



**Name:** Danielle Fontaine

**Email:** dfontaine@wisc.edu

**Major Professor:** Dr. Dawn Belt Davis

**Degree Objective:** Ph.D. Endocrinology and Reproductive Physiology

**Background:** BS Animal Sciences University of Vermont, Burlington, VT

**Current Research Project:** My thesis work involves a novel transcription factor (tcf19) that we believe plays an important role in beta cell proliferation. More specifically, we believe this transcription factor plays a role in mediating beta cell proliferation in the setting of ongoing beta cell loss, such as that seen in type 1 diabetes. So far, we are aware that tcf19 is expressed most highly in the pancreas, specifically in the pancreatic islet. We have already shown that tcf19 is present in the nucleus on the beta cell, which leads us to believe that it plays a specific role in the beta cell.

I hope to determine if tcf19 is necessary for in vivo beta cell replication in response to pancreatic or beta cell injury. We have created a mouse that lacks Tcf19 specifically in the beta cell, as well as a full body knockout, using Cre-lox technology. The baseline phenotype of the mice will be determined, including beta cell mass and blood glucose levels.

#### **Honors:**

Science and Medicine Graduate Research Scholars Fellowship 2010

Travel Award - SACNAS Conference 2011

Best Poster Award - Department of Medicine Research Day 2012

#### **Grants Received:**

Science and Medicine Graduate Research Scholars /AOF Fellowship 2010-2011

NIH 2T32AG000213-22A1

#### **Publications:**

**Danielle A. Fontaine**, Dawn B. Davis. (2015) Attention to background strain is essential for metabolic research: C57BL/6 and the International Knockout Mouse Consortium. (2016) *Diabetes* Jan;65(1):25-33

Kimberly A. Krautkramer\*, Amelia K. Linnemann\*, **Danielle A. Fontaine**, Amy L. Whillock, Ted W. Harris, Gregory J. Schleis, Nathan A. Truchan, Leilani Marty-Santos, Jeremy A. Lavine, Ondine



Cleaver, Michelle E. Kimple, Dawn Belt Davis. (2013) Tcf19 is a novel islet factor necessary for proliferation and survival in the INS-1 beta cell line. *AJP:Endocrinology & Metabolism* 305(5):E600-10. (\*co-first authors)

## **National Presentations:**

10/2011 SACNAS Conference – poster and oral presentation, San Jose, CA “Tcf19 and regulation of beta cell proliferation” Danielle A. Fontaine, Kimberly A. Krautkramer, Joshua I. Suhonen, Amy Willock, Louise M. Meske, Gregory J. Schleis, Ted W. Harris, Jeremy A. Lavine, Dawn Belt Davis

3/2011 University of Vermont – Biology Department, Burlington, VT “Diabetes: Tcf19 and its role in the pancreatic beta cell” Danielle Fontaine

## **Other Presentations:**

11/2011 ERP Seminar – oral presentation Madison, WI “Tcf19 and regulation of beta cell proliferation”

4/2011 ERP Symposium- poster presentation, Madison, WI “Tcf19 and regulation of beta cell proliferation” Danielle Fontaine, Dr. Dawn Belt Davis, Kim Krautkramer, Louise Meske

4/2011 Science and Medicine Graduate Research Scholars Symposium – poster presentation, Madison, WI “Tcf19 and regulation of beta cell proliferation”

Endocrine Society visiting professor- Beta cell biology research forum – oral presentation, Madison, WI

4/2012 ERP Symposium – poster presentation Madison, WI “Tcf19 and regulation of beta cell proliferation” Danielle Fontaine, Dr. Dawn Belt Davis, Kim Krautkramer, Louise Meske

4/2012 - Science and Medicine Graduate Research Scholars Symposium – poster presentation, Madison, WI “Tcf19 and regulation of beta cell proliferation” Danielle Fontaine, Dr. Dawn Belt Davis, Kim Krautkramer

5/2012 UW Department of Medicine Research Day – poster presentation Madison, WI

5/2012 – Midwest Islet Conference – poster presentation, Pittsburgh, PA

11/2012 - Science and Medicine Graduate Research Scholars Symposium – poster presentation, Madison, WI “Tcf19 and regulation of beta cell proliferation” Danielle Fontaine, Dr. Dawn Belt Davis, Kim Krautkramer

4/2013 – Science and Medicine Graduate Research Scholars Symposium – poster presentation, Madison, WI “Tcf19 is a Novel Islet Factor Important in Cell Survival and Proliferation” Danielle Fontaine, Dawn Belt Davis, Kim Krautkramer, Justin Bushkofski, Amelia Linnemann



7/2013 – ERP Symposium – oral presentation, Madison, WI. “Tcf19 is a Novel Islet Factor Important in Cell Survival and Proliferation”

11/2013 – ERP Seminar – oral presentation Madison, WI “The Role of Tcf19 in beta-cell Proliferation and Apoptosis”

5/2014 – Midwest Islet Conference – poster presentation, Birmingham, AL, “Tcf19 is a Novel Islet Factor Involved in Proliferation and Atf6 Mediated Endoplasmic Reticulum Stress”

9/2014 – Annual Colloquium on Aging – UW Madison Institute on Aging; poster presentation, Madison, WI “The Role of Tcf19 in Diabetes”

6/2014 – ERP Symposium – poster presentation, Madison, WI. “The Role of Tcf19 in beta-cell Proliferation”

6/2014 – Science and Medicine Graduate Research Scholars Symposium – poster presentation, Madison, WI “Tcf19 and Diabetes”

10/2014 – ERP Seminar – oral presentation Madison, WI “The Role of Tcf19 in beta-cell Proliferation”

3/2015 – Institute of Aging Seminar – oral presentation Madison, WI “The role of Tcf19 in beta-cell proliferation”

5/2015 – Department of Medicine Research Day – poster presentation, Madison, WI “Tcf19 plays a key role in cell cycle gene expression and Beta-cell proliferation”

5/2015 – Midwest Islet Conference – oral presentation, Chicago, IL, “Tcf19 plays a key role in cell cycle gene expression and beta-cell proliferation”

9/2015 – Annual Colloquium on Aging – UW Madison Institute on Aging, poster presentation, Madison, WI “Tcf19 plays a key role in cell cycle gene expression and beta-cell proliferation”

10/2015 – ERP Seminar – oral presentation, Madison, WI “Tcf19 plays a key role in beta-cell proliferation”

## **ERP Service:**

Recruitment