Akshayalakshmi Sridhar
First place winner of 2015 3MT Competition

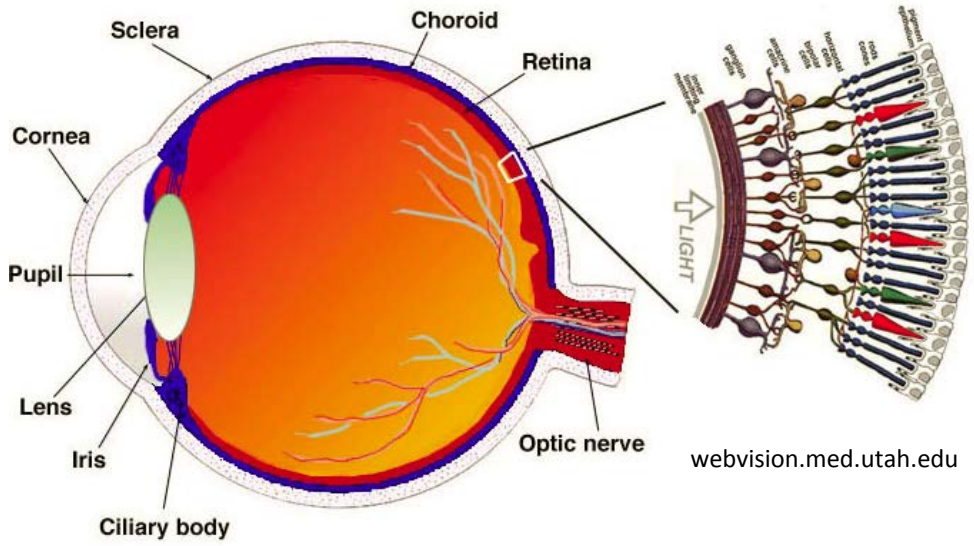
I am a 4th year graduate student, currently working towards my PhD in biology in Dr. Jason Meyer's lab at IUPUI. My thesis work focuses on studying the genes involved in early retinal development. The development of the human retina begins within the first trimester of gestation and therefore, I use human induced pluripotent stem cells (hiPSCs) as a system to model human development in a lab setting. hiPSCs are adult-derived stem cells that possess the ability to divide indefinitely and can generate all cell types of the body, including retinal cells. My research allows the exploration of the earliest events in embryogenesis that had been previously inaccessible and establishes iPS cells as a model system for studies of human development and disease progression.

As a graduate student, I got involved with Preparing Future Faculty and Professionals Program (PFFP) for career advice beyond my PhD. I first attended the PFFP Pathways conference in 2012 and have been in touch with this organization on an annual basis. I first heard about the 3 minute competition via email and I was immediately excited to give it a shot. I was particularly interested in this event as explaining my thesis in layman terms is a situation that I encounter on a regular basis – my interactions with undergraduates during teaching, colleagues from different fields of science or explaining what I do to my family. Therefore, I participated in the 3 minute thesis (3MT) competition on November 6, 2015 to practice effective science communication to a general audience.

Approximately, 5-7 candidates participated in the 3MT competition while others participated in the 3 minute pitch competition, which focused on master's students and post-docs. I was nervous as not only was this the first year of this competition in IUPUI, I was also randomly chosen as the first one to present! I presented my thesis in a single slide (see slide on second page) which was divided into sections to emphasize my background, the hypothesis and the implications of my research. Since my work involved use of microscopy, I used bright colorful images instead of text to explain my thesis. Five judges from various departments evaluated our presentations and revealed the results half an hour after the competition. I sat with my fingers crossed and I jumped out of my seat when I heard that I had won the first prize in the 3MT competition. I was further elated to know that the judges had chosen me to be IUPUI's representative at the next level of 3MT competition at the Midwestern Association of Graduate Schools (MAGS) Annual meeting in Chicago (April 6-8, 2016).

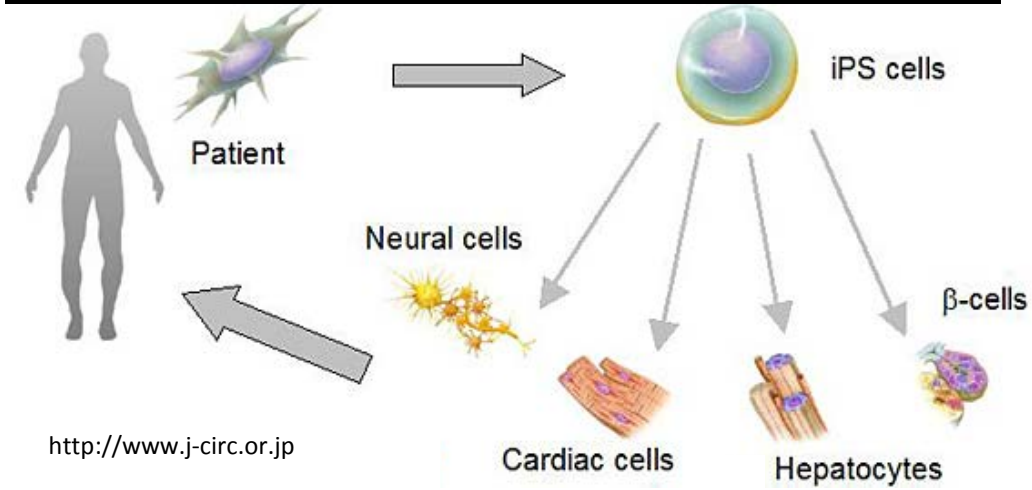
Overall, participating in this competition has helped me develop the skills to effectively communicate my research to those outside my field. Such skills will be especially relevant for future research presentations at conferences and future job opportunities. Additionally, this competition was particularly enjoyable due to interactions with fellow participants and I learned a great deal from their presentations. I also had the chance to interact with NaShara Mitchell from the Graduate Office, who was very supportive of all of us during the competition and she provided me with valuable feedback for the next level of the competition. I'm thrilled and honored to be being chosen as an IUPUI representative for the next level of the competition. As a graduate student who has been on this campus since 2010, I am especially thankful for being part of the IUPUI community and the Biology department and I look forward to showcasing my research at the MAGS meeting in Chicago!

1. Retinal development begins by the 4th week of gestation



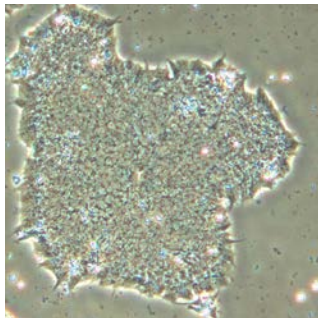
webvision.med.utah.edu

2. Stem cells can be used to study early stages of retinal development



http://www.j-circ.or.jp

Study development



Disease progression

Experimental approaches: