

# **Brant R. Burkhardt, Ph.D.**

**Associate Professor with Tenure  
Director of Graduate Studies  
Department of Molecular Biosciences  
University of South Florida  
bburkhardt@usf.edu**

## **EDUCATION**

University of Florida	<b>Ph.D.</b>	Microbiology/Immunology	1996-2001
Clemson University	<b>M.Sc.</b>	Microbiology	1994-1996
College of New Jersey	<b>B. Sc.</b>	Biology	1989-1993

## **ACADEMIC APPOINTMENTS**

**Associate Professor (Tenured)** 2017-Present  
Department of Cell Biology, Microbiology, and Molecular Biology  
Health Informatics Institute  
University of South Florida

**Assistant Professor (Tenure-track)** 2011-2017  
Department of Cell Biology, Microbiology, and Molecular Biology  
Health Informatics Institute  
University of South Florida

**Adjunct Professor (Concurrent appointment with below)** 2010  
Department of Science, Math, and Technology  
Burlington County College

**Senior Research Associate** 2006-2010  
Department of Pathology and Laboratory Medicine  
Children's Hospital of Philadelphia Research Institute

**Postdoctoral Fellow (with Dr. Bryan Wolf)** 2003-2006  
Department of Pathology and Laboratory Medicine  
University of Pennsylvania

**Postdoctoral Fellow (with Dr. Mark Atkinson)** 2001-2003  
Center for Immunology and Transplantation  
Department of Pathology, Immunology, and Laboratory Medicine  
University of Florida

## **AWARDS**

- Graduate Teaching Assistantship, Biology Department, Clemson University, (1994-1996)
- National Institutes of Health Predoctoral Research Fellowship in Infectious Diseases (1997-1999) (T32-AI07110)
- Outstanding Paper Presentation in Molecular Biology, Graduate Student Forum, University of Florida (1999&2000)

- National Institutes of Health Postdoctoral Fellowship in Diabetes and Endocrinology (2003-2006) (T32-DK07314-23)
- University of South Florida New Researcher Award (2012)

### **Professional Experience and Review Panels**

2010- Editorial Board Member, ISRN Endocrinology

2012- Editorial Board Member, BioMed Research International

2018-2021- Permanent Member of ADA Basic Science Review Panel

### **PUBLICATIONS** (43 Total Publications)

1. **Burkhardt, B.R.**, C. Cobberley, D. Kephart, J. Sleasman, and M. M. Goodenow. 1999. Postmortem isolation and analysis of human genomic DNA from HIV-infected tissues: A Molecular Diagnostics Application. *Promega Notes*. 71:16-17.
2. Kouba, A. J., **B. R. Burkhardt**, I. M. Alvarez, M. M. Goodenow, and W. C. Buhi. 2000. Oviductal Plasminogen activator inhibitor-1 (PAI-1): mRNA, protein, and hormonal regulation during the estrous cycle and early pregnancy in the pig. *Mol. Reproduc. Dev.* 56(3): 378-86.
3. Perez, E. E., S. L. Rose, B. Peyser, S. L. Lamers, **B.R. Burkhardt**, B. M. Dunn, A. D. Hutson, J. W. Sleasman, and M. M. Goodenow. 2001. Human immunodeficiency virus type 1 protease genotype predicts immune and viral responses to combination therapy with protease inhibitors (PIs) in PI-naive patients. *J. Infect. Dis.* 184(4): 579-88.
4. Goudy, K., **B. R. Burkhardt**, C. Wasserfall, T. Brusko, S. Song, T. Ellis, T. Flotte, and M. A. Atkinson. 2003. Systemic overexpression of IL-10 induces CD4+CD25+ cell populations in-vivo and ameliorates type 1 diabetes in nonobese diabetic mice in a dose-dependant fashion. *J. Immunol.* 171(5):2270-8.
5. **Burkhardt, B. R.**, S. A. Loiler, M. S. Kilberg, J. M. Crawford, T. R. Flotte, K. Goudy, T. M. Ellis, and M. A. Atkinson. 2003. Glucose-responsive expression of the human insulin promoter in HepG2 human hepatoma cells. *Ann. N.Y. Acad. Sci.* 1005: 237-41.
6. Tang, D., L. Cao, **B. R. Burkhardt**, C. Xia, S. A. Litherland, M. A. Atkinson, and L. Yang. 2004. In-vivo and in-vitro characterization of insulin-producing cells obtained from murine bone marrow. *Diabetes.* 53(7):1721-32.
7. Cao, X., J. Yang, **B. R. Burkhardt**, Z. Gao, R. K. Wong, S. Greene, J. Wu, and B. A. Wolf. 2005. Effects of over-expression of Pancreatic Derived Factor (FAM3B) in isolated mouse islets and insulin-secreting  $\beta$ TC3 cells. *Am J Physiol Endocrinol Metab.* 289(4):E543-50.
8. **Burkhardt, B. R.**, M. C. Yang, C. E. Robert, J. Yang, S. R. Greene, K. K. McFadden, Z. Gao, and B. A. Wolf. 2005. Tissue-Specific and Glucose-Responsive Expression of the Pancreatic Derived factor (PANDER) Promoter. *Biochim Biophys Acta.* 25;1730(3):215-25.
9. Yang, J. Z. Gao, C. E. Robert, **B. R. Burkhardt**, H. Gaweska, A. Wagner, J. Wu, S. R. Greene, R. A. Young, and B. A. Wolf. 2005. Structure-function studies of PANDER, an islet specific cytokine inducing cell death of insulin secreting cells. *Biochemistry.* 30;44(34):11342-52.
10. **Burkhardt, B. R.**, M. J. Parker, Y.C. Zhang, S. Sihong, C. H. Wasserfall, and M. A. Atkinson. 2005. Glucose transporter-2 (GLUT2) promoter mediated transgenic insulin production reduces hyperglycemia in diabetic mice. *FEBS Lett.* 24;579(25):5759-64.
11. Yang, J., C. E. Robert, **B.R. Burkhardt**, R. A. Young, J. Wu, Z. Gao and B. A. Wolf. 2005. Mechanisms of glucose-induced secretion of PANDER in pancreatic beta Cells. *Diabetes.* 54(11):3217-3228.

12. Ghaffari, G., D. L. Tuttle, D. R. Briggs, **B. R. Burkhardt**, D. Bhatt, W. A. Andiman, J. W. Sleasman, and M. M. Goodenow. 2005. Complex determinants in human immunodeficiency virus type 1 envelope gp120 mediate CXCR4-dependent infection of macrophages. *J Virol.* 79(21):13250-61.
13. **Burkhardt, B. R.**, R. Lyle, K. Qian, A. S. Arnold, H. Cheng, M. A. Atkinson, and Y. C. Zhang. 2006. Efficient delivery of siRNA into cytokine-stimulated insulinoma cells silences Fas expression and inhibits Fas-mediated apoptosis. *FEBS Lett.* 580(2):553-560.
14. **Burkhardt, B. R.**, S. R. Greene, P. White, R. K. Wong, J. E. Brestelli, J. Yang, C. E. Robert, T. Brusko, C. H. Wasserfall, K. H. Kaestner, J. Wu, M. A. Atkinson, and B. A. Wolf. 2006. PANDER-Induced Cell-Death Genetic Networks Reveals Central Role for Caspase-3 and Cyclin-Dependent Kinase Inhibitor 1A in Islet Apoptosis. *Gene.* 369C:134-141.
15. **Burkhardt, B. R.**, M. S. Salemi, R. R. Gray, G. Ghaffari, J. W. Sleasman, and M. M. Goodenow. 2007. Phylodynamics of HIV-1 in Lymphoid and Non-Lymphoid Tissues Reveals a Central Role for the Thymus in Emergence of CXCR4-Using Quasispecies. *PLoS One.* 26;2(9):e950. **(Co-Authorship)**
16. **Burkhardt, B. R.**, J. R. Cook, R. A. Young, and B. A. Wolf. 2008. PDX-1 Interaction and Regulation of the Pancreatic Derived Factor (PANDER, FAM3B) Promoter. *Biochim Biophys Acta.* 1779(10):645-51 **(Co-Authorship)**
17. Yang, J. C. Wang, **B. R. Burkhardt**, C. E. Robert-Cooperman, C. Wilson, Z. Gao, and B. A. Wolf. 2009. PANDER binds to the liver cell membrane and inhibits insulin signaling in HepG2 cells. *FEBS Lett.* 583(18):3009-15.
18. Yang, J., J. Li, Y. Chi, **B. R. Burkhardt**, Y. Guan, and B. A. Wolf. 2010. Leucine metabolism in regulation of insulin secretion from pancreatic beta cells. *Nutrition Reviews.* 68(5):270-9.
19. Carnegie, J. R., C. E. Robert-Cooperman, J. Wu, R. A. Young, B. A. Wolf, and **B. R. Burkhardt**. 2010. Characterization of the Expression, Localization, and Secretion, of PANcreatic DERived Factor (PANDER, FAM3B) in Pancreatic Alpha Cells. *Mol. Cell. Endo.* 325(1-2):36-45.
20. Robert-Cooperman, C. E., J. R. Carnegie, C. G. Wilson, J. Yang, J. R. Cook, J. Wu, R. A. Young, B. A. Wolf, and **B. R. Burkhardt**. 2010. Targeted Disruption of PANcreatic-DERived Factor (PANDER, FAM3B) Impairs Pancreatic  $\beta$ -Cell Function. *Diabetes.* 59(9):2209-18.
21. Wilson, C. G., M. Schupp, **B.R. Burkhardt**, J. Wu, and B.A. Wolf. 2010. Liver-Specific Overexpression of Pancreatic-Derived Factor Induces Fasting Hyperglycemia in Mice. *Endocrinology.* 151(11):5174-84.
22. Robert-Cooperman, C. E., C. G. Wilson, and **B. R. Burkhardt**. 2011. PANDER KO mice on high-fat diet are glucose-intolerant yet resistant to fasting hyperglycemia and hyperinsulinemia. *FEBS Lett.* 585(9):1345-9.
23. Wilson, C. G., C. E. Robert-Cooperman, and **B. R. Burkhardt**. 2011. PANcreatic-DERived Factor: Novel Hormone PANDERing To Glucose Regulation. *FEBS Lett.* 585(14):2137-43.
24. Wang, C., **B. R. Burkhardt**, Y. Youfei, and J. Yang. 2012. Implication of pancreatic derived factor (PANDER) in type 2 diabetes: evidence from pancreatic  $\beta$  cells and liver. *Nutrition Rev.* 70(2):100-6.
25. Dong-Qi, T., Q. Wang, **B.R. Burkhardt**, S. A. Litherland, M. A. Atkinson, and L. Yang. 2012. In vitro generation of functional insulin-producing cells from human bone marrow-derived stem cells, but long-term culture running risk of malignant transformation. *Am J Stem Cell.* 1(2):114-127.
26. Vehik, K., S. W. Fiske, C. A. Logan, D. Agardh, C. M. Cilio, W. Hagopian, O. Simell, M. Roivainen, J. She, T. Briesse, S. Oikarinen, H. Hyoty, A. G. Ziegler, M. Rewers, A. Lernmark, B. Akolkar, J. P. Krischer, and **B. R. Burkhardt** and the TEDDY Study Group. 2013. Methods, Quality Control and Specimen Management in an International Multi-Center Investigation of Type 1 Diabetes: TEDDY. *Diabetes Metab Res Rev.* 29(7):557-67.

27. Vehik, K., N. J. Ajami, D. Hadley, J. F. Petrosino, and **B. R. Burkhardt**. 2013. The Changing Epidemiology of Type 1 Diabetes: Recent Developments and Future Frontiers. *Curr Diab Rep*. 13(5):642-50.
28. Hye-Seung, L., **B. R. Burkhardt**, W. McLeod, S. Smith, C. Eberhard, K. Lynch, D. Hadley, M. Rewers, O. Simell, J. She, B. Hagopian, A. Lernmark, B. Akolkar, A. G. Ziegler, J. P. Krischer and the TEDDY Study Group. 2014. Biomarker Discovery Study Design for type 1 diabetes in The Environmental Determinants of Diabetes in the Young (TEDDY) Study. *Diabetes Metab Res Rev*. 30(5):424-34.
29. C. E. Robert-Cooperman, G. C. Dougan, S. L. Moak, M. G. Athanason, M. N. Kuehl, H. Bell-Temin, S. M. Stevens Jr. and **B. R. Burkhardt**. 2014. PANDER Transgenic Mice Display Fasting Hyperglycemia and Hepatic Insulin Resistance. *Journal of Endocrinology*. 220(3):219-31.
30. Moak, S.L., G. C. Dougan, C. B. Marelia, W. A. Danse, A. M. Fernandez, M. N. Kuehl, M. Athanason, and **B. R. Burkhardt**. 2014. Enhanced KO Murine Model on C57BL/6 Background for the Investigation of Pancreatic-Derived Factor. *Dis Model Mech*. 7(11):1307-15.
31. Mo, X. M., C. Yang, X. Wang, **B. R. Burkhardt**; Y. Li, H. Xiao, X. Cao. 2015. FAM3B (PANDER) decreases mice hepatic triglyceride and is associated with decreased DGAT1 expression. *PLoS One*. 13;10(2):e0117156
32. Kuehl, M. N., H. C. Rodriguez, **B. R. Burkhardt**, and A.C. Alman. 2015. Tumor Necrosis Factor- $\alpha$ , Matrix-metalloproteinases 8 and 9 Levels in the Saliva are Associated with Increased Hemoglobin A1c in Type 1 Diabetes Subjects. *PLoS One*. 10(4):e0125320. **(Senior/Corresponding Co-Authorship)**
33. Danse, W. A., , M. G. Athanason, A. C. Chechele, M. N. Kuehl, A. M. Fernandez, C. B. MarElia and **B. R. Burkhardt**. 2015. Hepatic nutrient and hormonal regulation of the PANcreatic-DERived factor (PANDER) promoter. *Mol Cell Endocrinol*. 413:101-12.
34. Bell-Temin, H., D. Chaput, C. M. Carlson, M. N. Kuehl, **B. R. Burkhardt**, P. C. Bickford, B. Liu and S. M. Stevens, Jr.. 2015. Proteomic Exploration of Classical and Alternative Microglial Activation States Reveals Novel Insights and Biomarkers. *Mol Cell Proteomics*. 14(12):3173-84.
35. Athanason, M.G., Ratliff, W.A., Chaput, D., MarElia, C.B., Kuehl, M.N., Stevens, S.M., and **Burkhardt, B.R.**, 2016. Quantitative Proteomic Profiling Reveals Hepatic Lipogenesis and Liver X Receptor Activation in the PANDER Transgenic Model. *Mol Cell Endocrinol*. 15:436:41-9.
36. Athanason, M.G., Stevens, S.M., and **Burkhardt, B.R.**, 2016. Hepatic SILAC proteomic data from PANDER transgenic model. *Data in Brief*. 16(9):159-62.
37. Alman, A.C., Smith, S. R., Eckel, R.H. Hokanson, J.E., **Burkhardt, B. R.**, Sudini, P. R. Wu, Y. Schauer, I. E., Pereira, R. I. and Snell- Bergeon, J.K. 2017. The ratio of pericardial to subcutaneous adipose tissues is associated with insulin resistance. *Obesity*. 25(7):1284-1291.
38. Lönnrot M., Lynch K.F., Elding Larsson H., Lernmark Å., Rewers M.J., Törn C., **Burkhardt B.R.**, Briese T., Hagopian W.A., She J.X., Simell O.G., Toppari J., Ziegler A.G., Akolkar B., Krischer J.P., Hyöty H.; TEDDY Study Group. 2017. Respiratory infections are temporally associated with initiation of type 1 diabetes autoimmunity: the TEDDY study. *Diabetologia*. 60(10):1931-1940.
39. MarElia, C.M., Kuehl, M. K., Shemwell, T.A., Alman, A.C. and **Burkhardt, B.R.** 2018. Circulating PANDER concentration is associated with increased HbA1c and fasting blood glucose in Type 2 diabetic subjects. *Journal of Clinical and Translational Endocrinology*. 11:26–30.
40. MarElia, C.M., Sharp, A.E., Shemwell, T.A., Zhang, Y.C. and **Burkhardt, B.R.** 2018. Anemarrhena asphodeloides Bunge and its constituent timosaponin-AIII induce cell cycle arrest and apoptosis in pancreatic cancer cells. *FEBS Open*. 8(7):1155-1166.

41. Sharp-Tawfik, A.E., Coiner, A.M., MarElia C.B., Kazantzis M., Zhang C., and **Burkhardt B.R.** 2019. Compositional analysis and biological characterization of *Cornus officinalis* on human 1.1B4 pancreatic  $\beta$  cells. *Mol Cell Endocrinol.* 494:110491-110494.
42. Sharp-Tawfik A.E., **Burkhardt B.R.** 2019. Chemical profile dataset of *Cornus officinalis* from multiple sources using HPLC/MS. *Data Brief.* 25:104401.
43. Sarkar, A., Kuehl M. N., Alman A. C., **Burkhardt, B.R.** 2021 Linking the oral microbiome and salivary cytokine abundance to circadian oscillations. *Scientific Reports.* 29;11(1):2658.
44. Sharp-Tawfik A.\*, Fletcher J.D.\*, Guergues J., Marelia-Bennett C., Wolf T.J., Coiner A.M., Zhang Y.C., Stevens S.M. Jr, **Burkhardt B.R.** 2022. Proteomic examination of *Cornus officinalis* stimulated 1.1B4 human pancreatic cells reveals activation of autophagy and Keap1/Nrf2 pathway. *Mol Cell Endocrinol.*1;557:111773. (\* Co-Authorship)
45. Bailey R.J., Sarkar A., Snell-Bergeon J.K., **Burkhardt B.R.**, Chandrasekaran S, Johnson L, Alman AC. 2023. Periodontitis and cardiovascular risk factors in subjects with and without type 1 diabetes: A cross sectional analysis. *J Diabetes Complications.* 37(7):108494.
46. Ma T, Jin L, Bai S, Liu Z, Wang S, Shen B, Cho Y, Cao S, Sun MJS, Fazli L, Zhang D, Wedderburn C, Zhang DY, Mugon G, Ungerleider N, Baddoo M, Zhang K, Schiavone LH, **Burkhardt B.R.**, Fan J, You Z, Flemington EK, Dong X, Dong Y. 2024. Loss of Feedback Regulation between FAM3B and Androgen Receptor Driving Prostate Cancer Progression. *J Natl Cancer Inst.* 116(3):421-433.
47. Fletcher, J.D., Olsson, G.E., Zhang, Y.C. and **Burkhardt, B.R.** 2024. Oral gavage delivery of *Cornus officinalis* extract delays type 1 diabetes onset and hyperglycemia in non-obese diabetic (NOD) mice. *FEBS Open Bio.* 14(3):434-443.

## **BOOK CHAPTERS**

- Kapturczak, M. H., **B. R. Burkhardt**, and M. A. Atkinson. 2005. Gene therapy for prevention and treatment of type I diabetes. *Laboratory Techniques in Biochemistry and Molecular Biology.* Volume 31:125-159.

## **RESEARCH SUPPORT**

### **CURRENT**

**1R01AT011907-01A1** Burkhardt (Contact PI)/Stevens (Multi-PI) 03/25/2024-12/31/2028

NIH-NCCIH

“*C. officinalis* induction of Nrf2 inhibiting type 1 diabetes”

The goal of this project is to determine the clinical efficacy and biological mechanism of an ethnopharmacological agent known as *Cornus officinalis* in preventing or delaying the onset of type 1 diabetes.

Role: Contact PI

Total Cost: \$1,836,321

**1R21AA030632-01A1** Stevens/Burkhardt (Multi-PI) 05/01/2023-04/30/2025

NIH-NIAAA

“In vivo tracing of hepatic ethanol metabolism to histone acetylation: role of ACSS2 in alcohol-induced liver injury”

The goal of this project is to investigate alcohol metabolism in the liver and how alcohol metabolites can be used to modify histone proteins (through acetylation). We will specifically investigate acetylation changes of histone proteins, which play an important role in gene transcription, as well as the protein target ACSS2 in this process.

Role: Multi-PI

## **COMPLETED**

- 1 R01 AA026082-01A1** Stevens (PI) 09/10/17-06/30/2022  
NIH-NIAAA  
“The Role of Histone Demethylase KDM5B in Ethanol-Induced Microglial Activation”  
University of South Florida  
The goal of this project is to define the role of a modification termed methylation that is altered through a particular protein (KDM5B) and determine the potential consequences on brain function. We anticipate that the results of our proposed studies will lead to the identification of novel treatment strategies for the management of alcoholism related to alcohol-induced brain injury.  
Role: Co-I responsible for measurement of CNS inflammation via multiplexing assays
- 1 R01 DE026480-01** Alman (PI) 12/01/16-11/30/2021  
NIH-NIDCR  
“The Oral Microbiome in Type 1 Diabetes and Sub-Clinical Cardiovascular Disease”  
University of South Florida  
The goal of this project is to characterize the subgingival microbiome in type 1 diabetes (T1D) and to investigate longitudinal relationships between the subgingival microbiome, inflammation, T1D, and subclinical CVD in women with T1D.  
Role: Co-I responsible for measurement of circulating inflammation via multiplexing assays
- 1 R03 AA026438-01** Burkhard/Stevens (Multi-PI) 09/01/18-08/31/2021  
NIH-NIAAA  
“PHPT1 knockout for investigation of ethanol-induced hepatic steatosis”  
The goal of this R03 application is to elucidate the critical molecular processes that significantly change the function of liver cells when exposed to alcohol (ethanol). A specific protein called phosphohistidine phosphatase 1 (PHPT1) will be examined where we will characterize how its regulated and also the functional impact of related activity changes in the context of ethanol-induced liver injury in our novel PHPT1 knockout animal model.  
Role: PI
- USF Office of Research and Innovation** Burkhardt (PI) 04/01/16-03/31/17  
Equipment Grant  
Title: CMMB Multiplexing Core Facility Grant  
Role: PI
- 1R56DK105173-01A1** Burkhardt (PI) 09/16/15-08/31/17  
NIH-NIDDK  
“Mechanism of PANDER-induced hepatic lipogenesis”  
University of South Florida  
Goal of this study is to dissect the molecular pathways of PANDER induced hepatic signaling resulting in insulin resistance and increased lipogenesis.  
Role: PI
- 7-13-CE-02** Alman (PI) 07/01/13-06/30/17  
American Diabetes Association  
“Epicardial fat and inflammatory mediators in the excess risk of coronary artery calcification among women with type 1 diabetes”  
University of South Florida  
Goal of this study is to examine the moderating and mediating effects of epicardial fat, inflammation, diabetes, and gender on coronary artery calcification.

Role: Co-I responsible for measurement of circulating inflammation

**New Researcher Grant** Burkhardt (PI) 06/01/12-05/31/13  
“Mechanism of Pancreatic-Derived factor (PANDER) induced glycemc regulation”  
University of South Florida  
Division of Sponsored Research  
Role: PI

**Early Career Investigator Award** Alman (PI) 09/01/12-08/31/13  
Salivary Inflammatory Biomarkers as Indicators of Glycemic Control  
College of Public Health, University of South Florida  
Measurement of inflammation in the saliva as a biomarker for the prediction, progression, and glycemc control of type 1 diabetes.  
Role: Co-I responsible for measurement of inflammation in the saliva

**K01 DK070744-04** Burkhardt (PI) 04/01/06-03/31/11  
NIH-NIDDK  
“Mechanism of PANDER-induced apoptosis”  
Children’s Hospital of Philadelphia  
The goal of this study is to elucidate the critical signaling molecules necessary for the induction of PANDER-induced apoptosis of pancreatic islets.  
Role: PI

### **Meeting Presentations (1998-Present)**

1. **Burkhardt, B. R.**, Perez, E. E., Mueller, B., Pizzo, P., Sleasman, J. W., and Goodenow, M. M. “Emergence of Genotypic Resistance in HIV-1 Protease in Children with Reduced Virus Burden and Significant Immune Reconstitution in Response to Highly Active Retrovirus Therapy”. The 5<sup>th</sup> Conference on Retroviruses and Opportunistic Infections, February 1-5, 1998, Chicago, Ill.
2. Perez, E. E., **Burkhardt, B.**, Mueller, B., Pizzo P., Sleasman, J. W., and Goodenow, M. M. “Genotypic Resistance in HIV-1 Protease Emerges in Infected Pediatric Patients with Reduced Virus Burden and Immune Reconstitution in Response to HAART”. Southern Society for Pediatric Research Meeting, February 7-9, 1998, New Orleans, LA.
3. **Burkhardt, B. R.**, Taylor, G. S., Lee, F. E., Nykiel, G., Lamers, S. L., Tuttle, D. L., Sleasman, J. W. and Goodenow, M. M. “Tissue Specific Segregation of HIV-1 in Vertically Infected Patients as Determined by Long Terminal Repeat (LTR) and Envelope (Env) Sequences”. Retroviruses, May 25-30, 1999, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
4. **Burkhardt, B. R.**, Taylor, G. S., Lee, F. E., Nykiel, G., Lamers, S. L., Tuttle, D. L., Sleasman, J. W. and Goodenow, M. M. “Phylogenetic Segregation of HIV-1 among the Lung, Brain, and Blood, of Vertically Infected Patients as Determined by Long Terminal Repeat (LTR) and Envelope (Env) Sequences”. Graduate Student Forum, April 2, 1999, University of Florida, Gainesville, FL.
5. **Burkhardt, B. R.**, Oshier, J. T., Taylor, G. S., Lee, F. E., Tuttle, D. L., Sleasman, J. W., and Goodenow, M. M. “Promoter Analysis of HIV-1 Reveals Distinct Functional Differences among Tissue Specific Long Terminal Repeats (LTRs)”. Retroviruses, May 25-30, 2000, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
6. Briggs, D., **Burkhardt, B. R.**, Taylor, G. S., Tuttle, D. L., Goodenow, M. M., and Sleasman, J. W. “Phylogenetic Identification and Functional Characterization of HIV-1 Quasispecies from the Thymus”. Retroviruses, May 25-30, 2000, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
7. **Burkhardt, B. R.**, Oshier, J. T., Taylor, G. S., Lee, F. E., Tuttle, D. L., Sleasman, J. W., and Goodenow, M. M. “Promoter Analysis of HIV-1 Reveals Distinct Functional Differences among Tissue Specific LTRs”. Graduate Student Forum, April 14, 2000, University of Florida, Gainesville, FL.
8. Goudy, K., Wasserfall C., **Burkhardt B.**, Brusko, T., Song S., Ellis, T., Flotte, T., and Atkinson, M. “Dose and time dependency of AAV-IL-10 gene therapy disease prevention in NOD mice”. American Diabetes Association, 62<sup>nd</sup> Scientific Sessions, June 14-18, 2002, San Francisco, CA.

9. Goudy, K., Wasserfall C., **Burkhardt B.**, Brusko, T., Song S., Ellis, T., Flotte, T., and Atkinson, M.. “Elucidation of time and dose dependencies using AAV-IL-10 gene therapy for the prevention of type 1 diabetes in the NOD mouse”. 5<sup>th</sup> Annual American Society of Gene Therapy Meeting, June 5-9, 2002, Boston, MA.
10. **Burkhardt, B. R.**, Ghaffari, G., Oshier, J. T., Sleasman, J. W., and Goodenow, M. M. “Functional Analysis of Tissue Specific LTRS from Primary HIV-1 Display Distinct Promoter Function in Macrophages and PBMC”. Retroviruses, May 21-26, 2002, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
11. Tuttle, D. L., Briggs, D. R., Arnold, J. L., **Burkhardt, B. R.**, Poole, P. P., Jeffers, L. K., Bhatt, D., Sleasman, J. W., and Goodenow, M. M. “HIV-1 Envelope V1 Determinants Are Critical for CXCR4-Mediated Infection of Macrophages”. Retroviruses, May 21-26, 2002, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
12. **Burkhardt, B. R.**, Loiler, S. A., Kilberg M. S., Crawford, J. M., Flotte, T. R., Goudy, K., Ellis, T. M., Atkinson, M. A. “Glucose-Responsive Expression Of The Human Insulin Promoter in HepG2 Human Hepatoma Cells”. The 6<sup>th</sup> International Congress of the Immunology of Diabetes Society and American Diabetes Association Research Symposium, October 3-6, 2002, Copper Mountain Resort, Copper Mountain, CO.
13. Goudy, K., Wasserfall C., **Burkhardt B.**, Brusko, T., Song S., Ellis, T., Flotte, T., and Atkinson, M. “Gene Therapy Using AAV-IL-10 Prevents Diabetes in NOD Mice in a Dose and Time Dependent Fashion Through Immunoregulatory Enhancement”. The 6<sup>th</sup> International Congress of the Immunology of Diabetes Society and American Diabetes Association Research Symposium, October 3-6, 2002, Copper Mountain Resort, Copper Mountain, CO.
14. **Burkhardt, B. R.**, Zhang, Y. C., Anderson J., Loiler, S. A., Crawford, J. M., Flotte, T. R., Ellis, T. M., and Atkinson, M. A. “Insulin Regulated Transgene Expression via Human Insulin Promoter Driven Recombinant Adeno-Associated Virus”. American Diabetes Association, 63<sup>rd</sup> Scientific Session, New Orleans, LA.
15. Tang, D., Cao, L., **Burkhardt, B. R.**, and Atkinson, M. A. “Derivation and Characterization of Functional Insulin-Producing Cells from Human and Mouse Bone-Marrow Derived Stem Cells”. American Diabetes Association, 63<sup>rd</sup> Scientific Sessions, New Orleans, LA.
16. **Burkhardt, B. R.**, Zhang, Y. C., Anderson J., Loiler, S. A., Crawford, J. M., Flotte, T. R., Ellis, T. M., and Atkinson, M. A. “Regulated Transgene Expression in both HepG2 Hepatoma Cells and Primary Rat Hepatocytes via Human Insulin Promoter Driven Recombinant Adeno-Associated Virus”. 6<sup>th</sup> Annual American Society of Gene Therapy Meeting, June 5-9, 2003, Washington D. C.
17. **Burkhardt, B. R.**, Yang, M. C., Robert, C. E., Gao, Z., and Wolf, B. A. “Identification and Characterization of the Murine PANDER Promoter Reveals Dominant  $\alpha$ -TC3 Specific Expression”. American Diabetes Association, 64<sup>th</sup> Scientific Session, June 4-8, 2004, Orlando, FL.
18. Yang, L., Tang, D. **Burkhardt, B.**, Cao, L., Litherland, S., and Atkinson, M. “Derivation of Functional Insulin Producing Cells from Mouse and Bone Marrow-Derived Stem Cells”. American Diabetes Association, 65<sup>th</sup> Scientific Session, June 4-8, 2004 Orlando, FL.
19. Zhang, Y. C., **Burkhardt, B. R.**, Atkinson, M., Tang, Y., Qian, K. and Shen, L. “ Small Interference RNA Silencing of Fas on Cytokine-Stimulated Pancreatic Islet Cells for Improving Islet Transplantation and Preventing Islet Cell Loss”. American Diabetes Association, 65<sup>th</sup> Scientific Session, June 4-8, 2004 Orlando, FL.
20. **Burkhardt, B. R.**, Yang, M. C., Robert, C. E., Gao, Z., and Wolf, B. A. “Islet Cell-Line Specific and Glucose-Responsive Expression of the PANDER Promoter”. American Diabetes Association, 65<sup>th</sup> Scientific Session, June 10-14, 2005, San Diego, CA.
21. Robert C. E., Koeberlein, B., Wu, J., **Burkhardt, B. R.**, Naji, A., and Wolf, B. A. “Transgenic Mice Overexpressing the Novel Islet Specific Cytokine, PANDER, Exhibit Glucose Intolerance and Decreased  $\beta$  Cell Mass.” American Diabetes Association, 65<sup>th</sup> Scientific Session, June 10-14, 2005, San Diego,CA. (Late Breaking Abstract).
22. Yang J., Robert, C. E., **Burkhardt, B. R.**, Young, R. A., Wu, J., Gao, Z., and Wolf, B. A. “Mechanisms of Glucose-Induced Secretion of PANDER in Pancreatic  $\beta$  Cells”. American Diabetes Association, 65<sup>th</sup> Scientific Session, June 10-14, 2005, San Diego, CA.
23. Yang, J., Robert, C. E., **Burkhardt, B. R.**, Wilson, C., Gao, Z., and Wolf, B. A. “PANcreatic DERived Factor (PANDER, FAM3B) Inhibits Liver Cell Insulin Signaling In Vitro and In Vivo.” American Diabetes Association, 66<sup>th</sup> Scientific Session, June 9-13, 2006, Washington D.C.



24. Cook, J. R., **Burkhardt, B. R.**, Young, R. A., and Wolf, B. A. "Pdx-1 Binds To The Promoter Region Of And Upregulates Expression Of Pancreatic Derived Factor (PANDER), A Novel Islet-specific Cytokine." American Diabetes Association, 67<sup>th</sup> Scientific Session, June 22-26, 2007, Chicago, IL. **(Co-authorship)**
25. Carnegie, J. R., Cooperman, C. E., **Burkhardt, B. R.**, Wu, J., Wilson, C. G., and Wolf, B. A. "Expression and Regulation of PANDER from pancreatic alpha cells." American Diabetes Association, 67<sup>th</sup> Scientific Session, June 22-26, 2007, Chicago, IL.
26. **Burkhardt, B. R.**, Carnegie, J. R., Robert-Cooperman, C. E., Young, R. A., Wu, J., Wolf, B. A. "Targeted Disruption of Pancreatic Derived Factor (PANDER, FAM3B) Impairs Glucose Tolerance, Insulin Secretion, and Hepatic Glucose Production." American Diabetes Association, 69<sup>th</sup> Scientific Session, June 5-9, 2009, New Orleans, LA. **(Oral Presentation)**
27. Carnegie, J. R., Robert-Cooperman, C. E., **Burkhardt, B. R.**, Wu, J., Young, R. A., and Wolf, B. A. "Expression, Localization, and Regulation of PANcreatic DERived Factor (PANDER) in Pancreatic  $\alpha$ -Cells." American Diabetes Association, 69<sup>th</sup> Scientific Session, June 5-9, 2009, New Orleans, LA.
28. Dougan, G. C., Moak, S. L., Athanason, M. G., Danse, W. A., Kuehl, M. N., Robert-Cooperman, C. E., and **Burkhardt, B. R.** "Pancreas-Specific PANDER Over Expression Induces Hepatic Insulin Resistance." American Diabetes Association, 72<sup>nd</sup> Scientific Session, June 8-12, 2012, Philadelphia, PA.
29. Moak, S. L., Athanason, M. G., Dougan, G. C., Kuehl, M. N., Danse, W. A., Robert-Cooperman, C. E., and **Burkhardt, B. R.** "Expression and Distribution of PANcreatic-DERived Factor (PANDER) in Human Gastric and Intestinal Tissues." American Diabetes Association, 72<sup>nd</sup> Scientific Session, June 8-12, 2012, Philadelphia, PA.
30. Moak, S. L., Dougan, G. C., and **Burkhardt, B. R.** "Pure C57BL/6 PANDER Knockout Mice Display Enhanced Glucose Tolerance, Insulin Sensitivity and Hepatic Insulin Signaling." American Diabetes Association, 73<sup>rd</sup> Scientific Session, June 21-25, 2013, Chicago, IL. **(Oral Presentation)**
31. Dougan, G. C., Moak, S. L., and **Burkhardt, B. R.** "Glucose Intolerance and Hepatic Lipidemia with Decreased Phospho-AMPK in PANDER Transgenic Mice." American Diabetes Association, 73<sup>rd</sup> Scientific Session, June 21-25, 2013, Chicago, IL. **(Selected Audio Tour Poster)**
32. Danse, W. A., Chechele, A. C., and **Burkhardt, B. R.** "Novel Hepatic Transcriptional Start Site and Glucose-Responsiveness of the PANcreatic-DERived factor (PANDER, FAM3B) Promoter." American Diabetes Association, 73<sup>rd</sup> Scientific Session, June 21-25, 2013, Chicago, IL.
33. **Athanason, M.A.**, and **Burkhardt, B.R.** "Hepatic SILAC Proteomic Analysis of the PANDER Transgenic Mouse Reveals Network of Enhanced Triacylglycerol Production." American Diabetes Association, 73<sup>rd</sup> Scientific Session, June 21-25, 2013, Chicago, IL.
34. Lonnrot, M., Lynch, K., Larsson, H., Lernmark, A., Rewers, M., Torn, C., **Burkhardt, B.R.**, Briese, T., Hagopian, W., She, J., Simell, O., Ziegler, A., Akolkar, B., Krischer, J., Hyoty, H., Teddy Study Group. "Febrile respiratory infections are associated with increased risk of islet autoimmunity in the TEDDY study." Immunology of Diabetes Society 13<sup>th</sup> International Congress, December 7-11, 2013, Lorne, Australia.
35. Kuehl, M. N., **Burkhardt, B. R.**, Rodriguez, H., and Alman, A. C. "Salivary Inflammatory Biomarkers Are Associated with Glycemic Control and Gum Health in Type 1 Diabetes." American Diabetes Association, 74<sup>th</sup> Scientific Session, June 13 - 17, 2014, San Francisco, CA.
36. Alman, A. C., Smith, S. R., Eckel, R. H., Hokanson, J. E., **Burkhardt, B. R.**, and Snell-Bergeon, J. K. "Association of Pericardial Adipose Tissue with Insulin Resistance Is Modified by Gender: The Coronary Artery Calcification in Type 1 Diabetes Study (CACTI)." American Diabetes Association, 74<sup>th</sup> Scientific Session, June 13 - 17, 2014, San Francisco, CA.
37. Danse, W. A., Kuehl, M. N., Chechele, A. C., and **Burkhardt, B. R.** "Postprandial and ChREBP Mediated Hepatic PANDER Expression." International Congress of Endocrinology/ Endocrine Society 96<sup>th</sup> Annual Meeting, June 21-24, 2014, Chicago, IL. **(Late-Breaker)**
38. Athanason, M.G., Harris, B.T., Stevens S.M., and **Burkhardt, B.R.** "Hepatic SILAC Proteomic Analysis of the PANDER Transgenic Mouse Reveals Novel Lipogenic Pathways." 13<sup>th</sup> Human Proteome Organization World Congress, October 5-8, 2014, Madrid, Spain.

39. Kuehl, M.N., Ajami, N.J., Wong, M.C., Petrosino, J.F., Rodriguez, H., **Burkhardt, B. R.** and Alman, A. C. Glycemic control, inflammatory burden, and the oral microbiome of type 1 diabetes subjects. Diabetes and the Microbiome Research Symposium, October 27-29, 2014, Chicago, IL.
40. **Danse, W. A.**, and **Burkhardt, B. R.** Chrebp Mediated Hepatic Pander Expression. Endocrine Society's 97th Annual Meeting and Expo, March 5–8, 2015, San Diego, CA.
41. **Kuehl, M.N.**, Rodriguez, H., Alman, A.C., **Burkhardt, B. R.** Glucose Induced Interleukin-8 Secretion from Human Submandibular Gland Cell Line. Endocrine Society's 97th Annual Meeting and Expo, March 5–8, 2015, San Diego, CA.
42. Alman, A. C., Smith, S. R., Sudini, S.R., Eckel, R. H., Hokanson, J. E., **Burkhardt, B. R.**, and Snell-Bergeon, J. K Association of Pericardial Fat Density With Progression of Coronary Artery Calcification Differs by Diabetes Status in the CACTI Study. American Heart Association's 2015 Scientific Sessions and Resuscitation Science Symposium, November 7-11, 2015, Orlando, FL.
43. Athanason, M.A., Stevens, S.R. and **Burkhardt B.R.** Quantitative Proteomic Profiling of the Pander Transgenic Mouse Reveals Increased Lipogenesis and Fatty Acid Synthesis Modulated By the Liver X Receptor. Endocrine Society's 98th Annual Meeting and Expo, April 1-4, 2016, Boston, MA. (**Oral Presentation**)
44. Marelia, C.M. and **Burkhardt, B.R.** Anemarrhena rhizome and Schisandra chinensis inhibit viability and promote apoptosis in pancreatic cancer cell lines. American Association for Cancer Research Annual Meeting, April 16-20, 2016, New Orleans, LA.
45. Martin, D. **Burkhardt, B.R.** and Stevens, S.M. Proteomic analysis reveals role of the phosphohistidine phosphatase PHPT1 in ethanol-induced hepatic steatosis. 65<sup>th</sup> ASMS Conference. June 4-8, 2017, Indianapolis, IND.
46. Lan Xu, Feng Cheng, Jacqueline L. O'Brien, Nadim J. Ajami, **Brant R. Burkhardt**, Janet K. Snell-Bergeon, Joseph F. Petrosino, Amy C. Alman. Identify Taxonomic Profiles of the Salivary Microbiome Associated with Type 1 Diabetes. APHA Annual Meeting. November 4-8, 2017, Atlanta, GA.
47. Sharp, A., Kazantsis, M. and **Burkhardt, B.R.** Examining the pancreatic  $\beta$ -cell line proliferative and inflammatory effects of *Cornus officinalis*. Keystone Symposia-Frontiers in Islet Biology and Diabetes, February 4—8, 2018, Keystone, Colorado USA.
48. Marelia, C.B. and **Burkhardt, B.R.** *Anemarrhena asphodeloides* and its constituent timosaponin-AIII mitigate gemcitabine resistance in pancreatic cancer cells through increased deoxycytidine kinase expression. AACR Special Conference on Pancreatic Cancer: Advances in Science and Clinical Care, September 21-24, 2018, Boston, MA.
49. Tawfik, A.E., and **Burkhardt, B. R.** *Cornus officinalis* Significantly Improves Oxidative Capacity and Promotes the Calcium-Dependent Transcription Factor, NFATC2, in Human 1.1B4 Pancreatic Cell Line. Endocrine Society's 101st Annual Meeting of the Endocrine Society, March 23-26, 2019, New Orleans, LA.
50. Tawfik, A.E., Guergues, J., Stevens, S.M., and **Burkhardt, B.R.** *Cornus Officinalis* Promotes IGFBP2 and Autophagy in Human 1.1B4 Pancreatic Cell Line as Revealed by Employing a Global Proteomic Approach via Mass Spectrometry. Endocrine Society's 102nd Annual Meeting of the Endocrine Society, March 28 – 31, 2020, San Francisco, California. (Virtual Meeting Due to COVID-19). Also published in the *Journal of the Endocrine Society*, Volume 4, Issue Supplement 1.
51. Fletcher, J.D., Tawfik, A.E., and **Burkhardt, B.R.** *Cornus Officinalis* Induction of Pancreatic  $\beta$ -cell Autophagy as Revealed by Increased LC3 Expression and P62 Phosphorylation. Endocrine Society's 103rd Annual Meeting, March 20-23<sup>rd</sup>, 2021. Virtual Meeting Due to COVID-19. Also published in the *Journal of the Endocrine Society*, Volume 5, Issue Supplement 1.
52. Fletcher, J.D., Olsson, G.E. and **Burkhardt, B.R.** *Cornus officinalis* Decreases Incidence Of Type 1 Diabetes Onset And Hyperglycemia In The Non-obese Diabetic Mouse. Endocrine Society's 105<sup>th</sup> Annual Meeting (ENDO 2023), June 15-18, 2023, in Chicago, Illinois. Also published in the *Journal of the Endocrine Society*, Volume 7, Issue Supplement\_1.

## COURSES TAUGHT AT USF

MCB 4503	Virology (Fall 2015-2023, Spring 2018-2019)
PCB 4234	Principles of Immunology (Fall 2014)
PCB 6093	Advances in Scientific Review (Fall 2011-1013)
PCB 6920	Advances in Cell and Molecular Biology (Fall 2020-2023)
BSC 6935	Graduate Seminar in Biology

## COURSES TAUGHT AT OTHER INSTUTUTIONS

**DEPARTMENTAL COMMITTEES**

- Faculty Advisory Committee (2016-Present, 2012-2013)
- Undergraduate Committee (2015-Present)
- Graduate Committee (2013-2015, Chair 2019-Present)

**SCHOOL COMMITTEES**

- SNSM Tenure and Promotion Committee (2018-2021)

**EXECUTIVE POSITIONS**

- Director of Graduate Studies for USF Molecular Biosciences (2019-Present)

**GRADUATE STUDENT COMMITTEES**

1. Miriam Cardena, M.S. Committee	Member	2024-
2. Jessica Wohlfahrt, Ph.D. Committee	Member	2021-
3. Alexis Coiner, Ph.D. Committee	Member	2021-
4. Tiara Wolfe, Ph.D. Committee Member	Member	2021-
5. Justin Fletcher, Ph.D. Committee	Chair	2020-
6. Brandi Cook, M.S. Committee	Co-Chair	2017-Present*
7. Arielle Sharp, M.S. Committee	Chair	2016- 2020*
8. Tiffany Shemwell, Ph.D. Committee	Chair	2015- 2019
9. Jennifer Guergues, Ph.D Committee	Member	2015- 2019*
10. Stephanie Rockwell, Ph.D. Committee	Member	2014- 2019*
11. Daniel Martin, Ph.D. Committee	Co-Chair	2014- 2018*
12. Crystina Kriss, Ph.D. Committee	Co-Chair	2014- 2018*
13. Harris Bell-Temin, Ph.D. Committee	Member	2014- 2018*
14. Joao Pinho, Ph.D. Committee	Member	2014- 2018
15. Katie MarElia, Ph.D. Committee	Chair	2014- 2018*
16. Marvin Abountiolas, MS Committee	Member	2013- 2015*
17. Jessica Brunquell, Ph.D. Committee	Member	2013- 2018*
18. Mark Athanason, Ph.D. Committee	Chair	2012- 2017*
19. Shari Moak, M.S. Committee	Chair	2012- 2014*
20. Trillitye Lotito, Ph.D. Committee	Member	2012- 2017*
21. Whitney Danse (Ratliff), Ph.D. Committee	Chair	2011- 2015*
22. Melanie Kuehl, Ph.D. Committee	Chair	2011- 2015*
23. Kristine Garrett, Ph.D. Committee	Member	2011- 2012*
24. Chase Powell, Ph.D. Committee	Member	2011- 2017*
25. Jamie Mendez, M.S. Committee	Member	2011- 2013*

\* - student has graduated or has met all requirements for graduation and ceremony pending

- Since 2011, I have served on 24 committees.
- From my specific laboratory, I have graduated 5 Ph.D. students, 1 M.S. student and 1 Post-Doctoral Fellow