

## CURRICULUM VITAE

**Anna G. Figueroa**

afigueroa@email.arizona.edu

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### EDUCATION

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2015 – 2018      **University of Arizona, B.S.**  
Major: Neuroscience and Cognitive Science with University Honors  
Minors: Physiology, Anthropology

### CERTIFICATIONS

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2018 – Present      **Protecting Human Research Participants.** Certified to work in research involving human subjects.  
Certification number 2881564, National Institutes of Health.

### EMPLOYMENT

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2011 – 2013      **Front Office Manager,** Hilton El Conquistador, Oro Valley, AZ.  
Managed a team of 15 individuals that handled the daily front office activities of a 428 room 4-star resort.

2013 – 2015      **Merchant Services Supervisor,** LivingSocial, Tucson, AZ.  
Managed a team of 30 client-service representatives that assisted with daily electronic and phone-contact from clients that featured their events, services or travel destinations on an online-platform. Used Salesforce for team and department analytics, forecasting, and management.

2017 – Present      **Research Technician,** Department of Ophthalmology and Vision Science, University of Arizona, Tucson, AZ.  
Performed an array of basic science assays from the level of fresh *in situ* analysis to structure and function protein assays. Specific goals were to understand how exosome (extracellular vesicles) release was controlled and how exosomes relate to age-related macular degeneration (AMD), under the mentorship of Prof. Brian S. McKay.

2018 – Present      **Clinical Research Assistant,** Tucson Eye Care. Tucson AZ.  
Clinical assistant performing patient evaluations and data analysis for research on prospective clinical trials designed to evaluate whether L-

DOPA treats neovascular AMD. Results indicate L-DOPA is effective in treating AMD and could represent a new treatment avenue for the most common cause of blindness in the developed world.

## HONORS AND AWARDS

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- 2015 - 2017      **Phi Theta Kappa Scholarship (Funding amount: \$5000 per academic year)**  
Awarded by the University of Arizona for academic excellence as a transfer student and for being a member of the Phi Theta Kappa society at Pima Community College; Tucson, AZ.
- 2016              **UA Undergraduate Research Opportunity Consortium (UROC) Summer Fellowship (Funding amount: \$7000)**  
Awarded by the University of Arizona Graduate College to sponsor graduate school preparation and my summer research project titled, “The Secret Life of Exosomes: Localization of a Control Point for Cargo Uptake”, for presentation at the 21<sup>st</sup> UA Student Research Conference. Research conducted at UA College of Medicine, Department of Ophthalmology and Vision Science, Neurology and Pharmacology; under the mentorship of Brian S. McKay, PhD and Torsten Falk, PhD.
- 2016              **Western Alliance to Expand Student Opportunities (WAESO) Research Grant (Funding amount: \$1300)**  
Awarded by WAESO through the National Science Foundation-funded Alliances for Graduate Education and the Professoriate (AGEP) to sponsor my ongoing research project, during the academic year titled, “Exosomes: localization of a control point for protein uptake”.
- 2016              **Travel award for the 2016 Barshop Symposium on Aging (Funding amount: \$1500)**  
Promoting Healthy Aging: Intervening with Diet, Drugs, or Exercise. Bestowed by the University of Texas Health Science Center at San Antonio to sponsor my trip to the annual Barshop Symposium on Aging, to further explore research topics involving age-related diseases. October 13-16, 2016; Bandera, TX.
- 2016              **UA Neuroscience and Cognitive Science (NSCS) Undergraduate Research Award (Funding amount: \$300)**  
Bestowed by the UA College of Science NSCS Department to sponsor research supplies for my ongoing research project related to the study of exosomes.

- 2017 **Western Alliance to Expand Student Opportunities (WAESO) Research Grant (Funding amount: \$1000)**  
Awarded by WAESO through the National Science Foundation-funded Alliances for Graduate Education and the Professoriate (AGEP) to sponsor my ongoing research project studying exosomes, during the academic year.
- 2017 **Travel award for the 12<sup>th</sup> Annual Western Alliance to Expand Student Opportunities (WAESO) Conference (Funding amount: \$400)**  
Awarded by WAESO to support the presentation of my research project titled, “Exosomes: Localization of a Control Point for Cargo Uptake” March 14-15, 2017; Arizona State University, Tempe, AZ.
- 2017 **Third place Life Sciences Poster Competition (Funding amount: \$100)**  
Awarded by WAESO for the poster presentation of “Exosomes: Localization of a Control Point for Cargo Uptake” at the 12<sup>th</sup> Annual WAESO Conference; March 15, 2017; Arizona State University, Tempe, AZ.
- 2017 **Spirit of Inquiry Research Grant (Funding amount: \$1500)**  
Awarded by the UA Honors College to sponsor the research work behind my undergraduate honors thesis titled, “Exosomes: Localization of a Control Point for Cargo Uptake”.
- 2017 **UA Neuroscience and Cognitive Science (NSCS) Undergraduate Research Award (Funding amount: \$300)**  
Bestowed by the UA College of Science NSCS Department to sponsor research supplies for my ongoing research project related to the study of exosomes.
- 2017 **UA Health Sciences Focusing Research on the Border Area (FRONTERA) Summer Fellowship (Funding amount: \$5200)**  
Awarded by the University of Arizona Health Sciences Office of Diversity and Inclusion to sponsor my summer research project titled, “Myocilin-Associated Exosomes in Glaucoma-Related Diseases”, for presentation at the 22<sup>nd</sup> UA Student Research Conference.  
Research conducted at UA College of Medicine, Department of Ophthalmology and Vision Science, Neurology and Pharmacology; under the mentorship of Brian S. McKay, PhD and Torsten Falk, PhD.
- 2017 **Travel award for the 18<sup>th</sup> National Role Models Conference (Funding amount: \$2100)**  
Awarded by the Western Alliance to Expand Student Opportunities (WAESO) to support the oral presentation of my research project titled,

“Myocilin-Associated Exosomes in Glaucoma-Related Diseases”;  
September 29 – October 1, 2017; Washington DC.

- 2017            **Travel award for the 2017 Louis Stokes Midwest Center of Excellence (LSMCE) Annual Conference (Funding amount: \$1800)**  
Awarded by WAESO and LSMCE to support the poster presentation of my research project titled, “Myocilin-Associated Exosomes in Glaucoma-Related Diseases”; October 6 – 8, 2017; Indianapolis, IN.
- 2017            **Fourth place Poster Competition (Funding amount: \$100)**  
Awarded by the Louis Stokes Midwestern Center of Excellence to the top 3% posters for the presentation of “Myocilin-Associated Exosomes in Glaucoma” at the LSMCE Annual Conference; October 7, 2017; Indianapolis, IN.
- 2018            ***Outstanding Honors Transfer Graduate Award (Funding amount: \$500)***  
Bestowed by the University of Arizona Honors College for outstanding leadership, academic achievement and extra-curricular involvement in the Honors College.
- 2018            ***Best Honors Thesis Elevator Pitch Award (Funding amount: \$500)***  
Bestowed by the University of Arizona Honors College for creating the best video that shared in 120 seconds my undergraduate honors thesis titled “Exosomes: Localization of a Control Point for Cargo Uptake”.

## COMMUNITY PRESENTATIONS

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- 2017            Invited co-lecture on eye-blinding diseases: albinism, age-related macular degeneration and glaucoma, titled, “New Hope that we can Prevent Blindness”; March 2, 2017; Voyager Resort, Tucson, AZ.
- 2019            Co-speaker for a Lions Community Health Fair and Expo titled, “Current thoughts on Age-related Macular Degeneration”; April 12, 2019; Radisson Suites, Tucson, AZ.
- 2019            Co-speaker at a Lions Leadership Conference to discuss the McKay Lab’s bench-to-bedside approach to treating the leading cause of blindness in the world, titled, “Update on Age-related Macular Degeneration”; November 2, 2019; Embassy Suites, Tempe, AZ.

## CONFERENCE PRESENTATIONS AND PEER-REVIEWED ABSTRACTS

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### LOCAL / REGIONAL:

**Figueroa AG**, Sadideen DT, Falk T, McKay BS; The secret life of exosomes: localization of a control point for cargo uptake. *Poster presentation at 21<sup>st</sup> Student Research Conference*; August 8, 2016; University of Arizona, Tucson, AZ.

**Figueroa AG**, Sadideen DT, Falk T, McKay BS; Exosomes: Localization of a control point for cargo uptake. *Poster presentation at 12<sup>th</sup> Annual Western Alliance to Expand Student Opportunities (WAESO) Conference*; March 15, 2017; Arizona State University, Tempe, AZ.

**Figueroa AG**, Sadideen DT, Falk T, McKay BS; Exosomes: localization of a control point for cargo uptake. *Poster presentation at AZBIO Expo*; March 29, 2017; Marriot Tempe at the Buttes, Tempe, AZ.

**Figueroa AG**, Sillik SA, Falk T, McKay BS; Myocilin-associated exosomes in glaucoma-related diseases. *Poster presentation at the 22<sup>nd</sup> Student Research Conference*; August 7, 2017; University of Arizona, Tucson, AZ.

**Figueroa AG**, Congrove NR, Sillik SA, Sadideen DT, Falk T, Bowes-Rickman C, McKay BS; Exosome uptake is selective but not species or tissue specific. *Poster presentation at the UA Honors Engagement Expo*; April 25, 2018; University of Arizona, Tucson, AZ.

**Figueroa AG** and McKay BS; Unexpected Exosome Communication Problems across Species and Tissues. *Oral presentation at University of Arizona College of Medicine Research Day*; February 13, 2019; UA Health Science Innovation; Tucson, AZ.

### NATIONAL / INTERNATIONAL:

**Figueroa AG**, Sillik SA, Falk T, McKay BS; Myocilin-associated exosomes in glaucoma-related diseases. *Oral presentation at 18<sup>th</sup> National Role Models Conference*; September 29 – October 1, 2017 Marriott Marquis Hotel, Washington DC.

**Figueroa AG**, Sillik SA, Falk T, McKay BS; Myocilin-associated exosomes in glaucoma-related diseases. *Poster presentation at the Louis Stokes Midwest Center of Excellence Annual Conference*; October 6 – 8, 2017; Sheraton Indianapolis, Indianapolis, IN.

**Figueroa AG**, Congrove NR, Sillik SA, Sadideen DT, Falk T, Bowes-Rickman C, McKay BS; Exosome uptake is selective but not species or tissue specific. *Poster presentation at the Association for Research in Vision and Ophthalmology Annual Meeting*; April 29 – May 3, 2018; Honolulu, HI. *Invest. Ophthalmol. Vis. Sci.* 2018;59(9):3993.

Piechowicz M, **Figueroa AG**, Congrove NR, Sillik SA, McKay BS; L-DOPA activation of GPR143 decreases lysosomal pH in RPE. *Invest. Ophthalmol. Vis. Sci.* 2018;59(9):2467.

Doyle KP, Chung A, Frye JB, Zbesko JC, Constantopoulos M, Hayes M, **Figueroa AG**, Day AW, Konhilas JP, McKay BS, Nguyen T-VV; Liquefaction of the Brain following stroke shares characteristics with atherosclerosis. *Society for Neuroscience Abstracts*; 2018.

**Figueroa AG**, Congrove NR, Liu Y, McKay BS; Dopaminergic control of constitutive exosome release from *in situ* RPE. Oral presentation at the Association for Research in Vision and Ophthalmology Annual Meeting; April 28 – May 2, 2019; Vancouver BC. *Invest. Ophthalmol. Vis. Sci.* 2019;60(9):3849.

Boyd BM, Fagan TC, **Figueroa AG**, McKay BS, Snyder RW; Short-term effects of Carbidopa-Levodopa in Neovascular AMD. *Invest. Ophthalmol. Vis. Sci.* 2019;60(9):356.

**Figueroa AG**, Fagan TC, Boyd BM, Javid C, McKay BS, Snyder RW; Repurposing L-DOPA for age-related macular degeneration. *Drug Repositioning, Repurposing, and Rescue Annual Conference*; 23 – 24, 2019; Washington DC.

## PEER-REVIEWED PUBLICATIONS

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Chung AG, Frye JB, Zbesko JC, Constantopoulos E, Hayes B, **Figueroa AG**, Becktel DA, Day AW, Konhilas JP, McKay BS, Nguyen T-VV, Doyle KP; Liquefaction of the brain following stroke shares a similar molecular and morphological profile with atherosclerosis and mediates secondary neurodegeneration in an osteopontin-dependent mechanism. *eNeuro*. 2018;5(5): ENEURO.0076-18.2018. Published 2018 Nov 8. [[PubMed](#)]

**Figueroa AG** and McKay BS; GPR143 signaling and retinal degeneration. *Advances in Experimental Medicine and Biology*, in Retinal Degenerative Disease, vol 1185. Published 2018 Dec 29. doi: 10.1007/978-3-030-27378-1\_3.

## PEER-REVIEWED PUBLICATIONS UNDER REVIEW AND IN PREPARATION

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**Figueroa AG** and McKay BS; Race, melanin and retinal degeneration. *Under review*.

**Figueroa AG**, Boyd BM, Christensen CA, McKay BS, Javid CG, Fagan TC, Snyder RW; Carbidopa-levodopa treats neovascular age-related macular degeneration. *Under review*.

## ONLINE AND NEWS ARTICLES

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- January 2019 Anna G. Figueroa and Brian S. McKay; “Your Sight Matters: Finding a Cure for Macular Degeneration” on *University of Arizona Health Sciences – The Healthy Dose*; January 15, 2019; <https://uahs.arizona.edu/blog/2019-01-15/your-sight-matters-finding-cure-macular-degeneration>.
- November 2019 “Parkinson’s Drug may Treat Macular Degeneration” on Wildcat Country, Arizona Daily Star; Written by Jean Spinelli; November 3, 2019.

## PATENTS

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- 2019 New method to screen for drugs to treat age-related macular degeneration (AMD).  
*Inventors:* Brian S. McKay, Anna G. Figueroa Nicole R. Congrove  
*UA Reference Number:* 20-295; September 23, 2019.