**JENNIFER R. BRIGATI**

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## EDUCATION

● Ph.D., Biomedical Sciences, Auburn University, May 2005.
Dissertation: Development and study of phage-derived detection probes.
Advisor: Valery A. Petrenko, Ph.D.
● B.S., Cell & Molecular Biology, Southampton College of Long Island University, May 2000.

## ADMINISTRATIVE EXPERIENCE

● Chair, Division of Natural Sciences, Maryville College, August 2020-present

## TEACHING EXPERIENCE

● Professor, Maryville College, August 2022-present
●Associate Professor, Maryville College, August 2012-2022
● Assistant Professor, Maryville College, August 2006 – 2012
Teaching responsibilities have included: Genetics (BIO 221), Microbiology (BIO 355), Principles of Microbiology (BIO 112), and Immunology (BIO 357).
● Instructor, East Tennessee Math and Science Partnership, Maryville College, July 2009
Continuing education classes for middle and high school science teachers
● Instructor, Project GRAD summer institute, Pellissippi State CC, June 2009
Biology (for high school sophomores)
● Teaching Assistant, Auburn University, Spring 2004 and 2005.
Combinatorial Biochemistry and Phage Display Lab (VBMS 7700).

## RESEARCH EXPERIENCE

● Visiting Research Professor, University of Tennessee, August 2015 – August 2016
Student engagement with active learning in Introductory Biology.
Mentor: Dr. Elisabeth Schussler, Director of Biology Teaching and Learning
● Biology Scholars Research Residency, Maryville College, March 2015 – July 2016
Student attitudes toward active learning techniques used in Introductory Biology.
Mentor: Dr. Nitya Jacob, Associate Professor of Biology, Oxford College
● Co-PI, RUI: Interdependence of Nutrient and Pheromone Sensing Pathways in Yeast, Maryville College. March 2010 – May 2013
Identifying interactions between two GPCR-dependent pathways in *Saccharomyces cerevisiae*.
● Research Associate and Visiting Scientist, University of Tennessee,
May 2005 – August 2006, May 2007 – August 2007.
Developed a phage-based bioluminescent bioreporter system for the detection of *E. coli* O157:H7.
Supervisor: Gary S. Sayler, Ph.D., Center for Environmental Biotechnology.
● Doctoral Research, Auburn University, March 2003 – August 2005.

Selected and characterized phage probes that bind to *B. anthracis* spores from a landscape phage display library. Studied the thermostability of landscape phage probes. Advisor: Valery A Petrenko, Ph.D., Department of Pathobiology.

**PUBLICATIONS**

●Schussler, EE, Reynolds, B., England, B, and Brigati, J. 2021. Student Active Learning Anxieties Differ by Preferred Seating Location in Introductory Biology Classes. *Journal of College Science Teaching*. 51(2):67-77.

● Weatherton MR, Chen M, Brigati J, England B, Schussler EE. 2021**.** Student perceptions of instructor supportiveness: What characteristics make a difference? *CBE-LSE*. 20:ar29:1-12.

● Brigati JR, England BJ, Schussler EE. How do undergraduates cope with anxiety resulting from active learning practices in introductory biology? *PLoS One*. 2020;15(8):e0236558. PubMed PMID: 32785258; PubMed Central PMCID: PMC7423088

● England, BJ, Brigati, JR, and Schussler, EE. 2019. Student Anxiety and Perception of Difficulty Impacts Performance and Persistence in Introductory Biology Courses. *CBE Life Sciences Education*. 18(2):ar21.

●Brigati, J, England, B, and Schussler E. 2019. It's not just for points: Teacher justifications and student perceptions about active learning. *Journal of College Science Teaching*. 48(3): 45-55.

● Brigati, JB. 2018. Student Attitudes toward Active Learning vs. Lecture in Cell Biology Instruction. *American Biology Teacher*. 80(8): 585-593.

● England, B., Brigati, J., and Schussler, E. 2017. Student anxiety in introductory biology classrooms: Perceptions about active learning and persistence in the major. *PLOS One*. 12(8): e0182506.

● Brigati, JB, and Swann, JM. 2015. Facilitating improvements in laboratory report writing skills with less grading; a laboratory report peer review process. *Journal of Microbiology and Biology Education*. 16(1): 61-68

●Willhite, DG, Brigati, JB, Selcer, KE, Denny, JE*, Duck, ZA*, and Wright, SE. 2014. Pheromone responsiveness is regulated by components of the Gpr1p-mediated glucose sensing pathway in *Saccharomyces cerevisiae***.** *Yeast*. 31: 361-374.

●Petrenko, V.A., Samoylova, T.I., Jayanna, P.K., and Brigati, J.B. 2008. Phage display for generating peptide reagents (Unit 18.9). In: *Current Protocols in Protein Science* (Editors J. Coligan, B. Dunn, D. Speicher & P. Wingfield). John Wiley & Sons, Inc. Hoboken, NJ.

●Ripp, SA, Jeiger, P, Johnson, CM, Brigati, JR, and Sayler, GS. 2008. Bacteriophage-amplified bioluminescent sensing of Escherichia coli O157:H7. *Analytical and Bioanalytical Chemistry*. 391(2): 507 - 514.

●Brigati, JR, Ripp, SA, Johnson, CM, Iakova, PA, Jeiger, P, and Sayler, GS. 2007. Bacteriophage-based bioluminescent bioreporter for the detection of *E. coli* O157:H7. *Journal of Food Protection.* 70(6):1386-1392.

●Petrenko V.A. & J.R. Brigati. 2007. Phage as biospecific probes. In: *Immunoassay and other Bioanalytical Techniques* (Editor J.M. Van Emon). CRC Press, Taylor & Francis Group, Boca Raton, FL, U.S.A., p.187-216.

●Brigati, J. R., and Petrenko, V. A. 2005. Thermostability of landscape phage probes. *Analytical and Bioanalytical Chemistry*. 382(6): 1346-1350.
●Brigati, J., D. D. Williams, I.B. Sorokulova, V. Nanduri, I. Chen, C.L.Turnbough, Jr., and V. A. Petrenko. 2004. Diagnostic probes for *Bacillus anthracis* spores selected from a landscape phage library. *Clinical Chemistry*. 50: 1899 - 1906
●Livant, E.J., J.R. Brigati, and S.J. Ewald. 2004. Diversity and locus specificity of chicken MHC class I sequences. *Animal Genetics*. 35: 18-27

**ABSTRACTS & PRESENTATIONS**
●Brigati, J. STEM Strong: a mental health initiative for STEM majors. AACU/PKAL Transforming STEM Higher Education conference, Washington D.C., November 2-4, 2023.
●Schussler, B., Weatherton, M., Chen, M., Brigati, J., and England, B. Student perceptions of supportive and non-supportive instructors: What characteristics make a difference? SABER annual meeting, Virtual, July 24, 2020.
● England, B., Brigati, J., and Schussler, E. A Multi-Year Study of Student Anxiety in Introductory Biology Classrooms. SABER annual meeting, Minneapolis, MN, July 27-29, 2018.
●Schussler, E., Brigati, J., and England, B. Coping: Different Student Coping Strategies for Different Active Learning Practices. SABER annual meeting, Minneapolis, MN, July 27-29, 2018.
●Brigati, J., England, B., and Schussler, E. Introductory Biology Students Use Different Coping Mechanisms for Anxiety Caused by Active Learning Practices. ASM Microbe, Atlanta, GA, June 7-10, 2018.
●Romero, M., England, B., Brigati, J., and Schussler, E. Active Learning as a Source of Anxiety for Female and Underrepresented Students in Introductory Biology Courses. SABER national meeting, Minneapolis, MN, July 21-23, 2017.
● England, B., Brigati, J., and Schussler, E. Active Learning, Anxiety, and Alienation: Potential impacts on student persistence and success. SABER national meeting, Minneapolis, MN, July 21-23, 2017.
●Gibson, A., and Brigati, J. Engaging and Retaining Students in STEM: Strategies Inside and Outside the Classroom. ACA Summit, Kingsport, TN, September 29 – October 1, 2016.
● Brigati, J., England, B., and Schussler, E. Why Do We Have to Do This? Helping Your Students Understand Why You Use Active Learning In the Classroom. American Society for Microbiology Conference for Undergraduate Educators, North Bethesda, MD, July 21 – 24, 2016.
● Brigati, J. Student Attitudes Toward Active Learning in Introductory Biology. American Society for Microbiology Conference for Undergraduate Educators, North Bethesda, MD, July 21 – 24, 2016.
● England, B., Brigati, J., and Schussler, E. Warning: Active learning may cause anxiety. SABER national meeting, Minneapolis, MN, July 14-17, 2016.
● Dresser, C., Brigati, J., and Schussler, E. Comparison of student engagement and learning outcomes among three commonly used active learning approaches. SABER national meeting, Minneapolis, MN, July 14-17, 2016.

● Brigati, J. Three Molecular Microbiology Laboratory Activities. American Society for Microbiology Conference for Undergraduate Educators, Austin TX, May 28-31, 2015.
● Brigati, J., Guerinot, I., and Curtis, D. Service-Learning in the Sciences: Pedagogy and Practice. ACA Summit XVI, Knoxville TN, October 24-26, 2013.
● Brigati, J. and J. Swann. A Lab Report Writing Process That Cuts Your Grading in Half and Gives Your Students a Realistic Scientific Paper-Writing Experience. American Society for Microbiology Conference for Undergraduate Educators, Englewood CO, May 16-19, 2013.
●Brigati, J., Willhite, D.G., Duck, Z.*, Haskins, D.*, Selcer, K., and Wright, S**.** Evidence for Dependence of the GPCR Mediated Glucose Sensing Pathway on Components of the Pheromone Sensing Pathway in *Saccharomyces cerevisiae.* American Society for Microbiology General Meeting, Denver CO, May 18-21, 2013.
●Zachary Duck*, Maria Siopsis, Jennifer Brigati, Grant Willhite, and Stephen Wright Dynamic activity and crosstalk modeling with the pheromone and glucose sensing pathways of *Saccharomyces cerevisiae.* American Society for Microbiology TN/KY branch meeting, Maryville TN, October 26-27, 2012.
●David Lee Haskins*, Jennifer Brigati, and Stephen Wright. Heat Shock Analysis of the Association Between Glucose-sensing and Pheromone-sensing GPCR pathways. American Society for Microbiology TN/KY branch meeting, Maryville TN, October 26-27, 2012.
●Elisabeth Klouda*, Jennifer Brigati, David Willhite, Katie Selcer, and Stephen Wright. Clarification of interactions between two GPCRs in *Saccharomyces cerevisiae.* American Society for Microbiology TN/KY branch meeting, Maryville TN, October 26-27, 2012.
●Brigati, J., D. G. Willhite, J. Hoover*, S. O'Brien*, J. R. Carter*, K. Selcer and S. Wright. Dependence of the mating pathway on components of the Gpr1p-mediated glucose sensing pathway in *Saccharomyces cerevisiae.* American Society for Cell Biology annual meeting, Denver, CO, Dec 3-7, 2011.
●Duck, Z.*, J. Brigati, D.G. Willhite, and S. Wright. Heat Shock Analysis of the Interdependency of Pheromone and Glucose Sensing G-Protein Coupled Receptor Pathways in *Saccharomyces cerevisiae*. American Society for Cell Biology annual meeting, Denver, CO Dec 37, 2011.
●Hoover, J.*, J. Brigati, D.G. Willhite, and S. Wright. Dependence of the mating pathway on components of various nutrient sensing pathways in Saccharomyces cerevisiae. American Society for Microbiology TN/KY branch meeting, Gallatin TN, October 21-22, 2011.
●Brown, H.*, Brigati, J., Willhite, D., and Wright,S. Cyclic AMP quantification assay as a method to determine possible crosstalk between glucose and pheromone sensing pathways in *Saccharomyces cerevisiae*. Blue Ridge Undergraduate Research Conference, Maryville, TN, Mar 25, 2011
●Willhite, D.G., Brigati, J., Thomas, D.*, Selcer, K., and Wright, S. Interdependence of mating and Gpr1p mediated glucose sensing in MATa *Saccharomyces cerevisiae*. American Society for Cell Biology annual meeting, Philadelphia, PA, Dec 11 – 15, 2010
●Eberhardt, A.*, Brigati, J., Willhite, G., Wright, S., and Becker, J. Evidence for an interaction between two G-protein coupled receptors in *Saccharomyces cerevisiae*.

American Society for Microbiology TN-KY Branch Meeting, Bowling Green, KY, Nov 12-13, 2010!
●Brigati, J.R., S.A. Ripp, P.A. Iakova, and G.S. Sayler. Bacteriophage-based bioluminescent bioreporter for the detection of *Escherichia coli* O157:H7. American Society for Microbiology General Meeting, Orlando, FL, May 22 – 26, 2006
●Brigati, J., D. D. Williams, I.B. Sorokulova, V. Nanduri, I. Chen, C.L.Turnbough, Jr., and V. A. Petrenko. Substitution of antibodies with phage-borne probes in detection of *Bacillus anthracis* spores. Oak Ridge Conference: Pushing the Technology Envelope – An Exploration of the Future of Clinical Laboratory Testing. San Jose, CA, 2004
●Brigati, J., D. D. Williams, I.B. Sorokulova, V. Nanduri, I. Chen, C.L.Turnbough, Jr., and V. A. Petrenko. Diagnostic probes against *Bacillus anthracis* selected from a landscape phage library. Auburn University Graduate Student Council Research Forum. Auburn, AL, 2004
* indicate undergraduate presenter or coauthor

**GRANTS**
●Gerald W. Gibson Professional Development Grant. PKAL Summer Leadership Institute for STEM faculty. $2837. 2016.
● Appalachian College Association Faculty Fellowship. Salary funding for sabbatical. $26,764. 2015-2016.
● American Society for Microbiology Biology Scholars Program Research Residency Travel Grant. $850. 2015.
● Gerald W. Gibson Professional Development Grant. Biology Scholars Program Research Residency. $1800. 2015.
● Gerald W. Gibson Professional Development Grant. Maryville College Pre-Health Advising Program of Distinction. $4,800. 2013-2014.
● Co-Principle Investigator: NSF. RUI: Interdependence of nutrient and pheromone sensing pathways in yeast. $440,000. 2010 - 2013.
● Russell D. Parker Faculty Development Grant. Funded attendance at the three week Advanced Bacterial Genetics Course held at Cold Spring Harbor National Laboratory. $3,810. 2008.
● Partial tuition waiver for the Advanced Bacterial Genetics Course held at Cold Spring Harbor National Laboratory. $1,000. 2008.
● Co-Principle Investigator: USDA. A nanostructured biosensor for the detection of microbial pathogens. $99,720, 2007.
● American Society for Microbiology Conference for Undergraduate Educators Early Career Travel Award. $1,000. 2006.

**PROFESSIONAL SERVICE**
● Chair, Division of Natural Sciences – 2020 - present
● COVID-related workgroups/committees – 2020-2022
● Faculty Development Committee – 2013 – 2015, 2019-present
● Institutional Biosafety Committees (Serving UT Cancer Center, Alliance for Multispecialty research) – 2013-present
● Faculty Staffing Advisory Committee – 2016 – 2019
● Institutional Animal Care & Use Committee – 2017-2019

● Served on review panel for EPA STAR Graduate Fellowship program – 2013, 2015
● Maryville College Works Division Representative – 2013 – 2015
● Sexual Assault Grievance Advisor 2012 - 2015
● Quantitative Literacy Course Development Committee - 2014
● QEP Committee 2012 - 2013
● Maryville College Wellness Committee 2009 - 2013
● Volunteer assistant coach for the Maryville College Cross Country team, 2006 - 2013
● Organized / hosted American Society for Microbiology TN/KY Branch Meeting – 2012
● Invited Panelist: Faculty Careers in Teaching-Intensive Schools, NIEHS (EPA) Biomedical Careers Fair - 2012
● Upper Level Presidential Scholarship Committee, 2010
● Advisor to the Maryville College Biology Club, 2008 – 2010
● Athletics Director Search Committee, 2008
● Maryville College Athletics Committee, 2007 – 2009
● Faculty Athletics Representative to the NCAA, 2008 – 2009