

# Steven Pennock, PhD

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## PROFESSIONAL SUMMARY

Visionary scientific and translational leader with 15+ years of experience advancing gene and cell therapies for retinal and neurological diseases, spanning early discovery through IND-enabling studies and clinical development. Deep expertise in AAV vector design, capsid/payload engineering, viral and non-viral delivery systems (including LNP/RNA), and cell-based therapeutic platforms including RPE, iPSCs, and neuronal lineages. Proven record building and leading high-performing interdisciplinary teams, integrating CMC and GMP considerations early, and driving partnerships across academia, biotech, and pharma. Experienced scientific communicator with demonstrated success representing programs to executive leadership, boards, investors, and regulators.

## PROFESSIONAL EXPERIENCE

### **Vision BioSciences (Vision Biosciences) — Texas, USA**

**Chief Scientific Officer (CSO)** | November 2025 – Present

- Oversees full R&D; execution, scientific vision, and pipeline strategy aligned with corporate goals.
- Defines and drives research priorities supporting gene therapy and regenerative medicine programs.
- Partners with CEO and executive leadership team on corporate strategy, fundraising, and investor engagement.

### **Johnson & Johnson Innovative Medicine / Janssen Pharmaceutical Companies of Johnson & Johnson — La Jolla, CA / South San Francisco, CA**

**Director, RNA, Gene Therapy & Delivery** | 2023 – 2024

**Director, Gene Therapy Discovery Emerging Platforms** | August 2021 – 2023

- Advanced multiple ocular and neurodegenerative gene therapy programs from initiation through preclinical IND-enabling studies; supported clinical-stage assets.
- Built integrated AAV vector production and analytical platforms in-house with alignment to CMC/GMP standards.
- Partnered with Cell Therapy teams to support in vivo CAR-T and iPSC-based approaches.
- Represented gene therapy platform internally to executive leadership and externally to collaborators and partners.
- Established and maintained external scientific collaborations to drive innovation and portfolio growth.

### **Applied Genetic Technologies Corporation (AGTC) — Cambridge, MA**

**Director, Gene Therapy R&D**; | July 2020 – August 2021

**Associate Director, Gene Therapy** | January 2020 – June 2020

**Assistant Director, Gene Therapy** | November 2017 – December 2019

- Led AAV discovery research supporting programs in ophthalmology, neurology, and otology including clinical-stage retinal programs.
- Directed capsid and payload engineering efforts generating novel vectors and supporting patent filings.
- Managed R&D; managers, scientists, and research associates, driving program execution and operational efficiency.
- Served as technical lead in collaborations with academic groups, KOLs, and biotech partners.
- Directed translational studies and CRO/CMO partnerships supporting vector design and IND readiness.

### **Regeneron Pharmaceuticals — Tarrytown, NY**

**Staff Scientist, Ophthalmology Group & Viral Vector Technologies** | December 2016 – July 2017  
**Scientist, Ophthalmology Group** | September 2014 – December 2016

- Engineered novel AAV capsids for targeted ocular delivery and immune evasion strategies.
- Developed scalable AAV production and QC platforms supporting early-stage CMC development.
- Led pharmacokinetic and biodistribution studies supporting translational development toward clinical programs.

**Massachusetts Eye & Ear Infirmary / Harvard Medical School / Schepens Eye Research Institute — Boston, MA**

**Instructor, Department of Ophthalmology / Investigator** | 2013 – 2014

**Postdoctoral Fellow** | May 2008 – November 2013

- Discovered therapeutic strategies for proliferative vitreoretinopathy (PVR) and advanced candidates toward clinical readiness.
- Collaborated with clinician scientists to transition ocular therapies from preclinical validation to early clinical testing.

## EDUCATION

**PhD, Cell Biology** — University of Alberta, Canada | 2002 – 2008

**BSc (Specialization), Biochemistry** — University of Alberta, Canada

**BSc, General Science** — University of Alberta, Canada

## CORE SCIENTIFIC & TECHNICAL EXPERTISE

- Gene Therapy Platforms: AAV, lentiviral, adenoviral vectors; non-viral delivery (LNP/RNA)
- Vector Engineering: capsid/payload engineering, tropism targeting, immune evasion, expression control
- Cell Therapy: iPSC/MSC development, RPE gene editing, neuronal lineage differentiation, CAR-T support
- Preclinical & Translational: in vivo disease models, PK/PD, biodistribution, dose prediction, toxicology
- Regulatory / IND: FDA/EMA engagement, pre-IND strategy, IND-enabling studies and documentation
- CMC / GMP Integration: early-stage analytical development, process optimization, QC strategy
- Ophthalmology & Retina: inherited retinal diseases, PVR, AMD, retinal degeneration
- Leadership: cross-functional team building, external partnerships, SAB engagement, investor-facing science

## SELECTED PEER-REVIEWED PUBLICATIONS

- Pennock S, Haddock LJ, Elliott D, Mukai S, et al. *Is neutralizing vitreal growth factors a viable strategy to prevent proliferative vitreoretinopathy?* Progress in Retinal and Eye Research. 2014.
- Wang Y, Pennock S, Chen X, et al. *Endosomal signaling of epidermal growth factor receptor stimulates signal transduction pathways leading to cell survival.* Molecular and Cellular Biology. 2002.
- Wang Y, Pennock SD, Chen X, Kazlauskas A, et al. *Platelet-derived growth factor receptor-mediated signal transduction from endosomes.* Journal of Biological Chemistry. 2004.
- Pennock S, Kim D, Mukai S, Kuhnle M, et al. *Ranibizumab is a potential prophylaxis for proliferative vitreoretinopathy, a nonangiogenic blinding disease.* American Journal of Pathology. 2013.
- Farivar T, Liu J, Song C, Ye G, Pennock S, et al. *Ocular inflammatory response to intravitreal injection of adeno-associated virus vector: relative contribution of genome and capsid.* Human Gene Therapy. 2020.
- Pennock S, Wang Z. *Stimulation of cell proliferation by endosomal epidermal growth factor receptor as revealed through two distinct phases of signaling.* Molecular and Cellular Biology. 2003.
- Pennock S, Kazlauskas A. *Vascular endothelial growth factor A competitively inhibits platelet-derived growth factor (PDGF)-dependent activation of PDGF receptor and subsequent signaling.* Molecular and Cellular Biology. 2012.

- Pennock S, Wang Z. *A tale of two Cbls: interplay of c-Cbl and Cbl-b in epidermal growth factor receptor downregulation*. Molecular and Cellular Biology. 2008.
- Pennock S, Rheaume MA, Mukai S, et al. *A novel strategy to develop therapeutic approaches to prevent proliferative vitreoretinopathy*. American Journal of Pathology. 2011.
- Pennock S, Haddock LJ, Mukai S, et al. *Vascular endothelial growth factor acts primarily via platelet-derived growth factor receptor  $\alpha$  to promote proliferative vitreoretinopathy*. American Journal of Pathology. 2014.

## PATENTS

Patents granted in AAV capsid engineering and vector design.

## AWARDS & PROFESSIONAL LEADERSHIP

- Johnson & Johnson Innovation Leadership Award — Recognized for establishing next-generation AAV production platforms.
- Center for Creative Leadership Development Program — Executive training and concept-to-IND drug development simulation.
- Professional Memberships / Committees: ARVO, ASGCT, institutional safety committees.

## RESEARCH INTERESTS

AAV vector production, gene therapy, CRISPR/Cas9 gene editing, neurodegenerative disorders, neuroprotection, signal transduction, receptor tyrosine kinases, proliferative vitreoretinopathy (PVR), glaucoma, and in vivo ophthalmic disease models.