440.476.6305 **Deborah Seifert** debbieseifert615@gmail.com

Organized researcher with proficiency in biochemistry and biology. Experienced in murine *in vivo* techniques, cell culture, microscopy, histology, molecular biology, immunoassays and R programming and in subject areas of cardiovascular and matrix biology, proteomics, and immunology (with a focus on B cell biology). Strong background in laboratory operations including basic equipment maintenance and purchasing.

## EDUCATION

**Case Western Reserve University**, School of Medicine — Cleveland, OH
M.S. in Biostatistics — Expected Graduation: Summer 2026

**Loyola University Chicago**, College of Arts and Sciences — Chicago, IL
B.S. in Biochemistry, *ACS Certified* — May 2017
B.S. in Biology

## EMPLOYMENT

- **Case Western Reserve University** Research Assistant 3, Lab Manager — October 2022-Present
  **Timothy Mead Laboratory – Department of Pediatrics**
- **Cellular Technology Limited** — March 2021- April 2022
  Laboratory Technician I- **Research and Development** — July 2021- April 2022
  Laboratory Technician I- **Quality Control** — March 2021-July 2021
- **Cleveland Clinic** Research Technician — November 2017-March 2021
  **Suneel S. Apte Laboratory- Biomedical Engineering**
- **Hilton Head Plantation Kids Kamp** Camp Counselor — May 2015-August 2017

## RESEARCH

**Case Western Reserve University** — Cleveland, OH

- *Designed and directed research projects.*
  - *Taught students laboratory techniques and supervised research activities.*
- *Created laboratory standard operating procedures, including chemical and biosafety hygiene plans, and implemented an electronic laboratory notebook and inventories*
- *Analysis of congenital heart defects (CDH) utilizing mouse models, immunohistochemistry and histology, protein analysis and genomics*

**Cellular Technology Limited** — Shaker Heights, OH

- *Transition of R&D assays to quality control for continuous characterization of cryogenically preserved human peripheral blood mononuclear cells.*
- *Evaluation of human B-cell immune response to SARS-Cov-2 infection and vaccination.*
  - *Isolation of human PBMC from whole blood.*
- *Screening and identification of novel antigens by ELISA and ELISPOT for the characterization of B cell immune response.*

**Cleveland Clinic** — Cleveland, OH

- *Created R code scripts for visualization of proteomics data.*
- *Analysis of* in vivo *and* in vitro *data generated from knockout mice and transfected cell lines.*
- *Implementation of protocols for the maintenance and inventorying of human and mouse specimens.*

**Northwestern University** — Chicago, IL

- *Utilization of REDCap for the management of clinical research data related to the study and treatment of depressive disorders.*
  - *CITI Certified in Biomedical Human Research.*

## TECHNICAL SKILLS

**Molecular Biology:** Western Blotting; DNA and RNA Isolation, Purification, and Quantification; Primer Design; real-time PCR; *in situ* Hybridization; Gene Cloning and Transformation; Gene Transfection; ELISA; ELISpot

**Cell Biology:** Human and Non-human Primary and Immortalized Cell Culture; PBMC Isolation from Whole Blood.

**Imaging:** Microtome Sectioning; Immunohistochemistry and Histology; Light and Fluorescence Microscopy; Image Processing and Analysis

**Laboratory Animal:** Mouse Husbandry; Mouse Gross Necropsy

**Software:** ImmunoSpot, GraphPad PRISM, FlowJo, ImageJ, SoftMax Pro, R

**Operations:** General laboratory equipment maintenance, purchasing, electronic laboratory notebook

## PUBLICATIONS

**Seifert DE**, Alcocer AD, Rush EH, Lin C, Mead TJ (2024) "Improved Aortic Wall Structure and Longevity in Mouse Models of Marfan Syndrome with Conditional Inactivation of ADAMTS6" [Poster] *Weinstein Cardiovascular Development and Regeneration Conference*, 15-17 May, Montreal, Quebec; Poster 041

Mead TJ, Bhutada S, Foulcer SJ, Peruzzi N, Nelson CM, **Seifert DE,** Larkin J, Tran-Lundmark K, Filmus J, Apte SS (2024) "Combined genetic-phamacologic inactivation of tightly linked ADAMTS proteases in temporally specific windows uncovers distinct roles for versican proteolysis and glypican-6 in cardiac development" *Matrix Biol*, 131:1-16, doi: 10.1016/j.matbio.2024.05.003

Rypdal KB, Olav Melleby A, Robinson EL, Li J, Palmero S, **Seifert DE**, Martin D, Clark C, López B, Andreassen K, Dahl CP, Sjaastad I, Tønnessen T, Stokke MK, Louch WE, González A, Heymans S, Christensen G, Apte SS, Lunde IG (2022) "ADAMTSL3 knock-out mice develop cardiac dysfunction and dilatation with increased TGFβ signalling after pressure overload" *Commun Biol,* 5(1):1392, doi: 10.1038/s42003-022-04361-1

Rypdal KB, Erusappan PM, Melleby AO, **Seifert DE**, Palmero S, Strand ME, Tonnessen T, Dahl CP, Almaas V, Hubmacher D, Apte SS, Christensen G, Lunde IG (2021) "The extracellular matrix glycoprotein ADAMTSL2 is increased in heart failure and inhibits TGFβ signaling in cardiac fibroblasts" *Sci Rep*, 11(1): 19757, doi: 10.1038/s41598-021-99032-2

Martin DR, Witten JC, Tan CD, Rodrigues ER, Blackstone EH, Pettersson GB, **Seifert DE**, Willard BB, Apte SS (2020) "Proteomics identifies a convergent innate response to infective endocarditis and extensive proteolysis in vegetation components" *JCI Insight*, 5(14); e135317, doi: 10.1172/jci.insight.135317

**Hoelting [Seifert] DE**, Apte SS (2018) "Gene targeting of ADAMSTL3, a novel participant in the musculoskeletal system" [Poster] *American Society for Matrix Biology Biennial Meeting*, 14-17 October, Las Vegas, Nevada; Poster B120

## LEADERSHIP

**American Society for Matrix Biology** — Cleveland, OH
Member — January 2018-December 2018

**Northwestern University** — Chicago, IL
Volunteer- Asher Center for the Study and Treatment of Depressive Disorders — September 2016-May 2017

**Alpha Phi Omega-** Loyola University Chicago — Chicago, IL
President — December 2016-May 2017
National Student Advisory Committee Member — January 2015-January 2018
Vice President Membership — August 2014-August 2015