

Kapil Bharti

Earl Stadtman Tenure-Track Investigator,
Unit on Ocular and Stem Cell Translational Research
Adjunct Group Leader National Center for Advancing Translational Sciences
National Eye Institute, National Institutes of Health

EDUCATION AND TRAINING

- B.Sc., Biophysics, Panjab University, Chandigarh, India, 1996
- M.Sc., Biotechnology, Maharaja Sayaji Rao University, Baroda, India, 1998
- Diploma, Molecular Cell Biology, J. W. Goethe University, Frankfurt, Germany, 1999
- Ph. D., Molecular Cell Biology, J. W. Goethe University, Frankfurt, Germany, summa cum laude, 2003
- Research fellow, laboratory of Dr. Heinz Arnheiter, NINDS, NIH, Bethesda, MD, USA, 2004-2008
- Staff scientist, laboratory of Dr. Heinz Arnheiter, NINDS, NIH, Bethesda, MD, USA, 2009-2012

ACADEMIC AWARDS AND PROFESSIONAL CERTIFICATIONS

- Top rank B.Sc., Panjab University, Chandigarh, India, 1993-1996
- National level fellowship for Ph.D., Council for Scientific and Industrial Research (CSIR), India, 1998
- Best foreign student of the year, by German Academic Exchange service (DAAD), 2000
- Best Ph.D. thesis of the year 2003 at Johann Wolfgang Goethe University, Frankfurt, Germany, 2004
- Fellows award for research excellence at NIH, Bethesda, MD, USA, 2006
- Distinguished mentor award by Postbaccalaureate-IRTA Committee of NIH, Bethesda, MD, USA, 2007
- Fellows award for research excellence at NIH, Bethesda, MD, USA, 2008
- Group merit award from NINDS director for the planning and organization of outstanding Intramural Retreats (2006-2008), NIH, Bethesda, MD, USA, 2008
- NINDS Merit Award for pursuing innovative strategies to cure vision loss with stem cells, 2011
- Selected Earl-Stadtman Tenure Track Investigator in a trans-NIH search, 2012
- NEI Directors Award for Outstanding Scientific Innovation in Stem Cell Research, 2014
- NIH Directors Award for Pioneering Induced Pluripotent Stem Cell Technology to Treat AMD 2017

SELECTED INVITED TALKS (last five years)

- NIH Center for Translational Therapeutics, NIH, Bethesda, MD, 2012
- The George Washington University School of Medicine and Health Sciences, Washington DC, 2012
- ARVO, Ft. Lauderdale, FL, 2012
- NIH Center for Regenerative Medicine Symposium, Bethesda, MD, 2012
- International Conference on Emerging Cell Therapies, Chicago, IL, 2012
- 5th Annual Maryland Stem Cell Symposium, Annapolis, MD, 2012
- 2nd Midwest Conference on Stem Cell Biology and Therapy, Rochester, MI, 2012
- Dept. of Biology, Univ. of Delaware, DE, 2013
- ARVO, Seattle, WA, 2013
- 3rd annual conference: "Vision Restoration: Regenerative Medicine in Ophthalmology", Pittsburgh, PA, 2013
- 30th Annual Virginia Society of Eye Physicians & Surgeons (VSEPS) Meeting, Virginia Beach, VA, 2013
- Wilmer Eye Institute, Johns Hopkins University Medical School, MD, 2014
- McGowan Institute for Regenerative Medicine, 13th Annual Scientific Retreat, Nemaconlin, PA, 2014
- Wyss Institute, Boston, MA 2014
- 4th annual conference: "Vision Restoration: Regenerative Medicine in Ophthalmology", Pittsburgh, PA, 2014
- Center for Biologics Evaluation and Research, FDA, Silver Spring, MD 2014
- Translational Interest Group, NIH, 2014
- Optical Society Meeting, University of Pennsylvania, PA, 2014

- 2nd Annual 24 Hours of Stem Cells Virtual Event, Lifetechnologies, 2014
- Pre-ARVO education course “Primary Cilium in Eye Development and Disease”, Denver, CO 2015
- Glaucoma and Stem Cell Summit, London, UK 2015
- 5th annual conference: “Vision Restoration: Regenerative Medicine in Ophthalmology”, Pittsburgh, PA, 2015
- Keynote speaker: iForum2015 an iPS cell workshop sponsored by CDI, Chicago, IL, 2015
- Institute La Vision, Paris, France, 2015
- German Ophthalmology Society Meeting, Berlin, Germany, 2015
- Department of Zoology, University of Mainz, Mainz, Germany, 2015
- Department of Anatomy, University of Zurich, Zurich, Switzerland, 2015
- European Association for Vision and Eye Research Annual meeting, Nice, France, 2015
- Society for Neuroscience Annual Meeting, Chicago, IL, 2015
- Tenth Annual Translational Stem Cell Research Conference, New York, NY, 2015
- Department of Biomedical Engineering, Boston University, Chicago, IL, 2015
- World Stem Cell Summit, Atlanta, GA, 2015
- Center for Devices and Radiological Health, FDA, Silver Spring, MD, 2016
- Phaciliat Cell and Gene Therapy meeting, Washington DC, 2016
- Glaucoma 360 meeting, San Francisco, CA, 2016
- 1st Annual Biopharmaceutical Development Workshop, Waisman Center, Univ. of Wisconsin-Madison, 2016
- ARVO, Seattle, WA, 2016
- PTC Therapeutics, South Plainfield, NJ, 2016
- Department of Biology, University of Albany, Albany, NY, 2016
- Ocular Toxicology, Pharmacology and Drug Delivery: An Eye on The Future, San Francisco, CA, 2016
- Ophthalmic Drug Development Summit, Washington DC, 2016
- Research Festival, NIH, 2016
- iForum 2016 an iPS cell workshop sponsored by CDI, Philadelphia, PA, 2016
- ISER meeting, Tokyo, Japan, 2016
- 3D CNS Disease Modeling Workshop, San Diego, CA, 2016
- Basic Course in Ophthalmology, Columbia University Medical Center, NYC, 2017
- Grand Rounds in Ophthalmology, Columbia University Medical Center, NYC, 2017
- Gladstone Institute for Neurological Research, San Francisco, CA, 2017
- Angiogenesis, Exudation, and Degeneration Meeting, Bascom Palmer Eye Institute, Miami, FL, 2017
- 6th Military Symposium on Ocular and Vision Injury, Schepens Eye Research Institute, Boston, MA, 2017
- Innovation Summit for Cell and Gene Therapy, Baltimore, MD, 2017
- Pre-ARVO education course, “Stem Cells and Organoids as Models of Tissue Differentiation and Eye Diseases”, Baltimore, MD, 2017
- Global Foundation of Peroxisomal Disorders Scientific Workshop, Washington, D.C., 2017
- Clinical Advances in Stem Cell Research Workshop, ISSCR, Boston, MA, 2017
- Cell Based Therapies Workshop, NIH Research Festival, Bethesda, MD, 2017
- Advanced & Complex Cell Models, SBI2 Conference, San Diego, CA, 2017
- Allergan Pharmaceuticals Seminar series, Irvine, CA, 2017
- Workshop on Translational Challenges of iPS Cells, NCATS, NIH, Bethesda, MD 2017
- 1st Shenzhen International Forum on Ophthalmology and Visual Science, Shenzhen, China, 2017
- National Stem Cell Research Center Stem Cell Symposium, Korea NIH, Osong, S. Korea, 2017
- Future Medicine for Retinal Diseases, Konkuk University School of Medicine, Seoul, S. Korea, 2017
- Regenerative Medicine Innovation Workshop, NIH, Bethesda, MD 2017
- Phacilitate Annual Cell and Gene Therapy Meeting, Miami, FL, 2018
- Juvenile Diabetic Research Foundation Moonshot to Treat Late-Stage Diabetic Retinopathy, New York City, NY, 2018

MENTORING EXPERIENCE (Former students)

- Martha Brucato (summer intern 2005-2008) – MD/PhD Johns Hopkins University, MD
- Melanie Gasper (postbac 2006-2008) – PhD in Global health, University of Seattle, WA
- Pallabi Guha (summer intern 2012) – MD Robert Wood Johnson Medical School, Piscataway, NJ
- Jason Silver (postbac 2012-2013) – MD/PhD Candidate, University of Colorado Denver, CO
- Vaisakh Rajan (intern 2012-2013) – Novartis Biomedical Research Institute, Boston, MA
- Juliet Hartford (postbac 2013-2014) – MD Candidate, Columbia University Medical Hospital, NY
- Andrea Li (intern 2013-2014) – Biomedical Engineering Degree Candidate at MIT, Cambridge, MA
- Marjon Zamani (postbac 2013-2015) - PhD Candidate, Biomedical Engineering, Boston University, MA
- Katherina Clore-Gronenborn (postbac 2013-2015) - MD Candidate at Cleveland Clinic, OH
- Jun Jeon (postbac 2015-2016) - MD Candidate, UPenn Medical School, PA
- Zoya Quershy (postbac 2015-2016) - MD Candidate, UCSF Medical School, CA
- Justin Chang (postbac 2015-2017) - MD Candidate, VCU School of Medicine, VA
- Russ Quinn (biologist 2015-2017) – PhD Candidate, JHU, MD
- Christopher Hampton (HHMI fellow 2017-) - MD Candidate, UConn. School of Medicine, CT

ADMINISTRATIVE RESPONSIBILITIES & COMMUNITY SERVICE

- Co-organizer and moderator, first “Post doc Career Symposium”, NIH, Bethesda, MD, 2008
- Session Co-chair - “Disease in a Dish - Modeling Human Diseases Using iPS Cells”, NIH research festival, 2012
- Session Co-chair - “Cell Therapy-potential Applications”, Emerging Cell Therapies, Chicago, IL, 2012
- Session Co-chair - “Programming and Differentiation”, 2nd Midwest Conference on Stem Cell Biology and Therapy, Oakland, MI, 2012
- Judge for the National Graduate Student Conference, NIH, Bethesda, MD, 2012
- Grant reviewer: Foundation for Fighting Blindness, 2013
- Organizer 3rd Annual NEI Stem Cell meeting, “Working Together Towards a Cell-Based IND”, 2013
- Scientific committee member and reviewer for ASIA-ARVO, 2013
- Grant reviewer: NIH Intramural RNAi Screening Award, 2014
- Grant reviewer: Thome Foundation Awards Program in AMD, 2014
- Earl-Stadtman Investigator Search Committee Member, NIH, 2014
- Grant reviewer: Wellcome Trust/DBT India Alliance Grant, 2014
- Grant reviewer: Kentucky Science and Engineering Foundation, 2015
- Selection committee member for Process Development Team head at CPS/DTM/CC NIH, 2015
- Earl-Stadtman Investigator Search Committee Member, NIH, 2015
- Co-organizer “Pluripotent Stem Cells in Neuroscience” symposium, NIH, 2015
- Grants committee for PhD studentship, Fight for Sight, 2015
- Co-organizer pre-ARVO Retinal Cell and Gene Therapy Innovation Summit, Seattle 2016
- Clinical mentor for Cap Stone Bioengineering team from Univ. Maryland, 2016
- Grant reviewer: Medical Research Council (UK); Royal Society of New Zealand; French Funding Organization; Thome Foundation Awards Program in AMD, 2016
- Earl-Stadtman Investigator Search Committee Member, NIH, 2016
- Co-chair: Stem Cell Task Group, Ryan Initiative for Macular Research, Beckmen Center, CA, 2017
- Organizer: Special Interest Group, “New *in vitro* Models to Study AND pathogenesis”, ARVO, 2017
- Session Chair: Clinical Advances in Stem Cell Research, ISSRC, Boston, MA, 2017
- Session Chair: Workshop on Translational Challenges of iPS Cells, NCATS, NIH, Bethesda, MD 2017

- Grant reviewer (2017): **1)** France Retina Society; **2)** Ontario Research Foundation; **3)** German Research Agency & Netherlands Organization for Health Research and Development; **4)** TRANS-NIH RNAi program; **5)** NEI 3D ROC Organoid Challenge
- Grant reviewer (2018): **1)** British Columbia Mitacs Accelerate Research; **2)** Fighting Blindness Ireland; **3)** Fight for Sight, UK

JOURNAL REVIEWER Nature Biotechnology, Science Translational Medicine, PLoS Genetics, Stem Cells, Stem Cells Translational Medicine, Stem Cell Research, Scientific Reports, IOVS, Gene, Clinical Ophthalmology, PLoS One, Trends in Molecular Medicine, Journal of Tissue Engineering and Regenerative Medicine, Acta Biomaterialia, BMC Genetics, Pigment Cell and Melanoma Research, Genome Medicine, Cell Death and Disease, Expert Opinion on Biological Therapy, Tissue Engineering, Disease Models and Mechanisms, Molecular Vision, Neuroscience, Scientific Reports, Cellular Physiology and Biochemistry, General and Comparative Endocrinology, American Journal of Biomedical Sciences, Cell Biology and Toxicology, Journal of Environmental Toxicology and Pathology, Journal of Zhejiang University-SCIENCE B

PEER REVIEWED GRANT AWARDS

1. Deputy Director for Intramural Research Innovation Award (2017-2018) – “Robotic Electrical Potential Measurement to Treat Epithelial Edema.”
2. Deputy Director for Intramural Research Innovation Award (2017-2018) - “Establishment of a CRISPR-based trans-NIH Functional Genomics HTS Platform.” Role: Co-PI
3. Department of Defense award (2015-2017) – “Preventing and Repairing Combat-related Proliferative Vitreoretinopathy: Using 3D Engineered Eye Tissue Derived from Human Induced Pluripotent Stem Cells.”
4. NIH Common Fund Therapeutic Challenge Grant (2014-2017) – “Developing a Phase I IND for an Autologous Cell Based Therapy Using iPS cell derived RPE.”
5. Trans-NIH RNAi Screening Efforts (2013) – “RNAi screen to identify genetic pathways underlying RPE degeneration in AMD”.
6. NIH-Center for Regenerative Medicine (2012) – “Constructing functional iPSC-derived RPE tissue for cell-based therapy”. Role: Co-PI
7. NIH-Center for Regenerative Medicine – “Mechanisms of age-related macular degeneration initiation using iPSC cell (2011) - derived retinal pigment epithelium”. Role: Co-PI
8. NIH-Center for Regenerative Medicine (2010) – “Restoring vision: criteria for iPSC cell derived retinal pigment epithelia”. Role: Co-PI

Scientific Advisory Board

Adjunct Group Leader position at NCATS
eyeSTEM, Bangalore, India
Opsis Therapeutics, Madison, WI

PUBLICATIONS

1. **Bharti, K.**, Schmidt, E., Lyck, R., Heerklotz, D., Bublak, D., and Scharf, K.-D. (2000). Isolation and characterization of HsfA3, a new heat stress transcription factor of *Lycopersicon peruvianum*. *Plant J.* **22**: 355-365.
2. **Bharti, K.**, Von Koskull-Doring, P., Bharti, S., Kumar, P., Tintschl-Korbitzer, A., Treuter, E., and Nover, L. (2004). Tomato heat stress transcription factor HsfB1 represents a novel type of general transcription coactivator with a Histone-like motif interacting with the plant CREB binding protein ortholog HAC1. *Plant Cell* **16**: 1521-1535.

3. Bharti, S., Inoue, H., **Bharti, K.**, Hirsch, D. S., Nie, Z., Yoon, H. Y., Yamada, K. M., Mueller, S. C., and Randazzo, P. (2007) Src-dependent phosphorylation of ASAP1 regulates podosomes. *Mol. Cell Biol.* **27**: 8271-8283.
4. **Bharti, K.**, Liu, W., Csermely T., Bertuzzi, S., and Arnheiter, H. (2008) Alternative promoter use during eye development: the complex role and regulation of the transcription factor MITF. *Development* **135**: 1169-1178.
5. Brown, J. D., Dutta, S., **Bharti, K.**, Bonner, R.F., Munson, P. J., Dawid, I. B., Akhtar, A. L., Onojafe, I. F., Alur, R. P., Gross, J. M., Hejtmancik, J. H., Jiao, X., Chan, W., and Brooks, B. P. (2009) Expression profiling during ocular development identifies two *Nlz* genes with a critical role in optic fissure closure. *Proc. Natl. Acad. Sci.* **106**: 1462-1467.
6. Skuntz, S., Mankoo, B., Nguyen, M. T., Nakayama, A., Lasserre E. T., Wright, C. V. E., Pachnis, V., **Bharti, K.**, and Arnheiter, H. (2009) Lack of the mesodermal homeodomain protein MEOX1 disrupts sclerotome polarity and leads to a remodeling of the cranio-cervical joints of the axial skeleton. *Developmental Biology* **332**: 383-395.
7. **Bharti, K.***, Gasper, M., Bertuzzi, S., and Arnheiter, H. (2011) Lack of the ventral anterior homeodomain transcription factor VAX1 leads to induction of a second pituitary. *Development* **138**: 873-878.
***Corresponding author**
8. **Bharti, K.***, Gasper, M., Ou, J., Brucato, M., Clore-Gronenborn, K., Pickel, J., and Arnheiter, H. (2012) A regulatory loop involving PAX6, MITF, and WNT signaling controls retinal pigment epithelium development. *PLoS Genetics* **8 (7)**: e1002757 ***Corresponding author**
9. Nasonkin, I., Merbs, S., Lazo, K., Oliver, V., Brooks, M., Patel, K., Enke, R., Nellissery, J., Jamrich, M., Le, Y., **Bharti, K.**, Rachel, R., Fariss, R., Zack, D., Rodriguez-Boulan, E., Swaroop, A. (2013) Conditional knockdown of DNA methyltransferase-1 (Dnmt1) reveals a key role of retinal pigment epithelium in mammalian photoreceptor differentiation. *Development* **140**: 1330-1341.
10. Ou, J., **Bharti, K.**, Nodari, A., Bertuzzi, S., and Arnheiter, H. (2013) *Vax1/2* genes counteract *Mitf*-induced respecification of the retinal pigment epithelium. *PLoSOne* **8 (3)**: e59247.
11. Yan, Y., Shin, S., Jha, B, Liu, Q., Shen, J., Zhan, M., Davis, J., **Bharti, K.**, Zeng, X., Rao, M., Malik, N., and Vemuri, M. (2013) Efficient and rapid derivation of primitive neural stem cells and generation of brain subtype neurons from human pluripotent stem cells. *Stem Cells Translational Medicine* **2 (11)**: 862-870.
12. Forni, P., **Bharti, K.**, Flannery, E., Shimogori, T., and Wray, S. (2013) The indirect role of FGF8 in defining neurogenic niches of the olfactory/GnRH systems. *J. Neuroscience* **33 (50)**: 19620-19634.
13. Greer, Y.E., Westlake, C.J., Gao, B., **Bharti, K.**, Kim, K., Shiba, Y., Sokol, S., Yang, Y., and Rubin, J. (2014) Casein kinase 1 delta is a mediator of ciliogenesis. *Mol. Biol. Cell* **25 (10)**: 1629-1640.
14. Raviv, S., **Bharti, K.**, Rencus-Lazar, S., Cohen-Tayar, Y., Schyr, R., Evantal, N., Meshorer, Zilberberg, A.E., Reubinoff, B., Grebe, R., Rosin-Arbesfeld, R., Lauderdale, J., Lutty, G., Arnheiter, H., Ashery-Padan, R., (2014) PAX6 regulates melanogenesis in the retinal pigment epithelium through feed-forward regulatory interactions with MITF. *PLoS Genetics* **10 (5)**: e1004360.
15. Ferrer, M., Corneo, B., Davis, J., Wan, Q., Miyagishima, K.J., King, R., Maminishkis, A., Marugan, J., Sharma, R., Shure, M., Temple, S., Miller, S., and **Bharti, K.** (2014) A multiplex high-throughput gene expression assay to simultaneously detect disease and functional markers in induced pluripotent stem cell-derived retinal pigment epithelium. *Stem Cells Translational Medicine* **3**:1-12.
16. Hotaling, N.A., **Bharti, K.**, Kriel, H., and Simon, C.G. (2015) Validated open source nanofiber diameter measurement tool. *Biomaterials* **61**: 327-338.
17. Maruotti, J., Sripathi, S.R., **Bharti, K.**, Fuller, J., Wahlin, K., Ranganathan, V., Sluch, V., Berlinicke, C., Davis, J., Kim, C., Zhao, L., Wan, J., Qian, J., Corneo, B., Temple, S., Dubey, R., Olenyuk, B., Bhutto, I., Lutty, G., and Zack, D.J., (2015) Small molecule directed efficient generation of retinal pigment epithelium from human pluripotent stem cells. *PNAS* **112 (35)**: 10950-10955.
18. Hotaling, N.A., **Bharti, K.**, Kriel, H., and Simon, C.G. (2015) Dataset for the validation and use of DiameterJ an open source nanofiber diameter measurement tool. *Data In Brief* **5**: 13-22.

19. Blenkinsop, T.A., Saini, J.S., Maminishkis, A., **Bharti, K.**, Wan, Q., Banzon, T., Lotfi, M., Davis, J., Singh, D., Rizzolo, L.J., Miller, S., Temple, S., and Stern, J.H. (2015) Human Adult Retinal Pigment Epithelial Stem Cell-derived RPE Monolayers Exhibit Key Physiological Characteristics of Native Tissue. *IOVS* **56 (12): 7085-7099**.
20. Miyagishimaa, K., Wan, Q., Corneo, Q., Sharma, R., Lotfi, M., Boles, N., Hua, F., Maminishkis, A., Zhang, C., Blenkinsop, T., Khristov, V., Jha, B., Memon, O., D'Souza, S., Temple, S., Miller, S., **Bharti, K.** (2016) In Pursuit of Authenticity: iPS Cell-derived RPE for Clinical Applications. *Stem Cells Translational Medicine* **5 (11) 1562-1574**.
21. Hotaling, N.A., Jeon, J., Wade, M.B., Luong, D., Palmer, X-L., **Bharti, K.**, and Simon, C.G. (2016) Training to Improve Precision and Accuracy in the Measurement of Fiber Morphology. *PLoSOne* **11 (12): e01676664**.
22. George, A., Zand, D.J., Hufnagel, R.B., Sharma, R., Sergeev, Y., Legare, J.M., Rice, G.M., Schwoerer, J.A., Rius, M., Gamm, D.M., **Bharti, K.***, and Brooks, B.P. (2016) COMMAD: a Novel Syndrome Caused by Biallelic Mutation of the MITF Gene. *Am. J. Hum. Genet.* **99 (6): 1388-1394**. *Co-senior author.
23. Keir, L.S., Firth, R., Aponik, L., Feitelberg, D., Sakimoto, S., Aguilar, E., Welsh, G.I., Richards, A., Usui, Y., Satchell, S.C., Kuzmuk, V., Coward, R.J., Gault, J., Bull, K.R., Sharma, R., **Bharti, K.**, Westenskow, P.D., Michael, I.P., Saleem, M.A., and Friedlander, M., (2017) VEGF regulates local inhibitory complement proteins in the eye and kidney. *J. Clin. Investigations* **127 (1): 199-214**.
24. Hotaling, N., Khristov, V., Maminishkis, A., **Bharti, K.**, and Simon, C. (2017) A Switchable Positive and Negative Air Pressure Device for Efficient and Gentle Handling of Nanofiber Scaffolds. *Review of Scientific Instruments* **88 (10): 104301**.
25. Phelep, A., Laouari, D., **Bharti, K.**, Burtin, M., Garbay, S., Nguyen, C., Blanc, T., Berissi, S., Langa-Vives, F., Fisher, E., Druihle, A., Arnheiter, H., Friedlander, G., Pontoglio, M., and Terzi, F. (2017) MITF-A controls branching morphogenesis and nephron endowment. *PLoS Genetics* **13(12): e1007093**.
26. May-Simera, H., Wan, Q., Jha, B., Hartford, J., Khristov, V., Dejene, R., Chang, J., Patnaik, S., Lu, Q., Banerjee, P., Silver J., Insinna-Kettenhofen, C., Patel, D., Lotfi, M., Malicdan, M., Hotaling, H., Maminishkis, A., Sridharan, R., Brooks, B., Miyagishimaa, K., Gunay-Aygun, M., Pal, R., Westlake, C., Miller, S., Sharma, R., and **Bharti, K.** (2018) Primary Cilium Mediated Retinal Pigment Epithelium Maturation is Retarded in Ciliopathy Patient Cells. *Cell Reports* **22 (1): 189-205**.
27. Stoddard, J.W., Renner, L., Messaoudi, I., **Bharti, K.**, Mitalipov, S., Lauer, A.K., Wilson, D.J., Neuringer, M.A., and McGill, T.J. (2018) Rejection of allogeneic iPSC-derived RPE cells following transplantation into the subretinal space in non-human primates. *IOVS* **59 (3): 1374-1383**.

BOOK CHAPTERS and REVIEWS

1. **Bharti, K.**, and Nover, L. (2001). Heat stress induced signaling. D.Scheel and C.Wasternack (eds.) In: *Plant signal transduction: Frontiers in Molecular Biology*. Oxford University Press.
2. Nover, L., **Bharti, K.**, Doring, P., Mishra, S.K., Ganguli, A., and Scharf, K.-D. (2001). Arabidopsis and the heat stress transcription factor world: how many heat stress transcription factors do we need? *Cell Stress Chap.* **6: 177-189**.
3. Baniwal, S.K., **Bharti, K.**, Chan, K.Y., Fauth, M., Ganguli, A., Kotak, S., Mishra, S.K., Nover, L., Port, M., Scharf, K.D., Tripp, J., Weber, C., Zielinski, D., and von Koskull-Doring, P. (2004) Heat stress response in plants: a complex game with chaperones and more than twenty heat stress transcription factors. *J. Biosci.* **29: 471-487**.
4. Arnheiter, H., Hou, L., Murakami, H., Bismuth, K., Csermely, T., Skuntz, S., Liu, W., and **Bharti, K.** (2005). Mitf-a matter of life and death for developing melanocytes. In: *From Melanocytes to Melanoma: The Progression to Malignancy*. V. Hearing, S.P.L. Leong eds., Humana Press, Totowa, NJ
5. **Bharti, K.**, and Arnheiter, H. (2005) When pigment cells turn into neurons. *J. Invest. Dermat.* **125: X-XI**.
6. **Bharti, K.**, Nguyen, M., Skuntz, S., Bertuzzi, S., and Arnheiter, H. (2006) The other pigment cell—the pigment epithelium of the eye. *Pig. Cell Res.* **19: 380-394**.

7. Arnheiter, H., and **Bharti, K.** (2008) p53 – a new KIT for tanning. *Pigment Cell and Melanoma Research* **21**: 501-502.
8. **Bharti, K.**, Debbache, J., Wang, X., and Arnheiter, H. (2010) The basic helix-loop-helix leucine-zipper gene *Mitf*: Analysis of alternative promoter choice and splicing. *Chapter for Methods in Molecular Biology, Humana Press Inc., Totowa, NJ.* **647**: 237-250.
9. **Bharti, K.***, Miller, S.S., and Arnheiter, H. (2011) The new paradigm: Retinal pigment epithelium cells generated from embryonic stem cells or induced pluripotent stem cells. *Pig. Cell Melanoma Res.* **24**: 21-34.
***Corresponding author**
10. **Bharti, K.***, Rao, M., Hull, S.C., Stroncek, D., Brooks, B.P., Feigal, E., van Meurs, J.C., Huang, C.A., and Miller, S. (2014) Developing cellular therapies for retinal degenerative diseases. *IOVS* **55 (2)**: 1191-1202.
***Corresponding author**
11. Jha, S.B. and **Bharti, K.** (2015) Regenerating retinal pigment epithelial cells to cure blindness: a road towards personalized artificial tissue. *Current Stem Cell Reports.* **1 (2)**: 79-91.
12. Song, M.J. and **Bharti, K.** (2016) Looking into the future: using induced pluripotent stem cells to build two and three dimensional ocular tissue for cell therapy and disease modeling. *Brain Research.* **1638 (Pt A)**: 2-14.
13. Hotaling, N.A., Khristov, V., Wan, Q., Sharma, R., Jha, B.S., Lotfi, M., Maminishkis, A., Simon, C.G., and **Bharti, K.** (2016) Nanofiber Scaffold Based Tissue Engineered Retinal Pigment Epithelium to Treat Degenerative Eye Diseases. *Journal of Ocular Pharmacology and Therapeutics. Special Issue: Cell-Based Therapies for Eye Diseases*
14. Miyagishima, K.J., Wan, Q., Miller, S.S, and **Bharti, K.** (2017) A basis for comparison: sensitive authentication of stem cell derived RPE using physiological responses of intact RPE monolayers. *Stem Cell & Translational Investigation.* **4**: e1497.
15. Sharma, R., Jha, S.B., and **Bharti, K.** (2017) Induced pluripotent stem cells – a research tool and a potential therapy for RPE-associated blinding eye diseases. *Chapter for Patient-derived stem cells –Future of Regenerative Therapy, CRC Press/Taylor & Francis Group.*
16. Jeon, J., Hotaling, N.A., and **Bharti, K.** (2017) Induced Pluripotent Stem Cell-Derived Ocular Blood-Retinal Barrier for Disease Modeling and Drug Discovery. *Chapter in book “Stem Cells in Toxicology and Medicine”. Johns Wiley and Sons Ltd.*
17. Khristov, V., Jha, S.B., Rising, A., Li, Y., Qian, H., Maminishkis, A., Amaral, J., Campos, M.M., and **Bharti, K.** (2017) Induced Pluripotent Stem Cells Derived Autologous Cell Therapy for Age-related Macular Degeneration. *Chapter in book “Stem Cells and Ocular Diseases”. Springer press.*
18. Khristov, V., Wan, Q., Maminishkis, A., and **Bharti, K.** (2018) Identifying polarized surface proteome of retinal pigment epithelium using cell surface capturing technology. *Chapter for Methods in Molecular Biology. The Surfaceome: Methods and Protocols. Vol. 1722:223-247.*