

KYLE T HELZER, PH.D.

Experienced scientist interested in the analysis of large datasets to solve biological problems. I am passionate about computational biology and enjoy breaking down complex problems into solvable pieces as well as learning new technologies. I have a strong background in and understanding of both dry lab (Linux, Python, R) and wet lab (molecular biology, CRISPR, cell culture, PCR) skill sets.



RESEARCH EXPERIENCE

current
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2019

Postdoctoral Researcher

Proteovista LLC

📍 Madison, WI

- Lead and performed research and development on novel array-based technology
- Developed custom programs for DNA and protein array generation

2019
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2013

Graduate Student

Alarid Laboratory

📍 University of Wisconsin - Madison

- Analyzed the genome-wide binding profile of the phosphorylated estrogen receptor-alpha in the MCF-7 breast cancer cell line via ChIP-seq
- Built custom scripts in Python and R for various data analyses and visualizations

2013
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2010

Research Assistant

Olsen Laboratory

📍 University of Michigan

- Investigated peroxisomal protein import and processing in Arabidopsis thaliana. As an undergraduate, I planned and performed my own experiments and projects as well as analyzed the data.
- Trained and mentored new undergraduate researchers.



EDUCATION

2019
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2013

Ph.D., Cancer Biology

University of Wisconsin - Madison

📍 Madison, WI

- Thesis: Effects of Phosphorylation on the DNA Binding Properties of Estrogen Receptor-alpha
- Advisor: Elaine T. Alarid, Ph.D.

2012
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2008

B.S. (with honors), Cellular and Molecular Biology

University of Michigan

📍 Ann Arbor, MI

- Honors Thesis: Processing of Citrate Synthase by the Peroxisomal Protease DEG15 in Arabidopsis thaliana
- Advisor: Laura J. Olsen, Ph.D.
- Minor in music

CONTACT

✉ helzerk@gmail.com

🐦 [@kylehelzer](https://twitter.com/kylehelzer)

in [linkedin.com/in/kylehelzer](https://www.linkedin.com/in/kylehelzer)

LANGUAGE SKILLS

Python

R

Bash

Visual Basic

Last updated on 2020-07-13



PUBLICATIONS

- 2019 • **The phosphorylated estrogen receptor a cistrome identifies a subset of active enhancers enriched for direct ER-DNA binding and the transcription factor GRHL2**
Molecular and Cellular Biology
- Helzer KT, Szatkowski Ozers M, Meyer MB, Benkusky NA, Solodin N, Reese RM, Warren CL, Pike JW, and Alarid, ET (2019). The Phosphorylated Estrogen Receptor a (ER) Cistrome Identifies a Subset of Active Enhancers Enriched for Direct ER-DNA Binding and the Transcription Factor GRHL2. Mol. Cell. Biol. 39.
- 2018 • **17 β -Estradiol and ICI182,780 Differentially Regulate STAT5 Isoforms in Female Mammary Epithelium, With Distinct Outcomes**
Journal of the Endocrine Society
- Jallow F, Brockman JL, Helzer KT, Rugowski DE, Goffin V, Alarid ET, and Schuler LA (2018). 17 β -Estradiol and ICI182,780 Differentially Regulate STAT5 Isoforms in Female Mammary Epithelium, With Distinct Outcomes. J Endocr Soc 2, 293–309.
- 2015 • **Ubiquitylation of nuclear receptors: new linkages and therapeutic implications**
Journal of Molecular Endocrinology
- Helzer KT, Hooper C, Miyamoto S, and Alarid ET (2015). Ubiquitylation of nuclear receptors: new linkages and therapeutic implications. J. Mol. Endocrinol. 54, R151-167.







TEACHING EXPERIENCE

- 2015 • **Oncology 675 - Readings in Cancer Biology**
University of Wisconsin - Madison  Madison, WI
- Served as a TA for graduate-level course on how to critically evaluate scientific literature
 - Course Instructor: Dr. Bill Sugden



HONORS AND AWARDS

- 2017
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2015 • **Cancer Biology Training Grant**
NIH T32 award for training in cancer biology  UW-Madison
- 2012
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2008 • **University Honors**
For earning above a 3.5 GPA  University of Michigan
- 2011
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2010 • **James B. Angell Scholar**
For earning all As in a semester  University of Michigan
- 2008 • **Regents Scholarship**
For outstanding academic achievement  University of Michigan



PRESENTATIONS

- 2019 ● **Genome-Wide Binding Profile of Phosphorylated Estrogen Receptor Reveals Association with Direct DNA Binding**
ENDO 2019 📍 New Orleans, LA
- 2018 ● **Investigating the Effects of Phosphorylation on the DNA Binding Properties of ERα**
McArdle Student Seminar Series 📍 UW-Madison
- 2018 ● **Investigating the Effects of Phosphorylation on the DNA Binding Properties of ERα**
McArdle Student Seminar Series 📍 UW-Madison
- 2017 ● **Investigating the Effects of Phosphorylation on the DNA Binding Properties of ERα**
McArdle Student Seminar Series 📍 UW-Madison
- 2017 ● **Investigating the Effects of Phosphorylation on the DNA Binding Properties of ERα**
O'Brien Symposium 📍 Madison, WI
- 2016 ● **Investigating the Role of Phosphorylation on the DNA Binding Properties of ERα**
McArdle Student Seminar Series 📍 UW-Madison
- 2015 ● **Insights into Estrogen Receptor-α Phosphorylation**
McArdle Student Seminar Series 📍 UW-Madison



POSTERS

- 2018 ● **Genome-Wide Binding Profile of Phosphorylated Estrogen Receptor Reveals Association with Direct DNA Binding**
8th Great Lakes Nuclear Receptor Conference 📍 Minneapolis, MN
• Won Outstanding Poster Award
- 2017 ● **Defining the Phosphorylated ERα Cistrome**
GRC on Hormone Dependent Cancers 📍 Newry, ME
- 2016 ● **Analysis of the Phosphorylated ERα Cistrome with Multiple pS118-ER Specific Antibodies**
7th Great Lakes Nuclear Receptor Conference 📍 Cleveland, OH
- 2014 ● **The Elephant in the Room**
McArdle 75th Anniversary Open House 📍 UW-Madison
- 2012 ● **Processing of the Peroxisomal Protease DEG15 in *Arabidopsis thaliana***
MCDB Honors Research Symposium 📍 University of Michigan



CONFERENCES ATTENDED

2020	● Stanford Genetics Conference Worldwide	📍 Virtual
2019	● ENDO 2019 Morial Convention Center	📍 New Orleans, LA
2018	● 8th Great Lakes Nuclear Receptor Conference University of Minnesota	📍 Minneapolis, MN
2017	● Gordon Research Conference on Hormone Dependent Cancers Sunday River Resort	📍 Newry, ME
2017	● O'Brien Symposium University of Wisconsin - Madison	📍 Madison, WI
2016	● 7th Great Lakes Nuclear Receptor Conference Case Western Reserve University	📍 Cleveland, OH
2015	● McArdle 75th Anniversary Symposium on Cancer University of Wisconsin - Madison	📍 Madison, WI
2014	● 6th Great Lakes Nuclear Receptor Conference University of Wisconsin - Madison	📍 Madison, WI