

## Curriculum Vitae

**Petr Baranov, MD, PhD**

### Education and employment

**High School** (gr. 2001 with honors): School #24, Sergiev Posad, Russia

**Medical School** (2001-2007): Russian State Medical University, Moscow, Russia

**PhD** (2007-2011): Department of Morphology (Anatomy, Histology and Cell biology), Russian State Medical University; Research Institute for Eye Diseases, Russian Academy of Medical Sciences, Moscow, Russia

**Research Assistant** (2006-2007): Research Institute for Eye Diseases, Russian Academy of Medical Sciences, Moscow, Russia

**Researcher** (2007-2011): Research Institute for Eye Diseases, Russian Academy of Medical Sciences, Moscow, Russia

**Trainee** (2009-2010): Schepens Eye Research Institute, Boston, MA

**Postdoctoral fellow** (2011-2014): Schepens Eye Research Institute, Massachusetts Eye and Ear, Boston, MA

**Investigator** (2014-present): Schepens Eye Research Institute, Massachusetts Eye and Ear, Boston, MA

**Instructor** (2015-present): Department of Ophthalmology, Harvard Medical School, Boston, MA

### Committees and service

**Safety Review Committee, member**, Schepens Eye Research Institute, MEE

**Distinguished Lecture Series Committee, member**, Schepens Eye Research Institute, MEE

**Ocular Regeneration Focus Group, co-chair**, Schepens Eye Research Institute, MEE

**Ad hoc reviewer**, *Investigative Ophthalmology and Visual Science, Translational Vision Science & Technology, Stem Cells Translational Medicine, Stem Cells, Tissue Engineering, Cell Proliferation, Journal of Ophthalmology, Molecular Vision*

### Awards and Honors

**2006** – The best poster presentation, International Pirogov Medical Students Conference

**2006** – The distinguished translational research project, Student Conference “Frontiers in research and technology”

**2007** – The distinguished oral presentation, International Medical Students Conference Novi Sad, Novi Sad

**2009** – The Russian President’ Fellowship

**2009** – The best poster presentation, International conference “Current Problems in Ophthalmology” (as a mentor)

**2013** – Brazilian Council of Ophthalmology Award (with Caio Regatieri, Michael Young and Sarah Tao)

**2015** – Alice J. Adler Fellowship of the Schepens Eye Research Institute/Eleanor and Miles Shore 50th Anniversary Fellowships for Scholars in Medicine

### Research interests

Pluripotent and multipotent stem cell biology, retina in aging and disease, growth factors, high throughput screening, drug discovery, in vitro disease models, neuroprotection, cell transplantation

## ***Publications***

### *Peer-reviewed articles*

1. **Baranov PY**, Pavliuk AS. [Limbal stem cells grafts on amniotic membrane and contact lenses]. Vestnik RSMU 2006; 49: 342-3.
2. Avetisov SE, Pavliuk AS, Stenina MA, Fedorov AA, Krivov LP, Nikolaenko DS, **Baranov PY**, Subbot AM, Tuhvatulin AI. [Extraocular muscles of mdx mice as target for cell therapy]. Cell transplantation and tissue engineering 2008; 3:47-51
3. Avetisov SE, Pavliuk AS, Gurina OY, Fedorov AA, Trufanov SV, **Baranov PY**. [Cell-based technologies for complications of glaucoma surgery]. Glaucoma: reality and perspectives 2008:135-40.
4. Grusha IaO, Fedorov AA, **Baranov P**, Bakaeva TV, Pavliuk AS. [Study of the three-dimensional structure and biointegrative characteristics of porous orbital implant materials]. Vestn Oftalmol. 2010 Sep-Oct;126(5):9-13.
5. **Baranov P**, Regatieri C, Melo G, Clissold H, Young M. Synthetic peptide-acrylate surface for self-renewal of human retinal progenitor cells. Tissue Eng Part C Methods 2013 Apr; 19(4):265-70
6. **Baranov P**, Tucker B, Young MJ. Low-oxygen culture conditions extend the multipotent properties of human retinal progenitor cells. Tissue Eng Part A. 2014 May; 20(9-10):1465-75
7. Luo J, **Baranov P**, Patel Sh, Ouyang H, Lu J, Quach J, Wu F, Hicks C, Zeng J, Zhu J, Sfeir N, Wen C, Reade V, Patel S, Sinden J, Shaw P, Young M, Zhang K. Human retinal progenitor cell transplantation preserves vision. J Biol Chem. 2014 Mar 7; 289(10):6362-71
8. Huang R, **Baranov P**, Lai K, Ge J, Young MJ. Functional and morphological analysis of the subretinal injection of human retinal progenitor cells under the treatment of Cyclosporin A. Mol. Vis. 2014; 20:1271-1280
9. Lawley E\*, **Baranov P\***, Young MJ. Hybrid vitronectin-mimicking polycaprolactone scaffolds for human retinal progenitor cell differentiation and transplantation. J Biomater Appl. 2015; 29(6):894-902
10. **Baranov P**, Michaelson A, Kundu J, Carrier R. & Young MJ. Interphotoreceptor matrix-poly( $\epsilon$ -caprolactone) composite scaffolds for human photoreceptor differentiation. J Tissue Eng, 2014; 5:2041731414554139
11. Kundu J, Michaelson A, **Baranov P**, Young MJ, Carrier RL. Approaches to Cell Delivery: Substrates and Scaffolds for Cell Therapy. Dev Ophthalmol. 2014; 53:143-54
12. Yao J, Chi WK, **Baranov P**, Regatieri C, Redenti S, Tucker BA, Mighty J, Tao SL and Young MJ. Enhanced differentiation and delivery of mouse retinal progenitor cells using a micropatterned biodegradable thin-film polycaprolactone scaffold. Tissue Engineering Part A. 2015; 21(7-8): 1247-1260
13. Abud M\*, **Baranov P\***, Hicks C, Lieppman B, Sinden J, Avila M, Young M. The effect of local rapamycin immunosuppression on the survival of pig retinal progenitor cells allotransplants. Transl Vis Sci Technol. 2015 Sep 22;4(5):6
14. D'Alessio A, Fan ZP, Wert K, **Baranov P**, Cohen M, Saini J, Cohick E, Charinga C, Dadon D, Hannett N, Young MJ, Temple S, Jaenisch R, Lee T, Young RA A systematic approach to identify candidate transcription factors that control cell identity, Stem Cell Reports 2015; 5(5): p763–775
15. Kundu J, Michaelson A, Talbot K, **Baranov P**, Young MJ, Carrier R Decellularized retinal matrix: natural platforms for human retinal progenitor cell culture, Acta Biomater. 2016 Feb;31:61-7

### *Patents*

1. Young M., Tucker B., **Baranov P**. Low oxygen culture conditions for maintaining retinal progenitor cell, US Patent 8563304, issued 10/22/2013

**Research support**

*Ongoing*

Alice J. Adler Fellowship of the Schepens Eye Research Institute/Eleanor and Miles Shore 50th Anniversary Fellowships for Scholars in Medicine (PI) 10/01/2015-09/30/2016

The Massachusetts Lions Eye Research Fund (Co-PI with Dr. Patricia D'Amore) 07/01/2015-06/30/2016  
Investigation of the ability of pericyte precursors to rescue the retinal vasculature

BrightFocus Foundation (PI) 07/01/2016-06/30/2018  
Indirect photoreceptor neuroprotection through small molecule-induced growth factors

*Completed*

Foundation Fighting Blindness (PI - Michael J. Young) 03/01/2014-02/28/2015  
In vivo Study of allogeneic pRPCs: Dosage, Long Term Survival, Engraftment and Differentiation

GlaxoSmithKline (PI - Michael J. Young) 07/01/2012-06/30/2015  
Identification of GDNF mimicking and inducing drugs for retinal degenerative disorders

ReNeuron (PI - Michael J. Young) 06/01/2011-12/01/2015  
Human retinal progenitor cells for photoreceptor replacement