CURRICULUM VITAE

NAME: REBECCA ANNE SOMER PALU

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EDUCATION:

University of Utah, Salt Lake City, UT
PhD, Human Genetics, August 2010-August 2016
Thesis Advisor: Dr. Carl Thummel

University of Nebraska-Lincoln, Lincoln, Nebraska
B.S., Biochemistry, August 2006-May 2010

ACADEMIC HONORS, AWARDS, AND SCHOLARSHIPS

GSA DeLill Nasser Travel Award	Spring 2019
Genetics Peer Review Training Program	Fall 2018
Diabetes and Metabolism Consortium/Driving Out Diabetes Symposium Poster Award	Fall 2018
ASHG Conference Reviewer's Choice Poster	Fall 2018
NIH Computation Approaches to Diabetes and Metabolism Research (5T32DK110966)	Fall 2017-present
Bioscience Symposium Poster Award	Fall 2017
NIH Metabolism Training Grant (T32 DK091317)	Fall 2013-Fall 2015
Developmental Biology Training Grant Retreat 1st Place Poster Award	Spring 2013
Drosophila Research Conference 2nd Place Poster Award	Spring 2013
Human Genetics Graduate Fellowship	Summer 2011-Summer 2012
Benjamin M. Sahagian Scholarship	Fall 2009-Spring 2010
Milton E. Mohr Research Scholarship	Fall 2009-Spring 2010
UCARE Undergraduate Research Fellowship	Fall 2008-Spring 2010
Robert C. Byrd Scholarship	Fall 2006-Spring 2010
National Merit Scholarship	Fall 2006-Spring 2010
University of Nebraska-Lincoln Dean's List (All Semesters)	Fall 2006-Fall 2009
University of Nebraska-Lincoln Honors Program	Fall 2006-Spring 2010

RESEARCH EXPERIENCE

Assistant Professor of Biology-Genetics: Purdue University-Fort Wayne Summer 2019-Present
I am interested in the genetic sources of phenotypic variation in disease, particularly in metabolic diseases. We use the *Drosophila* Genetic Reference Panel as a model of genetic variation to identify modifiers of disease models and validate these modifiers using *Drosophila* genetic tools. We are currently doing this for models of endoplasmic reticulum stress and apoptosis in a variety of contexts. We plan to extend our studies to *Drosophila* models of obesity and metabolic syndrome.

Postdoctoral Researcher: University of Utah Summer 2016-Summer 2019
Supervisor: Dr. Clement Chow
Identifying and characterizing genetic modifiers of ER stress and related diseases in *Drosophila melanogaster*.

Graduate Student: University of Utah Spring 2011-Summer 2016

Supervisor: Dr. Carl Thummel
Characterizing genetic models of metabolic disease, as well as discovering transgenerational mechanisms of inheritance for metabolic dysfunction, in *Drosophila melanogaster*.

Undergraduate Research Assistant: University of Nebraska-Lincoln Fall 2007-Summer 2010
Supervisor: Dr. Donald Becker Ph.D
Isolating mutant proline dehydrogenase (ProDH) from *E. coli* and ascertaining the differences in their function.

TEACHING EXPERIENCE

Assistant Professor of Biology-Genetics: Purdue University-Fort Wayne Summer 2019-Present
Genetics and Molecular Biology 21800
Human Molecular Genetics 50600

Adjunct Faculty: Westminster College Spring2017-Spring 2019
Genetics (3 semesters)

Teaching Assistant: University of Utah Fall 2011-Fall 2012

Principles of Cell Biology	Supervisor: Dr. G. Drews
Protein and Nucleic Acid Biochemistry	Supervisor: Dr. B. Bass

Biochemistry Lab: University of Nebraska-Lincoln Spring 2009-Spring 2010

Biochemistry Lab	Supervisor: Dr. M. Soundararajan
Biomolecules and Metabolism	Supervisors: Dr. M. Simpson, Dr. J. Barycki
General Genetics (2 semesters)	Supervisors: Dr. A Christensen, Dr. A. Prokupek

MENTORING EXPERIENCE

University of Utah

Project: Impact of modifier genes on *Drosophila* models of retinal degeneration: *GMR>p53*

Jae Sophia Zuno (Undergraduate Technician)	Fall 2018-Summer 2019
Kaitlyn Stevens (Undergraduate Technician)	Summer 2018-Summer 2019

Project: Impact of natural genetic variation on *Drosophila* models of retinal degeneration: *GMR>p53*, *GMR-rpr*

Kaitlyn Stevens (Undergraduate Technician)	Summer 2017-Summer 2018
Andre Cruz (Undergraduate Technician)	Fall 2017-Summer 2018
Elaine Ong (Undergraduate Technician)	Fall 2016-Spring 2018
Damaris Perez (Undergraduate Technician)	Fall 2016

Project: Transgenerational inheritance of metabolic phenotypes in *Drosophila*

Sophia Praggastis (Graduate Student)	2015-2016
Benjamin Jussila (Rotation Student)	Spring 2015
Katie Dudley (Undergraduate Technician)	2014
Madhukar Aryal (Rotation Student)	Spring 2013

Project: Impact of *sir2* mutation on metabolic homeostasis in *Drosophila*

Eric Brassfield (Rotation Student)	Spring 2014
Grace Salzar (Undergraduate Technician)	Summer 2013

PUBLICATIONS

Palu, RAS, Ong, E, Stevens, K, Chung, S, Owings, KG, Goodman, AG, and Chow, CY (2019). Natural genetic variation screen in *Drosophila* identifies Wnt signaling, mitochondrial metabolism, and redox homeostasis genes as

modifiers of apoptosis. BioRxiv preprint, https://doi.org/10.1101/670075. Under review at *Genes, Genomes, Genetics.*

Palu, RAS, and Chow, CY (2019). The *Drosophila* metallopeptidase superdeath decouples apoptosis from the activation of the ER stress response. BioRxiv, https://doi.org/10.1101/620492. Under review at *Genetics.*

Palu, RAS, and Chow, CY (2018). *Baldspot/ELOVL6* is a conserved modifier of disease and the ER stress response. PLoS Genet *14*, e1007557.

Press Release: "Lessons from flies: Genetic diversity impacts disease severity," Julie Kiefer, 8-6-2018
Utah Public Radio Interview with Rachel Hager, "New disovery about fly eyes could help scientists better understand human night blindness," aired 8-29-18

Palu, **RAS**, Praggastis, SA, and Thummel, CS (2017). Parental obesity leads to metabolic changes in the F2 generation in *Drosophila*. Mol Metab *6*, 631-639.

Palu, **RA**, and Thummel, CS (2016). Sir2 Acts through Hepatocyte Nuclear Factor 4 to maintain insulin Signaling and Metabolic Homeostasis in *Drosophila*. PLoS Genet *12*, e1005978.

Palu, **RA**, and Thummel, CS (2015). Linking Nutrients to Growth through a Positive Feedback Loop. Dev Cell *35*, 265-266.

Somer, **RA**, and Thummel, CS (2014). Epigenetic inheritance of metabolic state. Curr Opin Genet Dev *27*, 43-47.

INVITED PRESENTATIONS

Palu RAS, Chow CY (2019) "Loss of the ER metalloprotease CG14516 rescues retinal degeneration by reducing ER stress-induced apoptosis in a Drosophila model of retinitis pigmentosa" Poster preview presentation, *Drosophila* Research Conference Dallas, TX

Palu RAS, Chow CY (2019) "The impact of genetic variation on cellular and metabolic stress in disease" Presentation, Midwest Stress Response and Molecular Chaperone Meeting Evanston, IL

Palu RAS, Chow CY (2017) "Novel genetic modifiers of retinitis pigmentosa identified by exploiting natural variation in *Drosophila*" Presentation, Midwest Stress Response and Molecular Chaperone Meeting Evanston, IL

Palu RAS, Thummel CS (2015) "Regulation of metabolism and insulin sensitivity by Sir2 in *Drosophila*" Platform presentation at *Drosophila* Research Conference Chicago, IL

Somer RA, Thummel CS (2014) "Regulation of glucose homeostasis by Sir2 in *Drosophila melanogaster*" Presentation, Feeding Behavior, Nutrition and Metabolism Workshop at *Drosophila* Research Conference San Diego, CA

OTHER CONFERENCE PRESENTATIONS/POSTERS

Palu RAS, Chow CY (2019) "Loss of the ER metalloprotease CG14516 rescues retinal degeneration by reducing ER stress-induced apoptosis in a Drosophila model of retinitis pigmentosa" Poster at *Drosophila* Research Conference Dallas, TX

Palu RAS, Chow CY (2018) "Genetic and dietary manipulation of stearate levels rescues a model of retinal degeneration and ER stress" Poster at American Society of Human Genetics Conference San Diego, CA

Palu RAS, Chow CY (2018) "Loss of *Baldspot/ELOVL6*, a fatty acid elongase, rescues ER stress-induced apoptosis" Poster at *Drosophila* Research Conference Philidelphia, PA

Palu RAS, Chow CY (2017) "Loss of *ELOVL6*, a fatty acid elongase, rescues ER stress-induced apoptosis in a model of retinitis pigmentosa" Poster at American Society of Human Genetics Conference Orlando, FL

Palu RAS, Chung S, Ong E, Perez D, Chow CY (2017) "Effects of genetic variation on retinal degeneration in *Drosophila*" Poster at *Drosophila* Research Conference San Diego, CA

Palu RAS, Thummel CS (2015) "Loss of *sir2* in *Drosophila* leads to age-associated insulin resistance" Poster at Society for Developmental Biology Meeting Salt Lake City, UT

Somer RA, Thummel CS (2014) "Regulation of glucose homeostasis by *dsir2* in *Drosophila melanogaster*" Poster at *Drosophila* Research Conference San Diego, CA

Somer RA, Thummel CS (2013) "Transgenerational Inheritance of Metabolic State in *Drosophila*" Poster at Drosophila Research Conference Washington, D.C.

Somer RA, Sieber M, Thummel CS (2012) "Transgenerational Inheritance of Metabolic State in *Drosophila*" Poster at *Drosophila* Research Conference Chicago, IL.

Somer RA (2010) "Engineering Oxygen Reactivity in PRODH" Oral Presentation at Semi-Annual PutA Conference Lincoln, NE.

Somer RA (2010) The Effect of Mutations on the Reactivity of *Escherichia coli* PutA with Molecular Oxygen. Undergraduate Thesis.

Somer RA (2009) "Increasing Oxidation of Flavin in PutA Mutants" Oral Presentation at Semi-Annual PutA Conference Columbia, MO.

PROFESSIONAL SOCIETIES

Genetics Society of America	2011-Present
American Society of Human Genetics	2017-Present
Society for Developmental Biology	2015

ACTIVITIES

Salt Lake City School District Science Fair Judge	Spring 2017
Bioscience Retreat Committee	Spring-Summer 2012
Recruitment Chair	Spring 2012
Organize events and hosts for graduate student recruits	
National Society of Collegiate Scholars	Fall 2008-Spring 2010
Science Olympiad Event Coordinator Chemistry Lab	Spring 2009
Write an exam according to rules, proctor and grade said exam	
UNL Biochemistry Club	Fall 2006-Spring 2010
Co-President	Spring 2009-Spring 2010
Organize and lead meetings; contact speakers; keep track of volunteers	
Vice President	Spring 2008-Spring 2009
Take over for Presidents if necessary; organize meetings; reserve rooms and food	
Information Specialist Officer	Fall 2007-Spring 2008
Keep the bulletin board updated, Take photos at Club events	