## JOHN-GABRIEL (GABE) KNOLL

Oregon Health and Science University

### Degrees:

M.S. Neuroanatomy, Colorado State University
B.S. Chemical Engineering, Colorado State University

### Scholar Donors:

Julie and Wayne Drinkward
Sharon and Keith Barnes

### About the Scholar:

Gabe's research is focused on understanding the neural mechanisms of sickness behavior and cachexia (disease associated wasting). While cachexia dramatically increases the mortality of many different underlying diseases and is estimated to affect five million people in the U.S. alone, there is currently no effective treatment for this condition. Gabe is studying the molecular signaling pathways involved in inflammation and how the brain coordinates sickness behaviors with the goal of identifying specific targets for treatment. Gabe enjoys fishing, snowboarding and reading.

### Benefits to Society:

Cachexia affects millions of people suffering from a variety of chronic diseases such as chronic heart failure, cancer and AIDS. Previous research has shown that the presence of cachexia can more than double the mortality of such diseases. Very little is known about how the brain responds to illness and generates the sickness behaviors—such as anorexia, lethargy and changes in metabolism—that result in cachexia. Gabe is focused on increasing our understanding of the neural systems that control these behaviors. In addition to contributing to the basic understanding of how the brain works, Gabe's research has the potential to lead to treatments that could improve the lives of millions of people.

### Awards and Honors:

2013 Travel Award for Outstanding Abstract, Endocrine Society
2011-2012 Multidisciplinary Training Grant in Neuroendocrinology

### Publications and Posters:

J.Gabriel Knoll, Stefanie Krasnow, Daniel L. Marks. IL-1B Induced Sickness Behavior is Dependent on MyD88 Signaling in Vascular Endothelial Cells and Microglia. 2013 Annual meeting of the Endocrine Society.
Lomniczi A., Loche A., Castellano J.M., Ronnekliev O.K., Bosch M., Kaidar G., Knoll J.G., Wright H., Pfeifer G.P., Ojeda S.R.: Epigenetic Control of Female Puberty. Nature Neuroscience 16:281-289 (2013)