**JULIE A. MOCKO, PH.D.**

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**OBJECTIVE**

Self-directed and highly motivated data scientist and biomedical researcher looking to transition into the data science field, with 11+ years of experience with experimental design, data collection, management, analysis and interpretation, hypothesis testing, statistical design and modeling, data visualization, and presentation of complicated technical concepts to both technical and non-technical audiences.

**WORK EXPERIENCE**

**Data Scientist JAN 2018 – present**

*Consultant*

* Collaborated with patent lawyers at Legal Analytics to visualize and analyze PTAB patent data, and identify potential predictors of which patents will succeed or fail in becoming institutionalized using Excel, R, and Tableau.
* Crafted a detailed and audience-appropriate report of findings for presentation to Uber and Stripe, contributing to changes how future patent decisions are made.
* On-going collaboration with Legal Analytics to visualize, analyze and predict which factors lead to valid vs. invalid litigation decisions.

**Post-doctoral Research Fellow JUN 2017 – present**

*Cincinnati Children’s Hospital Medical Center, Department of Ophthalmology*

* Rapidly integrated into a collaborative, multi-disciplinary team of microbiologists and genetics researchers in a fast-paced laboratory, and contributed significantly to an on-going project with a tight publication deadline, culminating in a co-authored publication under peer review in the prestigious journal *Nature*.
* Developed optimized protocols with greater quality control for the collection of data on gene expression to conform to industry standards (MIQE guidelines), and introduced more appropriate and rigorous statistical analysis methods for this data.
* Automated data analysis and results visualization for the laboratory using Excel and Visual Basic, reducing analysis time for colleagues from hours to minutes.

**PhD Student and Graduate Research Assistant AUG 2010 – MAY 2017**

*University of Houston, College of Optometry*

* Investigated a potential treatment (high dose vitamin A supplementation) to prevent a blinding disease in prematurely born infants (retinopathy of prematurity) using a rodent model of the disease, resulting in 8 conference presentations, and 2 publications that are currently in peer-review, and 3 grants and 4 research awards totaling $133,102 over 6 years.
* Communicated complex and highly technical information to a variety of both technical and lay audiences, giving 11+ invited talks and poster presentations, and receiving awards for Best Student Presentation at the American Academy of Optometry annual meeting, and 2 UHCO Best Student Teaching Assistant awards.
* Developed basic image analysis and signal processing programs (MATLAB) for the analysis of histological and electrophysiological data, respectively; and received training from a biostatistician to analyze complex experimental data using multivariate analysis of variance.

**Senior Research Assistant AUG 2009 – AUG 2010**

*Atlanta VA Hospital | Emory University, Department of Ophthalmology*

* Tested a biomedical ophthalmic device called a subretinal microphotodiode array as a potential therapeutic implant for retinal degenerations, using rodent genetic models of retinitis pigmentosa, culminating in 2 peer-reviewed publications and 2 conference presentations.
* Developed protocols for data collection and statistical analysis of electrophysiological data (signal processing), and conducted a training seminar for Emory Eye Institute in the use of these methodologies.

**Research Assistant SEP 2006 – AUG 2009**

*Children’s Hospital Boston, Department of Ophthalmology*

* Worked as part of a multi-disciplinary team of basic science researchers, clinician scientists, and industry scientists at a pharmaceutical start-up firm (Acucela) on both basic animal research and clinical projects in pediatric ophthalmology.
* Designed and conducted a mentored research study investigating the molecular cross-talk between retinal neurons and blood vessels, which was funded by a pre-doctoral summer research grant ($2,500), and published in a peer-reviewed journal.

**TECHNICAL SKILLS**

* **Experimental:** Experienced in experimental design, data collection, data management, and complex data analysis, with a firm grasp of statistical methods and data visualization. Extensive experience (11+ years) working with data from electrophysiological, molecular, and morphological studies.
* **Computational Methods:** Development of programs for basic image and signal processing in MATLAB (MathWorks). Statistical analyses (inferential and predictive statistics) using IBM SPSS and R.
* **Software:** General software (Adobe Acrobat Professional, Microsoft Office Suite); image processing (Adobe Photoshop, Fiji, ImageJ); programming, statistics and data visualization (R, MATLAB, SPSS, SigmaPlot); basic database management systems (PostgreSQL), reference management (Endnote, Qiqqa).
* **Presentation:** Extensive experience (9 years) presenting research at international research conferences and university seminar, with the ability to tailor the content for both technical and lay audiences.
* **Writing:** Experience writing peer-reviewed publications, grant proposals, and research press releases.  
  **Publications List**: <https://scholar.google.com/citations?user=99ESO_8AAAAJ&hl=en>
* **Languages:** English (native); Polish (intermediate).

**EDUCATION**

**PhD Physiological Optics and Vision Science (GPA 4.0) MAY 2017**

*University of Houston, College of Optometry*

**BS Behavioral Neuroscience (GPA 3.9) DEC 2008**

*Northeastern University*

Professional Affiliations

References furnished upon request