

Brenda G. Rushing, Ph.D.
Department of Natural Sciences-Program in Biology-Texas A&M University-San Antonio

Education Ph.D., Biological Sciences, Stanford University (Emphasis in molecular microbiology)
 B.S., Microbiology, Texas A&M University, Magna cum laude

Professional Experience

2022-present **Instructional Associate Professor, Biology**
 Texas A&M University-San Antonio, San Antonio, TX

2019-2022 **Instructional Assistant Professor, Biology**
 Texas A&M University-San Antonio, San Antonio, TX

2013-2019 **Assistant Professor of Biology**
 Texas A&M University-San Antonio, San Antonio, TX

2012-2013 **Adjunct Professor**
 Texas A&M University-San Antonio, San Antonio, TX

2011-2013 **Laboratory Manager**
 Texas A&M University-San Antonio, San Antonio, TX

2004-2011 **Senior Research Scientist/Project Leader, Research & Development**
 SA Scientific, San Antonio, TX

2003-2004 **Research Assistant Professor of Microbiology**
 University of Texas Health Science Center-SA, San Antonio, TX

1999-2003 **Assistant Professor of Biology**
 Trinity University, San Antonio, TX

1995-1999 **Postdoctoral Research Associate/NSF Postdoctoral Fellow**
 Indiana University, Bloomington, IN

Fellowships and Awards (selected)

College of Arts and Sciences (COAS) **2021 Excellence in Service Award** (for non-tenure line faculty),
College of Arts and Sciences (COAS) **2020 Excellence in Teaching Award** (for non-tenure line faculty),
President's Strategic Initiative Grant, **FIRE UP** program for undergraduate research, PI/Director, 2018
ASM Mentor to student recipient of ASM Summer Undergraduate Research Fellowship, Summer 2016
American Society for Microbiology Undergraduate Faculty Research Initiative Fellowship, Summer 2015

Relevant Courses Developed and Taught at Texas A&M University-San Antonio

BIOL 2421 Introductory Microbiology and Microbiology Lab (**lead faculty for multiple years**)
BIOL 4401 Molecular Biology and Molecular Biology Laboratory (**sole faculty**)
BIOL 4406 Bacteriology and Bacteriology Laboratory
BIOL 4408 Immunology Laboratory
BIOL 1306 General Biology I
BIOL 1106 General Biology I Laboratory
BIOL 1106 General Biology I Laboratory (Faculty of record for course, mentor undergraduate TAs)
BIOL 3104 Research Experience in Biology (1 hr, taught several times as unpaid overload)
BIOL 4304 Undergraduate Research Biology (3 hr)

Professional Development in Teaching (Selected)

MacMillan Learning Webinar, "Improving Biology Instruction through a Focus on DEI," February 2023
American Society for Microbiology Conference for Undergraduate Educators (ASMCUE), **2015-2022**
American Society for Biochemistry & Molecular Biology, "Teaching Science with Big Data," June 2021
Partnership for Undergraduate Life Sciences Education (PULSE) Workshop, Texas Regional PULSE
Institute (TRPI) "Inclusivity in Teaching Practices in STEM," San Antonio, TX, January 2020
American Society for Biochemistry and Molecular Biology (ASBMB) Symposium "Transforming
Undergraduate Education in the Molecular Life Sciences," UIW, San Antonio, TX, July 2019

ASM Undergraduate Research Fellowship (ASM-URF) with undergraduate Dayana Ebad Fardzadeh

- Student award-winning poster at Texas Branch ASM meeting, March 2017 (2nd Place Wyss Award)
- ASM “Leaders Inspiring Networks and Knowledge (LINK)” Undergrad Fac. Research Fellowship, 2015
Workshop “Designing Scientific Teaching Tools for Biochemistry and Molecular Biology Education,”
Texas State University, San Marco, TX, March 2014

Service (selected)

A&M-San Antonio Student Research Symposium, Judge for oral presentations, April 2023

Chair, Institutional Biosafety Committee (IBC), July 2019-May 2022

Member, Campus Research Resumption Committee (during COVID), Fall 2020

University Institutional Review Board (IRB), 2015-2017

Member of College-level Promotion Committee for Professional Track Faculty, Fall 2023

Member and student advisor, inaugural Health Professions Advising Committee (HPAC), 2017-present

Chair, Faculty Evaluation Committee (FEC) for Professional Track faculty, Spring 2023

Faculty Sponsor, Pre-Dental Club, Fall 2023

Microbiology Curriculum Coordinator, service to Biology Program (**lead faculty, 2013-2022**)

Member, Search Committee for Molecular Microbiologist faculty, Spring 2021

Chair, Microbiology Lab Curriculum Review Committee, Institutional Effectiveness Program (IEP), 2020

Faculty Mentor, Inaugural Course BIOL 4102 Experiential Laboratory Instruction, Fall 2019

Mentored or co-mentored four undergraduate students in summer research, Summer 2019

Director/Principal Investigator/Undergraduate research mentor, FIRE UP summer program

Masters in Biology, Curriculum Development Committee, Spring 2018

Mentor, Summer Undergraduate Research Students, Summer 2016 (3 students)

Publications-Peer Reviewed (*indicates undergraduate research student)

1. Valdez Barillas, J.R.[^], **Rushing, B.G.**[^], M. Narvaez*. Rhizospheric microbial partners facilitate the establishment of the native perennial *Bouteloua curtipendula* when grown in competition with the non-native invasive *Cynodon dactylon* (manuscript in preparation)
2. Thompson, Joanna B., Alan M. Daniel, **Brenda G. Rushing**, and Mauricio R. Papini. (2021) Recovery profiles from reward downshift are correlated with operant licking maintained by alcohol, but not with genetic variation in the mu opioid receptor. *Physiology & Behavior* 228: Article 113192.
3. Daniel, Alan M., **Brenda G. Rushing**, and Karla Y. Tapia Menchaca*. (2020) Variation of the Human mu-Opioid Receptor (OPRM1) Gene Predicts Vulnerability to Frustration. *Scientific Reports* 10:21840.
4. McClain, Jonathan, Rollo, David, **Rushing, Brenda G.**, and Carl E. Bauer. (2002) *Rhodospirillum centenum* Utilizes Separate Motor and Switch Components to Control Lateral and Polar Flagellum Rotation. *J. Bacteriol.* 184: 2429-2438.
5. Oke, Valerie, **Rushing, Brenda G.**, Fisher, Emily J., Moghadam-Tabrizi, Mohamad, and Sharon R. Long. (2001) Identification of the Heat Shock Sigma Factor RpoH and a second RpoH-like protein in *Sinorhizobium meliloti*, *Microbiology* 147: 2399-2408.
6. Jiang, ZeYu, Lee R. Swem, **Brenda G. Rushing**, Savitha Devanathan, Gordon Tollin, and Carl E. Bauer (1999) Bacterial Photoreceptor with Similarity to Photoactive Yellow Protein and Plant Phytochromes, *Science* 285:406-409.
7. Jiang, ZeYu, **Brenda G. Rushing**, Yong Bai, Howard Gest, and Carl E. Bauer (1998) Isolation of *Rhodospirillum centenum* Mutants Defective in Phototactic Colony Motility by Transposition Mutagenesis, *J. Bacteriol.* 180: 1248-1255.
8. **Rushing, Brenda G.** and Sharon R. Long (1995) Cloning and Characterization of the *sigA* gene Encoding the Major Sigma Subunit of *Rhizobium meliloti*, *J. Bacteriol.* 177: 6952-6957.
9. **Rushing, Brenda G.**, Yelton, M. Melanie, and Sharon R. Long (1991) Genetic and Physical Analysis of the *nodD3* Region of *Rhizobium meliloti*, *Nucleic Acids Res.* 19: 921-927.