

Stefan J. Pietrzak

• spietrzak@wisc.edu

Personal Summary

Graduate student in the cellular and molecular biology program at the University of Wisconsin-Madison investigating the epigenetic control of cell fate using single-cell genomics approaches. Previous experience working in labs in both academic and industrial settings.

Education:

Milwaukee School of Engineering, Milwaukee, WI

- Bachelor of Science: Biomolecular Engineering
- Minor: Chemistry
- Cumulative GPA: 3.81
- Graduated: May 2014

Honors and Achievements

- Dean's List with honors - twelve trimesters (fall trimester 2010 – spring trimester 2014)
- MSOE Academic Scholarship – 2010 – 2014
- Wisconsin State Scholarship – 2010 – 2014
- Member of Tau Beta Pi Engineering Honor Society (2014 – present)

Publications

- Tran, K.A.*, Pietrzak, S.J.*, Zaidan, N.Z.*, Siahpirani, A.F., McCalla, S.G., Zhou, A.S., Iyer, G., Roy, S., and Sridharan, R. (2019). Defining reprogramming checkpoints from single-cell analysis of induced pluripotency. *Cell Rep.* 2019;27(6):1726–1741.e5. (* = co-first author)
- Lee, H., Lee, Y-S., Harenda, Q., Pietrzak, S.J., Oktay, H.Z., Schreiber, S., Liao, Y., Sonthalia, S., Ciecko, A.E., Chen, Y-G., Keles, S., Sridharan, R., and Engin, F. (2020). Stress-induced beta cell dedifferentiation prior to immune cell infiltration prevent type 1 diabetes. *Cell Metabolism in press.*

Research Presentations

Seminars:

- UW-Madison Genomic Sciences Training Program Seminar – March 2019
- UW-Madison Epigenetics Theme Group Seminar – April 2019

Poster Presentations:

University of Wisconsin – Madison

- University of Wisconsin-Madison Carbone Cancer Center Retreat – April 2018
- Genomic Sciences Training Program Annual Retreat – June 2018
- Stem Cell and Regenerative Medicine Center Fall Conference – September 2018, 2019
- Wisconsin Epigenetics Group Symposium – October 2018, 2019
- NHGRI Research Training and Career Development Annual Meeting – April 2019
- CSHL Biology of Genomes Meeting – May 2019

Milwaukee School of Engineering

- Senior Design Project Poster Presentation – May 2014

Work/Research Experience

Graduate Research Assistant – Sridharan Lab, Univ. of Wisconsin-Madison January 2018 – Present

- I am currently applying single-cell RNA-seq/ATAC-seq technology to populations of reprogramming cells that are being converted into a pluripotent state. I have implemented the analytical software package Monocle to examine the transcriptional dynamics that occur during the process of reprogramming and identify potentially influential regulatory genes responsible for successful acquisition of pluripotency.

Research Technologist – Medical College of Wisconsin March 2015 – August 2017

- Performed routine DNA extraction and fluorescent genotyping on animal tissue samples, as well as other standard molecular biology and biochemistry laboratory techniques. I also had a major role in the design and cloning of CRISPR sgRNA pairs into a plasmid for later validation and injection into animals to achieve gene knockout.

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Laboratory Associate – Intrexon Corporation

August 2014 – March 2015

- Member of Assembly and Screening Team – Assembled DNA vectors from individual fragments which were then transformed into *E. coli* for downstream preparation. I was also cross-trained in Next Generation and Sanger sequencing techniques. I used robotically controlled instruments which contributed to a more automated and efficient work flow.

Senior Design Project – Milwaukee School of Engineering

September 2013 – May 2014

- I worked with three other students and an academic advisor to help Chr. Hansen Inc. optimize growth and viability of a particular strain of bacteria involved in cheese production. This project was accomplished by using a design of experiment method to determine the optimal combination of nutrients in the media for bacterial growth, as well as those that had the most significant impact on growth. I became familiar with a variety of techniques including culture and growth of bacterial cells, fluorescence-activated cell sorting, and spectrophotometry.

Additional Work/Volunteer Experience

SPUR Program Participant – Medical College of Wisconsin, Milwaukee, WI

June 2013 – August 2013

- Under the guidance of Dr. Aron Geurts and his lab team, I developed and carried out an assay to assess the efficacy of TALEN pairs in inducing genomic mutations. During this project, I was able to gain additional practice in a number of molecular biology techniques, such as agarose and polyacrylamide gel electrophoresis, plasmid isolation, cell culture, cellular transfections, and PCR.

SMART Team Volunteer – Milwaukee School of Engineering, Milwaukee, WI

September 2010 – May 2014

- Assisted in running sessions for the Students Modeling A Research Topic (SMART) program by helping to teach high school students about protein biochemistry and how to model proteins using computer software.