ensure that they remain in compliance with all national, state and local biosafety guidelines and laws.

McGraw-Hill Publishers – Digital Resource Consultant

2011 – Present

Consultant and reviewer for McGraw-Hill Higher Education digital product group on development of a new LearnSmart product. Facilitate the development of a new digital resource to accompany the Nester 7th Edition of Microbiology. A group of eight professors were selected from around the USA to develop this resource.

Pearson Education – Consultant on “CourseSmart” Resource

2011

Participated in Pearson Education sponsored and hosted workshops for the development of new and improved CourseSmart resources for online laboratory use. A panel of about 10 professors from across the USA were invited to consult on this project.

Hope Unbridled Inc. (HUI) – Chief Financial Officer

2010 – Present

HUI is a not-for-profit organization that works with youth and families who are experiencing life difficulties. HUI uses equine assisted psychotherapy to train and

facilitate individuals in new and productive coping strategies to instill appropriate and productive responses to life's challenges.

W.W. Norton Publisher – Textbook Reviewer & Advisor 2010 - Present

Invited by W.W. Norton Publishing group to provide pre-print editing, review, and suggestions on accuracy and appropriateness of textbook content. "Microbiology: An Evolving Science" by Joan Slonczewski and John Foster

GBD Corp. – Technical Scientific Consultant 2009 – Present

Global BioDiagnostics Corporation, Temple, TX Consultant on *Mycobacterium tuberculosis* enzymology, diagnosis and product development.

Izzy Plus Inc. – Mandarin Translation Consulting 2007

Provided translation assistance during negotiations with the owner of a Chinese component supply company. Helped resolve a multi-thousand dollar product dispute.

RECENT PRESENTATIONS (2010 - 2014)

Bacteriophage Isolation for Phage Therapy and Prevention of Dental Caries.

Presented at the American Society for Microbiology TX Branch 2014 Spring Conference. April 4, 2014. Sarah Gregory, Clinton Matkins, and **Gregory Frederick**.

Isolation and Characterization of the Imported Red Fire Ant Normal Gut

Microbiota. Presented at the American Society for Microbiology TX Branch 2014 Spring Conference. April 4, 2014. Malintha C. Abeyesiri and **Gregory Frederick**.

Career ADHD: Finding the right career path(s) for the 'Many-Mes' and you!

Presented at the American Society for Microbiology TX Branch 2014 Spring Conference. April 4, 2014.

Chalk Dust Gets In Your Eyes... PPTs Put Students to Sleep... Solution: Portable Smart boards in Every Classroom. Presented at the 2013 Joint Meeting of the South Central and Texas Branches of the American Society for Microbiology. November 2, 2013.

SUPERBUGS: When Microbes, the Immune System, and Medicine Collide. Invited speaker for medical faculty and students at William Carey University College of Osteopathic Medicine. April 15, 2013.

A Lab Safety and Skills Practical for Program Assessment. Presented at the 2013 National Conference of the National Science Teachers Association. Kathleen Wood, Cathleen Early, **Gregory Frederick**, Arch Koontz, Andrew W. Woodward, Karen Grant. April 13, 2013.

Developing and conducting a hands-on assessment of biology lab skills and safety. Presented at the 116th Annual Meeting of the Texas Academy of Science. Kathleen N. Early, Karen Grant, **Gregory D. Frederick**, Arch Koontz, Andrew W. Woodward, and Kathleen Wood. March 1, 2013.

Clinical Mycology Workshop. Hosted workshop for the Southwest Association of Clinical Microbiologists at the University of Mary Hardin-Baylor. Belton, TX, December 15, 2012.

Retrograde DNA Repair: Recollections from Two Decades Past. Presented at the University of Texas Southwestern Medical Center at Dallas Department of Pathology DNA Repair Symposium. Dallas, TX, December 1, 2012.

Using Web 2.0 for Student Learning. Presented at the Center For Excellence in Learning and Teaching at the University of Mary Hardin-Baylor. Belton, TX, November 2, 2012.

GamEducation: Gamification in Higher Education – Does it work? Presented at the 44th Annual Fall Meeting of the Texas Branch of the American Society for Microbiology. Baylor University. Waco, TX, October 20, 2012.

Are Your Students Smarter Than a Fifth Grader? Getting Them All on the Same Playground. Presented at the Nineteenth Annual American Society for Microbiology Conference for Undergraduate Educators, (ASMCUE) San Mateo, CA, June 16, 2012. ([View PDF File](#))

Approaches to Biocontrol of *Solenopsis invictus* via Genetically Modified Organisms. Presented by KA Cooke, JT Smith, JR Bowen, and GD Frederick at the 44th Annual Spring Meeting of the Texas Branch of the American Society for Microbiology. New Braunfels, TX, March 30, 2012.

PCR based detection of B1/NAP-1/027 strain of *Clostridium difficile*: Decrease in Prevalence and Clinical Severity? Presented at the 100th Annual Meeting of the United States and Canada Academy of Pathologists (USCAP), San Antonio, TX, February 26, 2011. ([View PDF File](#))

The Bugs That Bug Us: Understanding Them Better to Bug Them Back!, Invited Guest Lecturer, Presented at Sam Houston State University, Huntsville, TX, September 16, 2010 ([View PDF File](#))

Molecular analysis of *Clostridium difficile*, *C. Difficile* 027/B1/NAP1 and Vancomycin-Resistant Enterococci (VRE) in tissues with Pseudomembranous colitis or CDAD, Presented at the 99th Annual Meeting of the United States and Canada Academy of Pathologists (USCAP), Washington, D.C., March 20, 2010. ([View PDF File](#))

Molecular Analysis of the *Clostridium Difficile* and Vancomycin Resistant Enterococci (VRE) Association in Pseudomembranous Colitis, Presented at the 113th Annual Meeting of the Texas Academy of Science, Stephenville, TX, March 4-6, 2010. ([View PDF File](#))

PUBLICATIONS

Journal of Microbiology and Biology Education. *Submitted.* A Review of American Anthrax: Fear, Crime, and the Investigation of the Nation's Deadliest Bioterror Attack.

International Journal of University Teaching and Faculty Development. 2012 Oct; 3(1):69-81. Exploring the Relationship between Academic Entitlement and Epistemological Beliefs. Frederick, K., Barnard-Brak, L. and **Frederick, G.** ([View PDF File](#))

Journal of Microbiology and Biology Education. 2012 May; 13(1):99-100. From Medieval Microbiology to Modern Medicine: A Concise History of How We Got to Where We are Today. **Frederick, G.** ([View PDF File](#))

Journal of Microbiology and Biology Education. 2011 Dec; 12(2):211-212 . A Review of *The Mirage Man: Bruce Ivins, the Anthrax Attacks, and America's Rush to War.* **Frederick, G.** ([View PDF File](#))

Human Molecular Genetics. 1994 Oct; 3(10):1783-8. Structural and mutational analysis of the xeroderma pigmentosum group D (XPD) gene. **Frederick GD,** Amirkhan RH, Schultz RA, Friedberg EC. ([View PDF File](#))

Genetics. 1993 Jul; 134(3):729-36. Chromosome rearrangements recovered following transformation of *Neurospora crassa*. Perkins DD, Kinsey JA, Asch DK, **Frederick GD.** ([View PDF File](#))

Gene. 1993 Mar 15; 125(1):57-64. Cloning and characterisation of pepC, a gene encoding a serine protease from *Aspergillus niger*. **Frederick GD,** Rombouts P, Buxton ([View PDF File](#))

Genetics. 1992 Apr; 130(4):737-48. Analysis of junction sequences resulting from integration at nonhomologous loci in *Neurospora crassa* . Asch DK, **Frederick G,** Kinsey JA, Perkins DD. ([View PDF File](#))

Current Genetics. 1990 Jul; 18(1):53-8. Distant upstream regulatory sequences control the level of expression of the am (GDH) locus of *Neurospora crassa*. **Frederick GD,** Kinsey JA. ([View PDF File](#))

Molecular and General Genetics. 1990 Apr; 221(2):148-54. Nucleotide sequence and nuclear protein binding of the two regulatory sequences upstream of the am (GDH) gene in *Neurospora*. **Frederick GD,** Kinsey JA. ([View PDF File](#))

Molecular and General Genetics. 1989 Jun; 217(2-3):294-300. Use of transformation to make targeted sequence alterations at the am (GDH) locus of *Neurospora*. **Frederick GD,** Asch DK, Kinsey JA. ([View PDF File](#))

Journal of Pharmacy and Pharmacology. 1987 Nov; 39(11):887-91. Effect of triglyceride on small intestinal absorption of cefoxitin in rats. Yoshitomi H, Nishihata T, **Frederick G,** Dillsaver M, Higuchi T. ([View PDF File](#))

Journal of Pharmacy and Pharmacology. 1985 Jul; 37(7):509-11. Lymphatic transport of sodium cefoxitin in the presence of sodium 5-methoxysalicylate after injection into rat rectal connective tissue, femoral muscle and femoral vein. Nishihata T, Kim S, Kamada A, **Frederick G,** Dillsaver M, Higuchi T. ([View PDF File](#))

Journal of Pharmacy and Pharmacology. 1985 Mar; 37(3):159-63. Comparison of the effects of sodium salicylate, disodium ethylenediaminetetraacetic acid and polyoxyethylene-23-lauryl ether as adjuvants for the rectal absorption of sodium cefoxitin. Nishihata T, Tomida H, **Frederick G,** Rytting JH, Higuchi T. ([View PDF File](#))