BIOGRAPHICAL SKETCH

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NAME: Coyner, Aaron Scott

eRA COMMONS USER NAME (credential, e.g., agency login): COYNERA

POSITION TITLE: PhD Student

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
Pierce Community College, Lakewood, WA	AS	06/2012	Chemistry
Pacific Lutheran University, Tacoma, WA	BS	05/2014	Biochemistry
Oregon Health & Science University, Portland, OR	Graduate Student	present	Bioinformatics and Computational Biology

A. Personal Statement

I am a PhD student in the Department of Medical Informatics and Clinical Epidemiology at Oregon Health & Science University and am also a National Library of Medicine Training Grant recipient. I am currently majoring in Bioinformatics and Computational Biology. My current research and interests center around quantitative image analysis and machine learning, specifically deep learning using neural networks. Currently, I am implementing these methods and techniques in the the field of Retinopathy of Prematurity to help physicians with accurate visualization and diagnosis of the disease.

B. Positions and Honors

Positions and Employment

2014 - 2015   Research Assistant I, Casey Eye Institute, Oregon Health & Science University, Portland, OR

2015 - 2016   Research Assistant II, Casey Eye Institute, Oregon Health & Science University, Portland, OR

2016 -   PhD Student, Oregon Health & Science University, Department of Medical Informatics and Clinical Epidemiology, Portland, OR

Other Experience and Professional Memberships

2014 -   Student Member, Association for Research and Vision in Ophthalmology

2016 -   Student Member, American Medical Informatics Association

Honors

2017   Travel Grant Recipient, National Eye Institute

2018   Members-In-Training Outstanding Poster Award Finalist, Association for Research in Vision and Ophthalmology

C. Contribution to Science

1. In these studies, we have shown that serotonin receptor agonists and antagonists can prevent light-induced retinal degeneration. The neuroprotective effects of these drugs may prove effective in other diseases where retinal degeneration is a primary outcome.

a. Ku CA, Ryals RC, Jiang D, Coyner AS, Weller KK, Sinha W, Robb BM, Yang P, Pennesi ME. The Role of ERK1/2 Activation in Sarpogrelate-Mediated Neuroprotection. Invest Ophthalmol Vis Sci. 2018 Jan 1;59(1):462-471. PubMed PMID: 29368005; PubMed Central PMCID: PMC5786286.

b. Coyner AS, Ryals RC, Ku CA, Fischer CM, Patel RC, Datta S, Yang P, Wen Y, Hen R, Pennesi ME. Retinal Neuroprotective Effects of Flibanserin, an FDA-Approved Dual Serotonin Receptor Agonist-Antagonist. PLoS One. 2016;11(7):e0159776. PubMed PMID: 27447833; PubMed Central PMCID: PMC4957778.

c. Tullis BE, Ryals RC, Coyner AS, Gale MJ, Nicholson A, Ku C, Regis D, Sinha W, Datta S, Wen Y, Yang P, Pennesi ME. Sarpogrelate, a 5-HT2A Receptor Antagonist, Protects the Retina From Light-Induced Retinopathy. Invest Ophthalmol Vis Sci. 2015 Jul;56(8):4560-9. PubMed PMID: 26200496; PubMed Central PMCID: PMC4515947.

2. Here, we have fully investigated and characterized the process of retinal degeneration in the Royal College of Surgeons rat.

a. Ryals RC, Andrews MD, Datta S, Coyner AS, Fischer CM, Wen Y, Pennesi ME, McGill TJ. Long-term Characterization of Retinal Degeneration in Royal College of Surgeons Rats Using Spectral-Domain Optical Coherence Tomography. Invest Ophthalmol Vis Sci. 2017 Mar 1;58(3):1378-1386. PubMed PMID: 28253400; PubMed Central PMCID: PMC5361458.

3. In this study, we report a novel finding using spectral domain optical coherence tomography in patients with choroideremia, which we describe as scleral pits.

a. Al-Qahtani AA, Ba-Ali S, Alabduljalil T, Coyner AS, Patel RC, Weleber RG, Girach A, Christensen SK, Larsen M, Pennesi ME, Yang P. SCLERAL PITS IN CHOROIDEREMIA: Implications for Retinal Gene Therapy. Retina. 2017 Nov 16;PubMed PMID: 29160785.

D. Additional Information: Research Support and/or Scholastic Performance

Completed Research Support

T15 LM007088-25   HERSH, WILLIAM R (PI)   07/01/92-06/30/17

Biomedical Informatics Research Training at Oregon Health & Science University

Role: TA