ARVO EDUCATION COURSE

Saturday, May 3, 2025
1 – 5pm
Salt Palace Convention Center
Salt Lake City, Utah

Regenerative Medicine

Course organizer

Holly Chen, PhD, University of Alabama at Birmingham

Course description

Regenerative medicine in ophthalmology includes harnessing the potential of endogenous cells to repair and regenerate damaged eye tissues, employing gene therapies and neuroprotective strategies to prevent cell death, and the use of pluripotent stem cell (PSC)-derived retinal cell-based transplants to replace damaged tissue. PSC-derived retinal cells have become a cornerstone of regenerative medicine because they exhibit morphological resemblance and significant functional parallels to *in vivo* retina, offering an unprecedented opportunity to study retinal degeneration in vitro and develop therapies in a highly disease relevant model. This course will present diverse and innovative regenerative medicine and PSC-based approaches to preserve or restore vision. We will also provide an opportunity for networking and in-depth discussion between speakers and audience to address specific projects.

Presentations

Presenters and presentations may change.

Time	Topic	Speaker
Preservation of retinal cells		
1 PM	Neuroprotection of RGC	**Jeffrey Goldberg, MD, PhD** https://profiles.stanford.edu/jeffrey-goldberg?tab=publications
1:30 PM	Gene therapy on Müller glia to preserve photoreceptors	**Jan Wijnholds, PHD** http://www.vision-research.eu/index.php?id=127
2 PM	Small molecule drugs as gene agnostic therapy	**Holly Chen, PhD** https://scholars.uab.edu/17726-yu-holly-chen
Regeneration of retinal cells		

Time	Topic	Speaker
2:30 PM	Regeneration of retinal cells from retinal pigment epithelial cells	**Katia Del Rio-Tsonis, PhD** https://miamioh.edu/profiles/cas/katia-del-rio-tsonis.html
3 PM	Tea/coffee break and networking	
3:30 PM	Regeneration of retinal cells from Müller glia	**Thomas Reh, PhD** https://www.rehlab.org/thomas-a-reh
Replacement of retinal cells		
4:00 PM	Generation and transplantation of photoreceptors	**David Gamm, MD, PhD** https://www.waisman.wisc.edu/staff/gamm-david/
4:30 PM	Generation and transplantation of RPE	**Speaker pending**