

Alan Horsager, Ph.D.

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SUMMARY

Strategic life science executive with 10+ years of C-Suite leadership experience in the start-up environment. Translated academic research to marketed product. Sold in both clinical and direct-to-consumer (DTC) sales channels. Proven track record of building collaborative relationships between scientific, clinical, and business stakeholders. Deep technical expertise in computational neuroscience, ophthalmology, and epigenetics.

PROFESSIONAL EXPERIENCE

Episona, Inc. | President, CEO, & Co-Founder

Pasadena, CA (2013 – Present)

Lead a team of 20+ FTEs, consultants, and collaborators to develop and commercialize a novel epigenetic-based molecular diagnostic test for male infertility. Episona is currently in discussions for acquisition.

- o Established the viability of the test through multi-center trials for proof-of-concept, clinical utility, and technical validation studies.
- o Raised over \$4,000,000 in private investment and negotiated the licenses for university technologies.
- o Built relationships with academic partners, commercial laboratories, and suppliers to allow Episona to focus on their core competency (data analytics) and maintain a lean, flexible organization.
- o Created brand awareness by increasing unique visits by 20% month-over-month and garnering press coverage, including Men's Health, STAT News, and GenomeWeb.
- o Increased revenues by 200% in last 12 months, selling Episona's test internationally through 80+ in-vitro fertility clinics and DTC. 80% of clinic volume was repeat orders from the same clinics.

Eos Neuroscience, Inc. | Chief Science Officer (CSO) & Co-Founder

San Francisco, CA (2007 – 2013)

Scientific and strategic lead for Eos Neuroscience, a company developing an optogenetic-based gene therapy for blindness from inherited photoreceptor diseases. Eos is currently exploring technology licensing.

- o Lead the university consortium (USC, MIT, and U of Florida), which established the safety and efficacy proof-of-concept in multiple mouse models of blindness. Inventor on several core patents.
- o Raised \$2MM in non-dilutive funding from several organizations including The Coulter Foundation, The Burroughs Wellcome Fund, and NIH.
- o Established the regulatory strategy for FDA approval and engaged in formal FDA discussions to determine the appropriate direction for preclinical and clinical studies.
- o Interviewed by major media including Reuters, Entrepreneur Magazine, and Men's Health. Gave numerous talks to investors, scientists, and the general public (e.g., TEDx).

University of Southern California | Research Assistant Professor

Los Angeles, CA (2009 – 2013)

Principal Investigator of a gene therapy lab in the Department of Ophthalmology at the University of Southern California. The research focus was on therapeutic development and understanding molecular mechanisms of retinal degeneration.

California Clinical Trials | Clinical Research Associate

Los Angeles, CA (2003 – 2004)

Managed research staff and patient recruitment for multiple sponsored clinical drug studies in Phases I-III focused on neuropsychiatric indications including Alzheimer's disease, schizophrenia, and bipolar disorder.

VivoMetrics, Inc. | Clinical Project Manager, Research Associate

Ventura, CA (2000 – 2003)

Data analysis and project management for this medical device, series A-funded startup developing the original health tracking device (LifeShirt) that monitored cardiovascular and pulmonary function. Created foundation for algorithms that would detect sleep apnea and chronic cough.

EDUCATION

Ph.D., Neuroscience | University of Southern California

Los Angeles, CA (2009)

Thesis involved computational modeling and psychophysics to create algorithms that predicted visual perception in blind patients treated with an implanted retinal electrical stimulator. Produced 5 peer-reviewed publications and numerous patents.

B.A., Psychology | University of Washington

Seattle, WA (1997)

PUBLICATIONS & PATENTS

Selected Publications (13 total peer-reviewed publications and book chapters)

1. Aston KI, Uren PJ, Jenkins TG, Horsager A, Cairns BR, Smith AD, Carrell DT. "Aberrant sperm DNA methylation predicts male fertility status and embryo quality". *Fertil Steril* 2015 Dec.
2. Uren PJ, Lee JT, Doroudchi MM, Smith AD, Horsager A. "A profile of transcriptomic changes in the *rd10* mouse model of retinitis pigmentosa". *Mol Vis* 2014 Nov.
3. Doroudchi MM, Greenberg KP, Zorzos AN, Hauswirth WW, Fonstad CG, Horsager A, Boyden ES. "Towards Optogenetic Sensory Replacement". *Conf Proc IEEE Eng* 2011 Aug.
4. Doroudchi MM, Greenberg KP, Liu JW, Silka KA, Boyden ES, Lockridge JA, Arman AC, Janani R, Boye SE, Boye SL, Gordon GM, Matteo BC, Sampath AP, Hauswirth WW, Horsager A. "Virally-Delivered, Genetically-Targeted Expression of Channelrhodopsin-2 Restores Visual Function in Multiple Mouse Models of Blindness". *Mol Ther.* 2011 Jul.
5. Horsager A, Greenwald SH, Weiland JD, Humayun MS, Greenberg RJ, McMahon MJ, Boynton GM, Fine I. "Predicting visual sensitivity in retinal prosthesis patients". *Inv. Vis. Opth. Sci.* 2009 Apr.

Selected Patents (20 total US patent and patent applications)

1. "Apparatus and method for electrical stimulation of the human retina". US Patent # 8,271,091.
2. "Multi-electrode integration in a visual prosthesis". US Patent # 8,620,442.
3. "Saliency-based apparatus and methods for visual prosthesis". U.S. Patent # 9,795,786.
4. "Vectors for Delivery of Light-Sensitive Proteins and Methods of Use". PCT Application (National Phase) # PCT/US2009/044753. Great Britain Patent # GB2472964.
5. "Methods of identifying male fertility status and embryo quality". PCT Application (National Phase) # PCT/US2016/046060.