

Andrea Romanowski

Baltimore, MD 21201

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EDUCATION

University of Maryland, Baltimore, MD, July 2017-present

PhD candidate; Program: Molecular Medicine, Molecular physiology and pharmacology track

Palm Beach Atlantic University, West Palm Beach, FL, May 2017

B.S. in Biology; Concentration: Molecular Biology and Biotechnology

Suma Cum Laude, GPA: 3.90

GRANTS AND AWARDS

Palm Beach Round Table Essay Winner (\$1000), 2016

Quality Initiative Research Grant (Palm Beach Atlantic University, \$2500), 2015-2016

Undergraduate Research Award (Palm Beach Atlantic University, \$1500), 2015

American Society of Pharmacognosy Scholarship (\$2000), 2015

RELATED EXPERIENCE

RESEARCH

Graduate Research Assistant

March 2018- Present

Department of Pharmacology, University of Maryland, Baltimore

Advisor: Dr. Alexandros Pouloupoulos

- Performs *in utero* electroporation in mice and rats
- Designs DNA cloning and other experiments
- Immunohistochemistry/immunocytochemistry
- Performs protein analysis and Western blots
- Fluorescence microscopy and image analysis

Research Laboratory Assistant

October 2014- April 2017

Department of Chemistry, Palm Beach Atlantic University, West Palm Beach, FL

Advisor: Dr. Mireille Aleman

- Grew *in vitro* breast cancer cell lines in culture
- Designed and performed weekly experiments
- Tested efficacy of extract in various breast cancer cells using cell viability assays

- Investigated apoptotic mechanism of breast cancer cells using caspase-inhibitors

Summer Undergraduate Research Assistant **May 2015- July 2015**

Department of Chemistry, Palm Beach Atlantic University, West Palm Beach, FL

Advisor: Dr. Cidya Grant

- Distilled crude extract and fractions using polarity solvent column chromatography
- Wrote new protocols for extraction methods
- Determined active ingredient of crude extract using ultra violet spectroscopy
- Tested crude treatment and fractions on various breast cancer cell lines

TEACHING

Collaborative Teaching Fellow

August 2020-December 2020

Goucher College, Towson, MD

- Assisted with planning Cell Biology and Biochemistry virtual class
- Designed and gave lecture on Chromatin Structure and Mitosis
- Designed and graded problem set assignments
- Participated in small group discussions during class
- Held virtual office hours

Graduate School Tutor

September 2019-November 2019

Graduate Program in Life Sciences, University of Maryland, Baltimore, MD

- Tutored large group of graduate students in first year class (Core Course)
- Provided one-on-one tutoring for graduate students in intro Core Course

Student Guest Lecturer

May 2019/2021

Program in Neuroscience, University of Maryland, Baltimore, MD

- Designed and gave lecture to teach *in utero* electroporation to graduate students
- Performed in-person demonstration of *in utero* electroporation

Teaching Assistant

August 2015- May 2016

Department of Chemistry, Palm Beach Atlantic University, West Palm Beach, FL

- Taught group of about 20 undergraduates in General Chemistry I and II recitation
- Held small group or one-on-one study sessions outside of class

High School Tutor

May 2016- April 2017

Boca Raton, FL

- Provided personalized tutoring sessions for a high school junior
- Subjects covered included English and Mathematics (Algebra & Geometry)

ABSTRACTS AND PRESENTATIONS

Romanowski A, Altas B, Richardson RR, Khim SN, Caraker EA, Pouloupoulos A.

Mosaic Cas9 fusions to investigate cortical wiring by IgLON schizophrenia risk-genes in

the rodent brain. Poster, Society for Neuroscience 2022 meeting, San Diego, CA. To be presented November 2022.

Romanowski A, Altas B, Richardson R, Khim S, Pouloupoulos A. Multiplexed manipulation of gene dosage of schizophrenia risk genes using Cas9 fusions change layer position of cortical neurons. Poster, Cell Symposia: The biology of neuropsychiatric disorders, Sitges, Spain, May 2022.

Romanowski A, Altas B, Richardson R, Khim S, Pouloupoulos A. Multiplexed manipulation of gene dosage of schizophrenia risk genes using Cas9 fusions change layer position of cortical neurons. Poster, Neuronal Circuits at Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. March 2022. Doi: 10.13140/RG.2.2.21259.98082

Iffland II, P.H., Babus, J., Baybis, M., **Romanowski, A.**, Pouloupoulos, A., Crino. P.B. “*In vivo Nprl3* knockout results in reduced seizure threshold and abnormal neuronal migration and morphology”. Abstract, American Epilepsy Society, submitted by Dr. Phil Iffland II, December, 2020.

Altas, B., Richard, E.M., Contreras, M., **Romanowski, A.**, Richardson, R., Khim, S., Jean-Baptiste, U., Metzbower, S., Riazuddin, S., Ahmed, Z., Blanpied, T., Pouloupoulos, A., Riazuddin, S. "Cellular and neurodevelopmental defects of a DCTN2 missense variant causing severe intellectual disability". Poster, Society for Neuroscience 2019 meeting, Chicago, IL. October 2019.

Romanowski, A., Altas, B., Richardson, R., Steyert, M., Bunce, G., Pouloupoulos, A. “*In situ* genome engineering reveals cell adhesion molecule IgLON4 role in cortical circuit formation”. Poster, Greater Baltimore Society for Neuroscience Annual Meeting, Baltimore, MD, September 2019.

Romanowski, A. “Local neuron knockout and knockin with *in vivo* CRISPR”. Oral presentation (3-minute tech blitz), Program in Neuroscience Annual Meeting, University of Maryland, Baltimore, MD. June 2019.

Romanowski, A., Altas, B., Richardson, R., Steyert, M., Bunce, G., Madden, M., Pouloupoulos, A. “Endophenotypes: A novel approach to investigate rare variants in schizophrenia”. Poster, Program In Neuroscience Annual Meeting, University of Maryland, Baltimore, MD, June 2019.

Romanowski, A., Richardson, R., Altas, B., Steyert, M., Waal, N., Pouloupoulos, A. “Expression levels of cell adhesion molecules IgLON4 and CXADR determine circuitry between upper and lower layers of the cerebral cortex”. Poster, Greater Baltimore Society for Neuroscience Annual Meeting, Baltimore, MD, October 2018.

Romanowski, A., Altas, B., Richardson, R., Anderson, M., Herold, K., Pouloupoulos, A.

“Identifying specific miswiring endophenotypes in neurodevelopmental disorders using CRISPR”. Poster, Program In Neuroscience Annual Meeting, University of Maryland, Baltimore, MD, June 2018.

Romanowski, A., Bruinius, M., Barajas, E., Grant, C., Aleman, M. “Evaluation of CGMA15 extracts efficacy in various breast cancer cells”. American Association of Cancer Research. Poster, American Association of Cancer Research annual meeting, New Orleans, LA, April 2016.

PUBLICATIONS

Altas B, **Romanowski AJ**, Bunce GW, Poulopoulos A. Neuronal mTOR outposts: implications for translation, signaling, and plasticity. 2022, Front. Cell. Neurosci. Doi: 10.3389/fncel.2022.853634.

Iffland PH, Everett ME, Cobb-Pitstick KM, Bowser LE, Barnes AE, Babus JK, **Romanowski AJ**, Baybis M, Elziny S, Puffenberger EG, Gonzaga-Jauregui C, Poulopoulos A, Carson VJ, Crino PB. NPRL3 loss alters neuronal morphology, mTOR localization, cortical lamination, and seizure threshold. Brain. 2022. Feb 8:awac044. doi: 10.1093/brain/awac044. PMID: 35136953.

Altas B, Tuffy LP, Patrizi A, Rimova K, Soykan T, **Romanowski AJ**, Khim SN, Ambrozkiwicz MC, et al. Region-specific phosphorylation determines excitatory versus inhibitory synapse localization of Neuroligin-3. *In revision*, submitted March 2022, manuscript CELL-REPORTS-D-19-03950R1.

Richardson RR, Steyert M, Khim S, **Romanowski AJ**, Inen J, Altas B, Poulopoulos A. Cas9 fusions for precision in vivo editing. BioRxiv [preprint] 2020. <http://doi.org/10.1101/2020.07.15.199620>

PROFESSIONAL AFFILIATIONS

Member, Graduate Women in Science 2022-present

Member, Society for Neuroscience, 2019-2020 & 2022-present

Treasurer, Neuroscience Outreach Volunteer Association (NOVA), 2019-present

Member, American Association for Cancer Research, 2016- 2018

Member, Palm Beach Atlantic University Pre-Health Society, 2015 - 2017

REFERENCES

Dr. Alexandros Poulopoulos

Assistant Professor, Department of Pharmacology

University of Maryland, Baltimore

APoulopoulos@som.umaryland.edu