

Curriculum Vitae

George S. B. Williams, PhD
Assistant Professor
University of Maryland School of Medicine

Date July 29, 2016

Contact Information

The Center for Biomedical Engineering and Technology (BioMET)
University of Maryland School of Medicine
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Current Position

2015-Present Assistant Professor, BioMET, University of Maryland School of Medicine.

Education

2001 B.S. The College of William & Mary (Chemistry)
2003 M.A. The College of William & Mary (Chemistry, Dr. Carey K. Bagdassarian, advisor)
2005 M.S. The College of William & Mary (Applied Science, Dr. Gregory D. Smith, advisor)
2008 Ph.D. The College of William & Mary (Applied Science, Dr. Gregory D. Smith, advisor)

My doctoral work in the Department of Applied Science, an interdisciplinary department focused on engineering and quantitative sciences, involved developing advanced techniques for investigating calcium signaling in heart and smooth muscle. This effort led to three peer-reviewed publications and a US patent.

Post Graduate Education and Training

2008-2011 Postdoctoral Fellow, George Mason University, (Dr. M. Saleet Jafri, Department of Bioinformatics and Computational Biology, Chair)
2009-2011 Affiliate Postdoctoral Fellow, University of Maryland School of Medicine, (Dr. W. Jonathan Lederer, BioMET, Director)
2011-Present Postdoctoral Fellow, University of Maryland School of Medicine, (Dr. W. Jonathan Lederer, BioMET, Director)

Employment History

- 2000-2003 Teaching Assistant, The Department of Chemistry, The College of William and Mary, Williamsburg, VA. Instructed undergraduate students in general chemistry and organic chemistry labs.
- 2005-2008 Research Associate / Systems Administrator, The Department of Applied Science, The College of William and Mary, Williamsburg, VA. I was responsible for developing and testing new modeling techniques for cardiac muscle cells as part of an interdisciplinary team of researchers from the College of William and Mary, George Mason University, and the Mount Sinai School of Medicine. As the systems administrator for the W&M Computational Biology Lab, I designed and created a heterogeneous distributed computing cluster utilized by both faculty and student researchers.
- 2008-2011 Postdoctoral Fellow, Department of Systems Biology, George Mason University, Fairfax, VA. Developed and tested new modeling techniques for cardiac muscle cells as part of an interdisciplinary team of researchers from George Mason University, the College of William and Mary, and the Mount Sinai School of Medicine.

Academic Appointments

- 2008-2011 Postdoctoral Fellow, George Mason University
- 2009-2011 Affiliate Postdoctoral Fellow, University of Maryland School of Medicine
- 2011-2014 Affiliate Faculty, George Mason University
- 2011-2015 Postdoctoral Fellow, University of Maryland School of Medicine
- 2015-Present Assistant Professor, University of Maryland School of Medicine

Professional Society Memberships

- 2003-Present Biophysical Society
- 2006-2010 Society for Industrial and Applied Mathematics (SIAM)

Honors and Awards

- 1997 Graduated Co-Valedictorian, Wilson Memorial High School, Fishersville, VA
- 1997-2001 Monroe Scholar, The College of William & Mary, Williamsburg, VA
- 2002-2003 Graduate Student Research Stipend, The College of William & Mary, Williamsburg, VA.

2003-2008	Graduate Student Research Assistantship, The College of William & Mary, Williamsburg, VA.
2011-2014	NRSA Fellowship Awardee, National Institutes of Health, National Heart, Lung, and Blood Institute (NHLBI), Bethesda, MD
2015-Present	K Awardee, National Institutes of Health, National Heart, Lung, and Blood Institute (NHLBI), Bethesda, MD

Current Funding

06/30/2015- Present (PI, 100%)
 “Mitochondrial Calcium Signaling in Heart”
 Mentored Quantitative Research Development Award
 NHLBI K25HL125762
 Annual Direct Costs: \$132,435
 Total Direct Costs: \$662,175

Past Funding

04/11/2011 - 04/11/2014 (PI, 100%)
 “Molecular Basis of Ca²⁺ Leak in Heart”
 National Research Service Award Fellowship
 NHLBI F32HL108604
 Annual Direct Costs: \$51,015
 Total Direct Costs: \$156,979

Patents

1. “Method and system for utilizing Markov chain Monte Carlo simulation.” Mohsin Saleet Jafri, Tuan Minh Hoang-Trong, and **George Stuart Blair Williams**, Assigned to George Mason University, Fairfax, VA (US), US 9,009,095 B1.

Peer Reviewed Publications

1. **George S. B. Williams**, Aftab M. Hossain, Shiyong Shang, David E. Kranbuehl, and Carey K. Bagdassarian, “Evolution of a catalytically effective model enzyme: The importance of tuned conformational fluctuations”, *Journal of Theoretical and Computational Chemistry*, 2(3):323-331, 2003.
2. **George S. B. Williams**, Aftab M. Hossain, David E. Kranbuehl, and Carey K. Bagdassarian, “Evolution of rate-promoting oscillations in a model enzyme”, *Journal of Physical Chemistry*, 107(1):12527-12533, 2003.
3. **George S. B. Williams**, Marco A. Huertas, Eric A. Sobie, M. Saleet Jafri, and Gregory D.

Smith, "A probability density approach to modeling local control of calcium-induced calcium release in cardiac myocytes", *Biophysical Journal*, 92(7):2311-28, 2007. (PMID: 17237200)

4. **George S. B. Williams**, Evan J. Molinelli, and Gregory D. Smith, "Modeling local and global intracellular calcium responses mediated by diffusely distributed inositol 1,4,5-trisphosphate receptors", *Journal of Theoretical Biology*, 253(1):170-88, 2008. (PMID: 18405920)
5. **George S. B. Williams**, Marco A. Huertas, Eric A. Sobie, M. Saleet Jafri, and Gregory D. Smith, "Moment closure for local control models of calcium-induced calcium release in cardiac myocytes", *Biophysical Journal*, 95(4):1689-703, 2008. (PMID: 18487291)
6. **George S. B. Williams**, Gregory D. Smith, Eric A. Sobie, and M. Saleet Jafri, "Models of cardiac excitation-contraction coupling in ventricular myocytes", *Journal of Mathematical Biosciences*, 226:1-15, 2010. (PMID: 20346962)
7. Tuan HT, **Williams GS**, Chikando AC, Sobie EA, Lederer WJ, Jafri MS, "Stochastic simulation of cardiac ventricular myocyte calcium dynamics and waves", *Conf Proc IEEE Eng Med Biol Soc.*, 2011:4677-80, 2011. (PMID: 22255381)
8. **Williams GS**, Chikando AC, Tuan HT, Sobie EA, Lederer WJ, Jafri MS., "Dynamics of calcium sparks and calcium leak in the heart", *Biophysical Journal*, 101(6):1287-96, 2011. (PMID: 21943409)
9. Chikando AC, Kettlewell S, **Williams GS**, Smith G, Lederer WJ., "Ca²⁺ dynamics in the mitochondria - state of the art", *Journal Molecular Cell Cardiology*, 51(5):627-31, 2011. (PMID: 21864537)
10. Wagner, E., Lauterbach, M. A., Kohl, T., Westphal, V., **Williams, G. S. B.**, Steinbrecher, J. H., et al., STED Live Cell Super-Resolution Imaging Shows Proliferative Remodeling of T-Tubule Membrane Structures After Myocardial Infarction, *Circulation Research*, (2012). (PMID: 22723297)
11. L. Boyman, **G. S. B. Williams***, D. Khananshvil, I. Sekler, W. J. Lederer, "NCLX: The mitochondrial sodium calcium exchanger", *J Mol Cell Cardiol* (In Press) (2013). (PMID: 23538132) *co-first author
12. **G. S. B. Williams**, L. Boyman, A. C. Chikando, R. J. Khairallah, W. J. Lederer, "Mitochondrial calcium uptake", *Proc Natl Acad Sci USA* (2013) (PMID: 23759742)
13. Boyman L, Chikando AC, **Williams GSB***, Khairallah RJ, Kettlewell S, Ward CW, et al. (2014), "Calcium movement in cardiac mitochondria" *Biophys. J.*, 107(6), 1289–301. PMCID: PMC4167535. *co-first author

14. Greiser M, Kerfant B-G, **Williams GSB**, Voigt N, Harks E, Dibb KM, et al. (2014). “Tachycardia-induced silencing of subcellular Ca²⁺ signaling in atrial myocytes” *J Clin Invest*, 124(11), 4759–72.
15. Walker M, **Williams GSB***, Kohl T, Lehnart S, Jafri MS, Greenstein J, et al. (2014). “Super-Resolution Modeling of Calcium Release in Heart”, *Biophys. J.*, 107(12), 3018–3029. *co-first author
16. **Williams GSB**, Boyman L, Lederer WJ (2014), “Mitochondrial Calcium and the Regulation of Metabolism in Heart” *Journal of Molecular and Cellular Cardiology*, 78C, 35–45.
17. Boyman L, **Williams GSB**, Lederer WJ. (2015). “The growing importance of mitochondrial calcium in health and disease.” *Proc Natl Acad Sci USA National Acad Sciences*;, 112(36), 11150–1. PMID: PMC4568708
18. Wescott, AP, Jafri, MS, Lederer, WJ, & **Williams, GSB** (2016). “Ryanodine receptor sensitivity governs the stability and synchrony of local calcium release during cardiac excitation-contraction coupling.” *Journal of Molecular and Cellular Cardiology*.

Other Publications

1. **George S. B. Williams**, “Evolution and analysis of a catalytically effective model enzyme: The importance of active site orientation and tuned conformational fluctuations” The Department of Chemistry, Roger’s Hall, The College of William & Mary, 2003. (M.A. Thesis)
2. **George S. B. Williams**, “Probability density methods for modeling local and global aspects of intracellular calcium signaling”, The Department of Applied Science, McGlothlin Street Hall, The College of William & Mary, 2008. (Ph.D. Dissertation)

Book Chapters

1. Boyman, L., **Williams, G.S.**, Lederer, W.J., “Mitochondrial Calcium and Ischemia Reperfusion Injury in Heart”, *Mitochondria and Cell Death*, *Springer Science*, 2015. (In press)

Major Invited Presentations

1. Modeling cardiac excitation-contraction coupling, **George S. B. Williams**, Department of Physics Research Experience for Undergraduates Seminar, The College of William & Mary, Williamsburg, VA, July 16, 2004. (invited speaker)

2. Mathematical modeling and analysis with xppaut, **George S. B. Williams**, Mathematical Physiology I, The College of William & Mary, Fall, 2005. (substitute lecturer)
3. Methods for modeling local control of calcium-induced calcium release in cardiac myocytes, **George S. B. Williams**, Bioinformatics Colloquium: Spring 2009, The Department of Bioinformatics and Computational Biology, George Mason University, Manassas, VA, February 17, 2009. (invited speaker)
4. "Mitochondrial Calcium Dynamics", **George S. B. Williams**, BioMET Annual Retreat, Baltimore, MD, April 23, 2013. (invited speaker)
5. "Mitochondrial Calcium Signaling in Heart", **George S. B. Williams**, Physiology Seminar Series, Baltimore, MD, July 23, 2015. (invited speaker)

Other Presentations

1. "Evolution and analysis of a catalytically effective model enzyme: The importance of active site orientation and tuned conformational fluctuations", **George S. B. Williams**, Master's Thesis Defense, Department of Chemistry, The College of William & Mary, Williamsburg, VA, May, 2003. (talk)
2. "Modeling cardiac excitation-contraction coupling", **George S. B. Williams**, Mathematical and Computational Biology Seminar, The College of William & Mary, Williamsburg, VA, December 1, 2004. (talk)
3. "Modeling cardiac excitation-contraction coupling", **George S. B. Williams**, Qualifying Examination Oral Defense, The Department of Applied Science, The College of William & Mary, Williamsburg, VA, January 19, 2005. (talk)
4. "A probability density approach to modeling cardiac excitation-contraction coupling", **George S. B. Williams** and Gregory D. Smith, Graduate Research Symposium, The College of William & Mary, Williamsburg, VA, February 13, 2005. (poster)
5. "A probability density model of stochastic functional unit activity in cardiac myocytes", **George S. B. Williams**, Marco A. Huertas, Eric A. Sobie, M. Saleet Jafri, and Gregory D. Smith, Biophysical Society Annual Meeting, Salt Lake City, UT, February 18 – 22, 2006. (poster)
6. "A probability density approach to modeling local and global calcium dynamics in cells with diffusely distributed intracellular calcium channels", **George S. B. Williams** and Gregory D. Smith, Biophysical Society Annual Meeting, Salt Lake City, UT, February 18 - 22, 2006. (poster)

7. "A probability density approach to modeling local and global calcium dynamics in cells with diffusely distributed intracellular calcium channels", **George S. B. Williams** and Gregory D. Smith, Graduate Research Symposium, The College of William & Mary, Williamsburg, VA, March 24, 2006. (poster)
8. "A probability density approach to modeling local control of calcium-induced calcium release in cardiac myocytes", **George S. B. Williams**, Marco A. Huertas, Eric A. Sobie, M. Saleet Jafri, and Gregory D. Smith, Biophysical Society Annual Meeting, Baltimore, MD, March 3 – 7, 2007. (poster)
9. "A moment closure approach to modeling local control of calcium-induced calcium release in cardiac myocytes", **Marco A. Huertas**, **George S. B. Williams**, Eric A. Sobie, M. Saleet Jafri, and Gregory D. Smith, Biophysical Society Annual Meeting, Long Beach, CA, February 2 – 6, 2008. (poster)
10. "Probability density methods for modeling local and global aspects of intracellular calcium signaling: modeling local control of calcium-induced calcium release in cardiac myocytes", **George S. B. Williams**, Final Oral Examination for the Ph.D. degree, The Department of Applied Science, The College of William & Mary, Williamsburg, VA, April 10, 2008. (talk)
11. "A local control model for cardiac excitation-contraction coupling in rat ventricular myocytes: insights into dynamic phenomena involving calcium release", **George S. B. Williams**, Biophysical Society Annual Meeting, Boston, MA, February 28 – March 4, 2009. (poster)
12. "Whole cell spark model for rat ventricular myocytes: insights into SR leak", **George S. B. Williams**, Laboratory of Molecular Cardiology Meeting, BioMET, University of Maryland School of Medicine, Baltimore, MD, January 26, 2010. (talk)
13. "A technique to accelerate stochastic Markov chain Monte Carlo simulations of calcium-induced calcium release in cardiac myocytes: insights into SR leak", **George S. B. Williams**, Aristide C. Chikando, W. Jonathan Lederer, Hoang-Trong M. Tuan, Eric A. Sobie, Gregory D. Smith, and M. Saleet Jafri, Biophysical Society Annual Meeting, San Francisco, CA, February 20, 2010. (poster)
14. "Ultra-fast Monte Carlo simulation method applied to ion channel gating", **George S.B. Williams**, Hoang Trong Minh Tuan, W. Jonathan Lederer, Gregory D. Smith, and M. Saleet Jafri, EUTrigTreat General Assembly Meeting, Glasgow, UK, July 01, 2010. (poster)
15. "Ca²⁺ leak and Ca²⁺ sparks in heart: insights from a computational model", **George S.B. Williams**, Aristide C. Chikando, W. Jonathan Lederer, Eric A. Sobie, and M. Saleet Jafri, EUTrigTreat General Assembly Meeting, Glasgow, UK, July 01, 2010. (poster)

16. "Whole Cell Ca^{2+} Spark Model for Rat Ventricular Myocytes; Insights into SR Ca^{2+} Leak", **George S. B. Williams**, Laboratory of Molecular Cardiology Meeting, BioMET, University of Maryland School of Medicine, Baltimore, MD, January 20, 2010. (talk)
17. "GPU-Enabled stochastic Spatiotemporal Model of Rat Ventricular Myocyte Calcium Dynamics", Tuan M. Hoang-Trong, **George S.B. Williams**, Jonathan W. Lederer, Saleet Jafri, Biophysical Journal, Vol. 100, Issue 3, p557a, February 02, 2011 (poster)
18. "Modeling Excitation-Contraction Coupling in Rat Cardiac Myocytes", **George S. B. Williams**, Laboratory of Molecular Cardiology Meeting, BioMET, University of Maryland School of Medicine, Baltimore, MD, November 26, 2010. (talk)
19. "Calcium Leak and Calcium Sparks in Mammalian Heart: Insights from a Computational Model", **George S. B. Williams**, Aristide C. Chikando, W. Jonathan Lederer, Hoang-Trong M. Tuan, Eric A. Sobie, Gregory D. Smith, and M. Saleet Jafri, Biophysical Society Annual Meeting, Baltimore, MD, February 26, 2011. (poster)
20. "Modeling the Mechanisms of Calcium-Mediated Cardiac Arrhythmias", M. Saleet Jafri, W. Jonathan Lederer, **George S.B. Williams**, Joseph L. Greenstein, Raimond L. Winslow, Biophysical Journal, Vol. 100, Issue 3, p556a–557, February02, 2011 (poster)
21. "Calcium Leak and Calcium Sparks in Mammalian Heart: Insights from a Computational Model", **George S. B. Williams**, Aristide C. Chikando, W. Jonathan Lederer, Hoang-Trong M. Tuan, Eric A. Sobie, Gregory D. Smith, and M. Saleet Jafri, EUTrig , June 17, 2011. (poster)
22. "Spatial Modeling of Calcium Sparks and Blinks", **George S. B. Williams**, Laboratory of Molecular Cardiology Meeting, BioMET, University of Maryland School of Medicine, Baltimore, MD, April 22, 2011. (talk)
23. "Super Resolution, Three-Dimensional Modeling of Ca^{2+} Sparks and Ca^{2+} Quarks", **George S. B. Williams**, Laboratory of Molecular Cardiology Meeting, BioMET, University of Maryland School of Medicine, Baltimore, MD, December 17, 2011. (talk)
24. "STED Nanoscopy of Cardiac RyR2 Clusters and Sub-Structure Analysis After Myocardial Infarction", Tobias Kohl, Ulrich Parlitz, Marcel Lauterbach, Hoang-Trong Minh Tuan, **George S.B. Williams**, Volker Westphal, M. Saleet Jafri, W.J. Lederer, and others, Biophysical Journal, Vol. 102, Issue 3, p305a, January 31, 2012. (poster)
25. "Variable RyR Cluster Morphology in Sheep Atrial Myocytes: Super Resolution Measurement and Ca^{2+} Release Simulation", Niall Macquaide, Jun-ichi Hotta, Hoang-Trong Tuan, **George S.B. Williams**, Rik Willems, Saleet Jafri, Johan Hofkens, Karin R. Sipido, Biophysical Journal, Vol. 102, Issue 3, p309a, January 31, 2012 (poster)

26. "Stochastic Simulation Assessing the Functional Changes Occurring during Heart Failure", Minh Tuan Hoang-Trong, **George S.B. Williams**, Stephan E. Lehnart, W. Jonathan Lederer, Mohsin S. Jafri, Biophysical Journal, Vol. 102, Issue 3, p101a, January 31, 2012. (poster)
27. "Modeling Excitation-Contraction (EC) Coupling in Rat Cardiac Myocytes", **George S. B. Williams**, Laboratory of Molecular Cardiology Meeting, BioMET, University of Maryland School of Medicine, Baltimore, MD, May 15, 2012. (talk)
28. "Mitochondrial Calcium Uptake: Context Matters", **George S. B. Williams**, Laboratory of Molecular Cardiology Meeting, BioMET, University of Maryland School of Medicine, Baltimore, MD, Sept 2, 2012. (talk)
29. "Mitochondrial Calcium Uptake: Context Matters", **George S. B. Williams**, Liron Boyman, Aristide C. Chikando, Ramzi J. Khairallah, W. Jonathan Lederer, Biophysical Society Annual Meeting, Philadelphia, PA, February 26, 2013. (poster)
30. "Mitochondrial Ca²⁺ Dynamics in the Heart", Liron Boyman, **George S.B. Williams**, Ramzi J. Khairallah, Aristide Chikando, Brian M. Hagen, Sarah Kettlewell, Godfrey L. Smith, W. Jonathan Lederer, Biophysical Journal, Vol. 104, Issue 2, p605a, January 29, 2013
31. "Modeling Mitochondrial Calcium Dynamics in Heart", Andrew P. Wescott, W.J. Lederer, **George S.B. Williams**, Biophysical Society Annual Meeting, San Francisco, CA January 28, 2014. (poster)
32. "Critical Requirements for the Initiation of a Cardiac Arrhythmia in Heart: Cell Number", Aman Ullah, Minh Tuan Hoang Trong, **George S.B. Williams**, Raimond L. Winslow, William J. Lederer, Mohsin S. Jafri, Biophysical Journal, Vol. 106, Issue 2, p431a, January 28, 2014. (poster)
33. "Mechanisms of Stretch-Activated Reactive Oxygen Modulation of Excitation-Contraction Coupling: Computational Studies", Sarita Limbu, Tuan M. Hoang-Trong, Benjamin L. Prosser, **George S.B. Williams**, William J. Lederer, Mohsin S. Jafri, Biophysical Journal, Vol. 106, Issue 2, p732a, January 28, 2014. (poster)
34. "A Small Number of Cells is Sufficient to Trigger a Cardiac Arrhythmia: Stochastic Computational Studies", Aman Ullah, Tuan M. Hoang-Trong, **George S.B. Williams**, Jonathan W. Lederer, Mohsin S. Jafri, Biophysical Journal, Vol. 106, Issue 2, p112a, January 28, 2014. (poster)
35. "Dynamics of Ca²⁺-Dependent Regulation of the Cardiac Na⁺/Ca²⁺ Exchanger, Lulu Chu, Liron Boyman", **George S.B. Williams**, Joseph L. Greenstein, Raimond L. Winslow, W.J. Lederer, Brian Hagen., Biophysical Journal, Vol. 106, Issue 2, p149a–150a, January 28,

2014. (poster)

36. "Super-Resolution Modeling of Calcium Release in Heart", Mark A. Walker, **George S.B. Williams**, Tobias Kohl, Saleet Jafri, Stephan E. Lehnart, Joseph L. Greenstein, W.J. Lederer, Raimond L. Winslow, Biophysical Journal, Vol. 106, Issue 2, p318a, January 28, 2014. (poster)
37. "Dynamics of Calcium Sparks and SR Calcium Leak During Excitation-Contraction Coupling in Mouse Heart Cells", **George S.B. Williams**, Andrew P. Wescott, W.J. Lederer, M. Saleet Jafri, Biophysical Journal, Vol. 106, Issue 2, p320a–321a, January 28, 2014. (poster)
38. "Excitation-Metabolism Coupling in Mouse Heart", Andrew P. Wescott, W.J. Lederer, **George S.B. Williams**, Biophysical Journal, Vol. 108, Issue 2, p570a, January 27, 2015. (poster)
39. "Dynamics of Ca²⁺-Dependent Regulation of the Cardiac Na⁺/Ca²⁺ Exchanger", Lulu Chu, Joseph L. Greenstein, **George S.B. Williams**, Liron Boyman, Eric A. Legenzov, Brian M. Hagen, W.J. Lederer, Raimond L. Winslow, Biophysical Journal, Vol. 108, Issue 2, p265a, January 27, 2015. (poster)
40. "Buffering Effects on the LCC Current and Spatiotemporal Ca²⁺ Dynamics, Libet Garber, Maura Greiser", **George S.B. Williams**, W. Jonathan Lederer, Biophysical Journal, Vol. 108, Issue 2, p105a–106a, January 27, 2015. (poster)
41. "Calcium Movement in Cardiac Mitochondria", Liron Boyman, **George S.B. Williams**, Aristide C. Chikando, Ramzi J. Khairallah, Sarah Kettlewell, Christopher W. Ward, Godfrey L. Smith, Joseph P.Y. Kao, and others, Biophysical Journal, Vol. 108, Issue 2, p104a–105a, January 27, 2015. (poster)
42. "Axial Membrane Tubules in Atrial Cardiomyocytes Confine Ultrarapid Intracellular Calcium Signals through a New Super-Hub Mechanism" Sören Brandenburg, Tobias Kohl, **George S.B. Williams**, Konstantin Gusev, Eva Wagner, Elke Hebisch, Christopher W. Ward, W.J. Lederer, and others, Biophysical Journal, Vol. 110, Issue 3, p267a, February 16, 2016 (poster)
43. "Fluorescence Measurement of Pericellular Oxygen", Liron Boyman, Joseph P.Y. Kao, Jennie B. Leach, W. Jonathan Lederer, **George S.B. Williams**, Biophysical Journal, Vol. 110, Issue 3, p472a, February 16, 2016 (poster)
44. "Ryanodine Receptor Sensitivity Governs the Stability and Synchrony of Local Calcium Release during Cardiac Excitation-Contraction Coupling" Andrew P. Wescott, M. Saleet Jafri, W. Jonathan Lederer, **George S.B. Williams**, Biophysical Journal, Vol. 110, Issue 3, p97a, February 16, 2016. (poster)

Conferences, Workshops, and Training Programs

Annual Membrane Biology Retreat – Baltimore, MD, May 2016.
Biophysical Society Annual Meeting – Los Angeles, CA, February 2016 .
Understanding the NIH System of Peer Review -- Baltimore, MD, February 4, 2016
How to Write the New NIH Biosketch – Baltimore, MD, January 15, 2016
Scientific Leadership & Professional Development – Baltimore, MD, December 8, 2015
Biophysical Society Annual Meeting – Baltimore, MD, February 2015.
Biophysical Society Annual Meeting – San Francisco, February 2014.
Research Ethics -- Baltimore, MD, 2012-2013.
Biophysical Society Annual Meeting – Philadelphia, PA, February 2013.
Biophysical Society Annual Meeting – San Diego, CA, February 2012.
Biophysical Society Annual Meeting – Baltimore, MD, February 2011.
Biophysical Society Annual Meeting – San Francisco, CA, February 2010.
Biophysical Society Annual Meeting – Boston, MA, February 2009.
Biophysical Society Annual Meeting – Baltimore, MD, March 2007.
Biophysical Society Annual Meeting – Salt Lake City, UT, February 2006.
Mathematical and Computational Biology Journal Club – Williamsburg, VA, Fall 2006.
Mathematical and Computational Biology Seminar – Williamsburg, VA, Fall 2005.
Chemistry Teaching Assistant Training – Williamsburg, VA, Fall 2000.

Referee/Reviewer

Journal of Molecular and Cellular Cardiology
Acta Biotheoretica
Journal of Mathematical Biology
Frontiers in Physiology
Biophysical Journal
Proceedings of the National Academy of Science