

**Curriculum Vitae**  
**Rajiv R. Mohan, M.Sc., Ph.D., FARVO**

### Research Areas

- Corneal gene therapy
- Corneal nanomedicine
- Corneal wound healing
- Refractive laser surgery
- Corneal scarring and angiogenesis
- Ocular counterACT research
- Keratoconus
- Glaucoma

### Education and Professional Courses

- 2005 Research Management, Feb-May, Center for Medical Education Research and Development, Cleveland Clinic, Cleveland, Ohio (Instructor: Alan L. Hull, MD, PhD)
- 2005 Introduction to Clinical Research, Jan-May, Center for Medical Education Research and Development, Cleveland Clinic, Cleveland, Ohio (Instructor: Ralph O'Brien, PhD)
- 1998-2001 Senior Fellow, Ophthalmology, University of Washington, Seattle, WA (Dr. Steve Wilson)
- 1995-1998 Research Fellow, Eye Institute Cleveland Clinic, Cleveland, (Mentor: Dr. Steve Wilson)
- 1993-1995 Postdoc, Dermatology, Case Western Reserve University, Cleveland, OH (Rajesh Agarwal)

### Professional Appointments

- 2019-present Director International Research, University of Missouri-Columbia, Columbia, Missouri (MU)
- 2016-present Research Career Scientist, Harry S. Truman Veterans' Memorial Hospital, Columbia, MO
- 2013-present Director One-health and One-medicine Research, MU, Columbia, MO
- 2013-present Ruth M. Kraeuchi Missouri Endowed Chair Professor in Ophthalmology with tenure at MU
- 2011-present Professor (tenured) and Director Resident Research, Mason Eye Institute, MU, Columbia, MO
- 2010-2016 Health Research Scientist, Harry S. Truman Veterans' Memorial Hospital, Columbia, MO
- 2006-2011 Associate Professor, Mason Eye Institute, University of Missouri-Columbia, Columbia, Missouri
- 2006-2003 Project Scientist, Cole Eye Institute, Cleveland Clinic, Cleveland, Ohio
- 2005-2006 Assistant Professor (adjunct), Chemistry, Baldwin Wallace College, Berea, Ohio
- 2001-2003 Research Assistant Professor, Ophthalmology, University of Washington, Seattle, Washington
- 1998-2001 Senior Fellow, Ophthalmology, University of Washington, Seattle, Washington
- 1995-1998 Research Fellow, Eye Institute, the Cleveland Clinic Foundation, Cleveland, Ohio
- 1993-1995 Postdoctoral Fellow, Case Western Reserve University, Cleveland, Ohio

### Awards and Honors

- 2019 Elected for the ARVO annual program planning committee (Apr 29)
- 2018 Zoetis Award for Research Excellence in Veterinary Medicine (May 9)
- 2016 Gold Fellow Award by the Association for Research in Vision and Ophthalmology (ARVO)
- 2016 Research Career Scientist Award from the United States Department of Veterans Affairs (Feb 1)
- 2014 Best Paper of the Year Award by the National Phi Zeta Society (Vet Ophthalmol. 2014;17:162-169)
- 2014 Zoetis Award for Research Excellence in Veterinary Medicine (May 13)
- 2014 Newest and Most Innovative Research and "Hot Topics" identified by ARVO (May 4-8; Abs # 1913444)
- 2014 Mahatma Gandhi Pravasi Samman by the Non-resident Indian Welfare Society India (May 7)
- 2014 Silver Fellow Designation by the Association for Research in Vision and Ophthalmology (May 5)
- 2013 Best Basic Science 2013 Manuscript Award to paper published in "*Vet Ophthalmol* 2012;15:307-14"

### Awards to trainees of Dr. Rajiv Mohan

- 2020 1<sup>st</sup> Place Poster award at the University of Missouri Health Sciences Day (Nov 10; Nishant Sinha, PhD graduate student)
- 2020 Qais Farjo Memorial Award from ARVO (Feb 8, Lynn Martin, PhD graduate student)
- 2020 National Eye Institute NIH Travel Award from ARVO (Feb 8, Alexandria Hofmann, research fellow)

- 2020 Knights Templar Eye Foundation Travel award from ARVO (Feb 8; Sydney Green, undergrad)
- 2020 Knights Templar Eye Foundation Travel award from ARVO (Feb 8; Mikayla Fraunfelder, undergrad)
- 2020 NIH/NIAID Travel award for Ocular CounterACT meeting (Jan 30; Sabeeh Kamil, research scholar)
- 2020 ACVO Vision for Animals Foundation grant (Jan 13; Allison Fuchs, veterinary ophthalmology resident)
- 2019 People's Choice Award at the VA Annual Research Week (Dec 13; Ratnakar Tripathi PhD)
- 2019 Phi-zeta pilot grant award (Dec 12; Praveen Balne, postdoctoral fellow)
- 2019 Phi-zeta pilot grant award (Dec 12; Lynn Martin, graduate student)
- 2019 Phi-zeta pilot grant award (Dec 12; Allison Fuchs, veterinary ophthalmology resident)
- 2019 John D. Bies International Travel Scholarship (Oct 08; Lynn Martin, graduate student)
- 2019 Laura Nahm Outstanding Undergraduate Scholar Award (May 14; Sally Heil)
- 2019 2<sup>nd</sup> Best Poster Award at the CVM Research Day (May 10; Nishant Sinha)
- 2019 2<sup>nd</sup> Best Paper Award at the CVM Research Day (May 10; Rayne Lim, graduate student)
- 2019 Overall Best Presentation Award at the CVM Research Day (May 10; Sally Heil)
- 2019 UGR Travel Award for ARVO to honor undergrad biology student (Apr 26; Sally Heil)
- 2019 UGR Travel Award for ARVO to honor undergrad biology student (Apr 29; Nishant Sinha)
- 2019 John D. Bies International Travel Scholarship to graduate student for ARVO (Apr 19; Rayne Lim)
- 2019 Knights Templar Eye Foundation Travel award to M4 student by the ARVO (Feb 13; Helena Lam)
- 2018 Missouri University Postdoctoral Association People's Choice award (Sept 17; Suneel Gupta PhD)
- 2018 Phi Zeta 2<sup>nd</sup> Best Research Poster Award (May 25; Hannah Gafen DVM student)
- 2018 Phi Zeta 3<sup>rd</sup> Best Research Poster Award (May 25; Ratnakar Tripathi PhD)
- 2018 Cherng Summer Scholar Award (March 23; Sally Heil, Undergrad)
- 2018 Knights Templar Eye Foundation Travel award by the ARVO (Jan 25; Lindsey M. McDaniel MD)
- 2018 NEI, NIH Travel award from ARVO (Feb 12; Suneel Gupta, PhD)
- 2017 Best basic science manuscript award at the 2017 American College of Veterinary Ophthalmologists Annual Meeting (Oct 12; Todd Marlo DVM: Vet Ophthalmol. 2017 Jul 6. doi: 10.1111/vop.12485)
- 2017 Phi Zeta 1<sup>st</sup> place Best Research Award (May 5; Michael Fink DVM graduate student)
- 2017 MUPA Travel Award by the MU graduate school (April 30; Suneel Gupta PhD, postdoctoral fellow)
- 2017 3<sup>rd</sup> place best poster award at the Missouri Life Science week (April 18; Rayne Lim graduate student)
- 2017 Mizzou Advantage Travel Grant (Mar 15; Michael Fink DVM graduate student)
- 2017 Outstanding Poster award at the Missouri Life Science Week (April 14; Kaitlin Smith M2 student)
- 2017 1<sup>st</sup> place award, University of Missouri Graduate Professional Council Research and Creative Activities Forum (Mar 11, Michael Fink graduate student)
- 2017 Knights Templar Eye Foundation Travel Award by ARVO (Feb 24; Govindaraj Anumanthan PhD)
- 2017 Knights Templar Eye Foundation Travel Award by the ARVO (Feb 24; Michael Fink DVM)
- 2016 Redhage Memorial Scholarship (May 11; Todd Marlo DVM Veterinary Ophthalmology resident)
- 2016 Best poster presentation award at the Phi Zeta Research day (May 6; Jessica Kitchell VM3 student)
- 2016 2<sup>nd</sup> Place Best Paper Award at the 23<sup>rd</sup> Mason Eye Research Day (June 10, Erica Ballard MD Resident)
- 2016 3<sup>rd</sup> Place Best Paper award at the Phi Zeta Research day (May 6; Rayne Lim PhD graduate student)
- 2016 People's Choice Award at the Missouri Life Science week (April 18; Lori Gutzmann graduate student)
- 2016 3<sup>rd</sup> place best poster award at the Missouri Life Science week (April 18; Rayne Lim graduate student)
- 2015 1<sup>st</sup> place Best Paper Award at the 22<sup>nd</sup> Mason Eye Research Day (Evan Olson MD, May 29)
- 2015 2<sup>nd</sup> place Best Paper Award at the 22<sup>nd</sup> Mason Eye Research Day (Michael Possin MD, May 29)
- 2015 Best Missouri Foundation for Medical Research Award at VA Research day (Mike Fink DVM, Sept 5)
- 2015 People's Choice Award at the VA Research Week (Suneel Gupta PhD, Sept 5)
- 2015 First place award at the Phi Zeta day for Resident and Graduate students (Mike Fink DVM, May 8)
- 2014 Best Paper Award (2<sup>nd</sup> place) at the Table Rock Regional Round-up 4-state (MO, OK, KS, AK) ophthalmologists competition (Jonathan Tovey, Sept 23)
- 2014 Best Paper Award 1<sup>st</sup> place 21<sup>th</sup> Mason Eye Research Day (Evan Olson, May 30)
- 2014 Best Paper Award 2<sup>nd</sup> place, 21<sup>th</sup> Mason Eye Research Day (Lisa Leishmann, May 30)
- 2014 Poster won 1<sup>st</sup> place award in Medicine and Health category at Hernando County Regional Intel Science and Engineering Fair in Florida (Feb 5; Vasu Malhotra)
- 2014 Received the "Overall Best in Show" award at Hernando County Regional Intel Science and Engineering Fair in Florida (Feb 5; Vasu Malhotra)

- 2013 Best Basic Science Poster Award (3<sup>rd</sup> place) at the University of Missouri School of Medicine Health Research Day (Rachael Waller M3, Nov 14)
- 2013 Phi Zeta Award (Kevin Donnelly DVM, Veterinary Ophthalmology Resident)
- 2013 Phi Zeta Award (Michael Fink DVM, Postdoctoral Fellow Comparative Medicine)
- 2013 Best Basic Science Presentation Award at MU Health Research Day (Nov 14; Rachael Waller M3)
- 2013 Cindy Wheeler Memorial Award for best review article of the year. *J Vet Sci Technol* 2012 S8:001.
- 2013 Best Paper Award (1<sup>st</sup> place 20<sup>th</sup> Mason Eye Research Day (Huiyi Chen, Jun 7-8)
- 2013 Best Paper Award (2<sup>nd</sup> place), 20<sup>th</sup> Mason Eye Research Day (Michael Waggoner, Jun 7-8)
- 2013 Redhage Residency Award at 36<sup>th</sup> Annual Phi Zeta Research Day (Kevin Donnelly; May 3)
- 2013 Best Overall Poster Award at 36<sup>th</sup> Annual Phi Zeta Research Day (Michael Fink; May 3)
- 2012 Best Basic-Science Publication Award by the American College of Veterinary Ophthalmologists
- 2012 Cover page image of our publication in *J. Veterinary Ophthalmology* (Sept issue; Vol. 15(5))
- 2012 First Place Basic Science Award at MU Health Research Day (Nov 15; Lucas Lenci M4)
- 2012 Best Paper Award (2<sup>nd</sup> place), 19<sup>th</sup> annual Mason Eye Research Day (Jacob Brubaker, Jun 8)
- 2012 People's Choice Best Poster Award to Ashish Tandon by the Missouri Foundation for Medical Research at the Veterans Research Week (April 26; Poster #4)
- 2012 Young Investigator Award to Jason Rodier by the Missouri Foundation for Medical Research at VA Research Week (April 26; Poster #6)
- 2012 Research Presentation Award to Kevin Donnelly at the 35<sup>th</sup> Annual Phi Zeta Research Day (May 4)
- 2012 Newest and Most Innovative Research Award by the ARVO featured in "Hot Topics and Emerging Trends" (May 6; Abstract # 294)
- 2012 Outstanding Discovery Fellow Award to Audra Stallard (April 9)
- 2012 National Eye Institute, NIH Travel Award. Abstract #294 (Jason Rodier MD)
- 2011 Phi Zeta Award (Kevin Donnelly DVM: Mentor Rajiv Mohan)
- 2011 Missouri Foundation Medical Research Award (Jason Rodier MD, Mentor: Rajiv Mohan)
- 2011 Best Paper Award (1<sup>st</sup> place) 18<sup>th</sup> Mason Eye Institute Alumni Day (June 3; Nathan Hesemann)
- 2011 Missouri Foundation for Medical Research Best Poster Award at VA Research Week (May 4)
- 2011 Newest and Most Innovative Research Award by the ARVO and appeared in "Hot Topics and Emerging Trends" (May 3; Abstract # 3045)
- 2011 National Eye Institute, NIH Travel Award by ARVO Abstract #7231 (Eric Hansen MD)
- 2011 NIH Special Emphasis Panel/Scientific Review Panel (ZRG1 MDCN-J 54R; Mar 17-18)
- 2011 Poster received 1<sup>st</sup> place award at the 34<sup>th</sup> Annual Phi Zeta Research Day (Ben Yarnall; Mar 18)
- 2011 Paper received 2<sup>nd</sup> place award at the 34<sup>th</sup> Annual Phi Zeta Research Day (Ann Bosiack, Mar 18)
- 2010 Poster #113 received 3<sup>rd</sup> place Basic Science-I Award at MU Health Research Day (Nov 11)
- 2010 Best Paper Award (1<sup>st</sup> place), 17<sup>th</sup> annual Ophthalmology Research Day (Pam D'Souza MD, May 22)
- 2010 Best Paper Award (2<sup>nd</sup> place), 17<sup>th</sup> annual Mason Eye Research Day (Nate Hesemann MD, May 22)
- 2010 "Newest and Most Innovative Research Award" by the ARVO and appeared in "Hot Topics and Emerging Trends" Abstract #434 (Jonathan Tovey, MD)
- 2010 American Society of Cataract and Refractive Surgery Foundation Research Award (Chetan Soni)
- 2010 Missouri Foundation for Medical Research Best Poster Award at VA Research Week (April 29)
- 2010 National Eye Institute, NIH Travel Award by ARVO Abstract #367 (Jonathan Tovey, MD, postdoc)
- 2010 National Eye Institute, NIH Travel Award by ARVO Abstract #433 (David Phillips, medical student)
- 2010 ARVO Foundation Travel Award by ARVO Abstract #434 (Vanessa Lopez MD, Cornea fellow)
- 2010 Abstract #2839 received MUPA Travel Award from University of Missouri
- 2010 Redhage Residency Award (Dylan Buss given by MU Veterinary Medicine Teaching Hospital)
- 2009 ARVO Abstract #2415 received Santan Travel Award from ARVO
- 2009 Spurgeon Award Selection Committee, University of Missouri-Columbia
- 2009 MUPA Travel Award by Uni of Missouri (Dylan Buss. DVM, Veterinary ophthalmology resident)
- 2009 Poster received 2<sup>nd</sup> place Award at Phi Zeta Research Day, MU Veterinary School Research day
- 2009 1<sup>st</sup> place Basic Science-I Award at MU Health Research Day Poster #44 (Nov 12)
- 2009 2<sup>nd</sup> place Basic Science-II Award at MU Health Research Day Poster #93 (Nov 12)
- 2009 3<sup>rd</sup> place Basic Science-I Award at MU Health Research Day Poster #30 (Nov 12)
- 2008 Best Paper Award (2<sup>nd</sup> place), 15<sup>th</sup> Mason Eye Institute Research Day (Jun 8, Maneesh Mehan)
- 2008 International Faculty Travel Award from University of Missouri Research Council (May 20)

- 2007 Best Paper Award (1<sup>st</sup> place), 14th Mason Eye Institute Research Day (Jun 9, Maneesh Mehan)
- 2005 Fabricio W. Medeiros, American Academy of Ophthalmology Best Show Award
- 2004 Marcello Netto, American Academy of Ophthalmology Best Show Award
- 2003 Marcello Netto, American Academy of Ophthalmology Best Show Award
- 2002 Best Show Award, American Academy of Ophthalmology, San Francisco, California
- 2000 National Eye Institute Travel Award from NIH, Bethesda, Maryland
- 1995 SDRC travel award by the Skin Diseases Research Center, Cleveland, Ohio

### Professional Societies Membership

- 2017-present European Association for Vision and Eye Research, Member
- 2017-present World Ophthalmology Congress, Member
- 2010-present American Society of Gene and Cell Therapy, Active Member
- 2009-present American Society for Nanomedicine, USA Life Member
- 2008-present International Society for Eye Research, USA Member
- 1995-present Association for Research in Vision and Ophthalmology, USA Regular Member
- 1990-present Indian Science Congress Association, India Life Member
- 1989-present Indian Council of Chemists, India Life Member
- 1997-1994 American Association for Cancer Research, USA
- 1997-1995 Society for Investigative Dermatology, USA

### Editorial Board Member of Scientific Journals

- 2019-present Associate Editor, EBM, Translational Vision Science and Technology
- 2017-present Scientific Reports, a Nature Research journal
- 2017-present Journal of Ocular Pharmacology and Therapeutics
- 2014-present Indian Journal of Ophthalmology (International Advisory Board)
- 2014-present Senior Editor J. Nanoscience letters
- 2014-present Ophthalmology International Scholarly Research Notices (ISRN)
- 2011-present Cloning and Transgenesis
- 2010-present PLoS One Academic Editor
- 2009-present Nanomedicine: Nanotechnology, Biology and Medicine
- 2011-present World Journal of Experimental Medicine
- 2011-2019 Translational Vision Science and Technology, EBM member
- 2008-2013 Journal of Refractive Surgery
- 2008-2011 Journal of Cell Death
- 2001-2010 Journal of Toxicology Cutaneous and Ocular toxicology, USA

### Scientific Journals Ad hoc Reviewer

- Investigative Ophthalmology & Visual Science
- Experimental Eye Research
- Molecular Vision
- Journal of Refractive Surgery
- Journal of Cataract and Refractive Surgery
- Cornea
- Current Eye Research
- Archives of Ophthalmology
- Ophthalmic Research
- Open Ophthalmology Journal
- Eye and Contact Lens
- Biomaterials
- Journal of Cellular Biochemistry
- Molecular Medicine
- Cellular and Molecular Medicine
- Ophthalmic Research
- Journal of Gene Medicine
- Brain Research Bulletin
- Journal of Neuroimmunobiology
- Japanese Journal of Ophthalmology
- CNS & Neurological Disorders Drug Targets
- Journal of Veterinary Science & Technology
- Photochemistry and Photobiology
- PLOS One
- Open access journal
- Journal of Neurochemistry

### Peer-Reviewed Published Journal Articles

1. Balne PK, Gupta S, Zhang J, Bristow D, Faubion M, Heil SD, Sinha PR, Green SL, **Mohan RR**. The functional role of decorin in corneal neovascularization in vivo. *Exp Eye Res.* 2020 revised MSS under review.
2. Fuchs A, Giuliano EA, Sinha NR, **Mohan RR**. Ocular toxicity of mustard gas: a concise review. *Tox Letters* 2021, in press.
3. **Mohan RR**, Martin LM, Sinha NR. Novel insights into gene therapy in the cornea. *Exp Eye Res.* *Exp Eye Res.* 2021;202:108361.
4. Gupta S, Kamil K, Sinha PR, Rodier JT, Chaurasia SS, **Mohan RR**. Glutathione is a potential therapeutic target for acrolein toxicity in the cornea. *Tox Letters Toxicol Lett.* 2021;340:33-42.
5. Kamil S, **Mohan RR**. Corneal stromal wound healing: Major players and therapeutic targets. *Ocular Surface, Ocul Surf.* 2020:S1542-0124(20)30164-6.
6. McNutt PM, **Mohan RR**. The need for improved therapeutic approaches to protect the cornea against chemotoxic injuries. *Transl Vis Sci Technol*, 2020, 9, 2. <https://doi.org/10.1167/tvst.9.12.2>
7. Tripathi R, Balne PK, Sinha NR, Martin LM, Kamil, S, Landreneau, JR, Gupta S, Rodier JT, Sinha NR, Hofmann AC, Hesemann NP, Chaurasia SS, **Mohan RR**. A novel topical ophthalmic formulation to mitigate acute mustard gas keratopathy in vivo: A pilot study. *Transl Vis Sci Technol*, 2020, 9, 6. <https://doi.org/10.1167/tvst.9.12.6>.
8. Gupta S, Martin LM, Sinha NR, Smith KE, Sinha PR, Dailey EM, Hesemann NP, **Mohan RR**. Role of inhibitor of differentiation 3 gene in cellular differentiation of human corneal stromal fibroblasts. *Mol. Vis.* 2020, 26, 742-756.
9. Gupta S, Fink MK, Martin LM, Sinha PR, Rodier JT, Sinha NR, Hesemann NP, Chaurasia SS, **Mohan RR**. Rabbit Model for Evaluating Ocular Damage to Acrolein Toxicity in vivo. *Ann N Y Acad Sci.*; 2020 Nov 1480(1):233-245.
10. Balne PK, Sinha NR, Hofmann AC, Martin LM, **Mohan RR**. Characterization of hydrogen sulfide toxicity to the human corneal stromal fibroblasts. *Annals of the New York Academy of Sciences.* *Ann N Y Acad Sci.* 2020 Nov;1480(1):207-218.
11. Hofmann AC, Balne PK, Tripathi R, Kamil S, Gupta S, Sinha PR, Sinha NR, **Mohan RR**. Effects of matrix-stiffness on human corneal stromal fibroblast differentiation. *Invest Ophthalmol Vis Sci* 2020; 61(7):2926.
12. Green SL, Gupta S, Sinha PR, Sinha NR, Balne PK, Hesemann NP, Chaurasia SS, Mohan RR. Role of Smad3 in healing cornea using knockout (Smad3 <sup>-/-</sup>) mice. *Invest Ophthalmol Vis Sci* 2020; 61(7):2610.
13. Lim RR, Wieser ME, Ganga RR, Barathi VA, Lakshminarayanan R, **Mohan RR**, Hainsworth DP, Chaurasia SS. NOD-like receptors in the eye: uncovering its role in diabetic retinopathy. *Int J Mol Sci.* 2020; 30;21(3). pii: E899. doi: 10.3390/ijms21030899.
14. Kumar NR, Khamar P, Shetty R, Sharma A, Shetty N, Pahuja N, Abilash VG, Jhanji V, Ghosh A, **Mohan RR**, Vangala RK, Ghosh A. Identification of novel predictive factors for post-surgical corneal haze. *Sci Rep.* 2019; 18; 9:16980. doi: 10.1038/s41598-019-53123-3.
15. Gouveia RM, Lepert G, Gupta S, **Mohan RR**, Paterson C, Connon CJ. Assessment of corneal substrate biomechanics and its effect on epithelial stem cell maintenance and differentiation. *Nat Commun.* 2019; 10:1496.
16. Rodier JT, Tripathi R, Fink MK, Sharma A, Korampally M, Gangopadhyay S, Giuliano EA, Sinha PR, **Mohan RR**. Linear Polyethylenimine-DNA Nanoconstruct for Corneal Gene Delivery. *J Ocul Pharmacol Ther.* 2019; 35:23-31.
17. Tripathi R, Giuliano EA, Gafen HB, Gupta S, Martin LM, Sinha PR, Rodier JT, Fink MK, Hesemann NP, Chaurasia SS. **Mohan RR**. Is sex a biological variable in corneal wound healing? *Exp Eye Res.* 2019 Jun 18:107705. doi: 10.1016/j.exer.2019.107705
18. Martin LM, Jeyabalan N, Tripathi R, Panigrahi T, Johnson PJ, Ghosh A, **Mohan RR**. Autophagy in corneal health and disease: A concise review. *Ocul Surf.* 2019; S1542-0124(18)30282-9
19. RR Lim, DP Hainsworth, **RR Mohan**, SS Chaurasia. Characterization of a functionally active primary microglial cell culture from the pig retina, *Exp. Eye Res.*, 2019:107670. doi: 10.1016/j.exer.2019.05.010

20. **Mohan RR**, Tripathi R, Sharma A, Sinha PR, Giuliano EA, Hesemann NP, Chaurasia SS. Decorin antagonizes corneal fibroblast migration via caveolae-mediated endocytosis of epidermal growth factor receptor. *Exp Eye Res.* 2019; 180:200-7.
21. RR Lim, Vaidya T, SG Gadde, NK Yadav, S Sethu, DP Hainsworth, **RR Mohan**, A Ghosh, SS Chaurasia. Correlation between systemic S100A8 and S100A9 levels and severity of diabetic retinopathy in patients with type 2 diabetes mellitus. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews.* 2019; 13(2); 1581-1589, doi: 10.1016/j.dsx.2019.03.014
22. Gupta S, Fink MK, Ebers S, Crider EL, Possin M, Sinha PR, Hesemann NP, Giuliano EA, **Mohan RR**. Pharmacologic inhibition of rho-associated protein kinase pathways as a therapeutic strategy for attenuating corneal fibrosis and neovascularization in vivo. *PLoS One.* In Review.
23. Lim RR, Grant DG, Olver TD, Padilla J, **Mohan RR**, Hainsworth DP, Walters EM, Chaurasia SS. Young Ossabaw pigs fed a Western diet exhibit early signs of diabetic retinopathy. *Invest Ophthalmol Vis Sci* 2018; 59:2325-38.
24. Anumanthan G, Gupta S, Fink MK, Tripathi R, Hesemann NP, Bowles DK, McDaniel LM, Muhammad M, **Mohan RR**. KCa3.1 ion channel: a novel therapeutic target for corneal fibrosis. *PLoS One.* 2018;13(3): e0192145.
25. Marlo TL, Giuliano EA, Tripathi R, Sharma A, **Mohan RR**. Altering equine corneal fibroblast differentiation through Smad gene transfer. *Vet Ophthalmol.* 2018;21:132-139.
26. Chaurasia SS, Lim RR, Parikh BH, Yeo SW, Tun BB, Wong TY, Luu CD, Agrawal R, Ghosh A, Mortellaro A, Rackoczy E, **Mohan RR**, Barathi VA. The NLRP3 inflammasome may contribute to pathologic neovascularization in the advanced stages of diabetic retinopathy. *Sci. Reports* 2018;8:2847.
27. Lim RR, S Gupta, DG Grant, PR Sinha, **RR Mohan**, SS Chaurasia. Retinal ultrastructural and microvascular defects in decorin deficient (*Dcn<sup>-/-</sup>*) mice. *Microscopy and Microanalysis.* 2018;24:1264-1265. doi: 10.1017/S1431927618006803
28. Gupta S, Fink MK, Ghosh A, Sinha PR, Sharma A, Hesemann NP, Chaurasia SS, Giuliano EA, **Mohan RR**. Novel combination BMP7 and HGF gene therapy instigates selective myofibroblast apoptosis and restores corneal transparency in vivo. *Invest Ophthalmol Vis Sci.* 2018 Feb 1;59(2):1045-1057.
29. Anumanthan G, Wilson PJ, Tripathi R, Hesemann NP, **Mohan RR**. Blockade of KCa3.1: A novel target to treat TGF- $\beta$ 1 induced conjunctival fibrosis. *Exp. Eye Res.* 2018;167:140-4.
30. Anumanthan G, Sharma A, Waggoner M, Hamm CW, Gupta S, Hesemann NP, **Mohan RR**. Efficacy and safety comparison between suberoylanilide hydroxamic acid and mitomycin C in reducing the risk of corneal haze after PRK treatment in vivo. *J Refract Surg.* 2017;33(12):834-839.
31. Marlo TL, Giuliano EA, Sharma A, **Mohan RR**. Development of a novel ex vivo equine corneal model. *Vet Ophthalmol.* 2017 Jul;20(4):288-293. doi: 10.1111/vop.12415.
32. Gupta S, Rodier JT, Sharma A, Giuliano EA, Sinha PR, Hesemann NP, Ghosh A, **Mohan RR**. Targeted AAV5-Smad7 gene therapy inhibits corneal scarring in vivo. *PLoS One.* 2017;12:e0172928.
33. Gronkiewicz KM, Giuliano EA, Sharma A, **Mohan RR**. Effects of topical hyaluronic acid on corneal wound healing in dogs: a pilot study. *Vet Ophthalmol.* 2017 Mar;20(2):123-30 doi: 10.1111/vop.12379
34. Jhanji V, Lim RR, Chaurasia SS, **Mohan RR**. Differential early cellular events after conventional and inverted side-cut corneal LASIK flaps using femtosecond laser. *J. Ref Sur.* 2017;33(2):96-103.
35. Gronkiewicz KM, Giuliano EA, Sharma A, **Mohan RR**. Molecular mechanisms of suberoylanilide hydroxamic acid in the inhibition of TGF- $\beta$ 1-mediated canine corneal fibrosis. *Vet Ophthalmol.* 2016;19(6):480-7.
36. Pahuja N, Kumar NR, Shroff R, Shetty R, Nuijts RM, Ghosh A, Sinha-Roy A, Chaurasia SS, **Mohan RR**, Ghosh A. Differential molecular expression of extracellular matrix and inflammatory genes at the corneal cone apex drives focal weakening in keratoconus. *Invest Ophthalmol Vis Sci.* 2016;57(13):5372-82.
37. Raikwar SP, Raikwar AS, Chaurasia SS, **Mohan RR**. Gene editing for corneal disease management. *World J Transl Med* 2016; 5(1):1-13.
38. Lim RR, Tan A, Liu YC, Barathi VA, **Mohan RR**, Mehta JS, Chaurasia SS. ITF2357 transactivates Id3 and regulate TGF $\beta$ /BMP7 signaling pathways to attenuate corneal fibrosis. *Sci Rep.* 2016;6(1):1-16.
39. Gronkiewicz KM, Giuliano EA, Sharma A, **Mohan RR**. Development of a novel in vivo corneal fibrosis model in the dog. *Exp Eye Res.* 2016;143:75-88.

40. Sharma A, Anumanthan G, Reyes M, Chen H, Brubaker JW, Siddiqui S, Gupta S, Rieger FG, **Mohan RR**. Epigenetic modification prevents excessive wound healing and scar formation after glaucoma filtration surgery. *Invest Ophthalmol Vis Sci*. 2016;57(7):3381-9.
41. **Mohan RR**, Morgan BR, Anumanthan G, Sharma A, Chaurasia SS, Rieger FG. Characterization of Inhibitor of Differentiation (Id) Proteins in Human Cornea. *EER 2015. Exp Eye Res*. 2016;146:145-53.
42. Gupta S, Fink MK, Sinha PR, **Mohan RR**. DELTA Scoring System: A comprehensive and standardized protocol for corneal neovascularization quantification in murine models of alkali-induced injury. *Bio Techniques* 2016.
43. Chaurasia SS, Lim RR, Lakshminarayanan R, **Mohan RR**. Nanomedicine approaches for corneal diseases. *J Funct Biomater*. 2015;6(2) 30:277-98.
44. Sharma A, Rodier JT, Tandon A, Korampally M, Gangopadhyay S, Klibanov AM, Sinha NR, **Mohan RR**. Testing and optimization of linear polyethylenimine-DNA nanoconstruct for corneal gene delivery. *Nanomedicine: Nanotechnology, Biology and Medicine*. Communicated
45. Fink MK, Giuliano EA, Tandon A, **Mohan RR**. Therapeutic potential of pirfenidone for treating equine corneal scarring. *Vet Ophthalmol* 2014 Jul 15. doi: 10.1111/vop.12194.
46. Shetty R, Sathyanarayanamoorthy S, Ramachandra RA, Arora V, Ghosh A, Srivatsa R, Pahuja N, Nuijts RMMA, Sinha-Roy A, **Mohan RR**, Ghosh A. Attenuation of lysyl oxidase and collagen gene expression in keratoconus patient corneal epithelium corresponds to disease severity. *Mol Vis*. 2015; 21:12-25.
47. Sharma A, Sinha NR, **Mohan RR**. Role of 5'TG3'-interacting factors (TGIFs) in Vorinostat (HDAC inhibitor)-mediated Corneal Fibrosis Inhibition. *Mol Vis*. 2015;21:974-84.
48. Chaudhary K, Moore H, Tandon A, Gupta S, Khanna R, **Mohan RR**. Nanotechnology and adeno-associated virus-based decorin gene therapy ameliorates peritoneal fibrosis. *Am J Physiol Renal Physiol*. 2014; 307(7): F777-782.
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### Invited Book Chapters

1. Ghosh A, Jayabalan N, Shetty R, **Mohan RR**. Keratoconus in Asia; book entitled Advances in Vision Research, Genetic Eye Research in Asia and the Pacific. Editors: Gyan Prakash and Takeshi Iwata Springer, Nature 2016 p363-374.
2. **Mohan RR**, Morgan BR. Gene delivery and disease modulation in the eye. Book titled Clinical Ocular Pharmacology and Therapeutics. Editor: Gupta SK, Agarwal R, Srivastava S. Jaypee Medical Publisher Inc., Philadelphia, USA 2014 p286-303.
3. **Mohan RR**, Rodier JT. Corneal gene therapy: Principles and Potential. Book titled Principles and Practice of Cornea, Editors: Robert Copeland Jr. and Natalie Afshari, Jaypee Brothers Medical Publisher, New Delhi, India 2012; p969-990.
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5. Sharma A, Ghosh A, Siddappa C, **Mohan RR**. Gene Therapy for the cornea, conjunctiva, and lacrimal gland. Encyclopedia of the Eye. Oxford: Academic Press; Edited by Darlene A. Dartt, Vol 2, 185-194, 2010.
6. Netto MV, **Mohan RR**, Ambrósio R, Wilson SE. Corneal wound healing response in LASIK. Book entitled Refractive Surface Ablation: PRK, LASEK, Epi-LASIK, Custom, PTK, and Retreatment. Editors: Paolo Vinciguerra and Fabrizio Camesasca. Salck Inc. USA 2006 p219-223.
7. Gupta D, Arora R, **Mohan RR**, Almasan A, Gudkov AV, Macklis RM. Novel Strategies for Protecting Mitochondria (the Cellular Powerhouse) Against Low-LET Radiation: A Review. CAB International, Oxfordshire, UK. Herbal Radiomodulators: Applications in Medicine, Homeland Defense and Space Edited by Dr. Rajesh Arora. P 215-226, 2009.
8. Wilson SE, Mohan R, **Mohan RR**, Ambrósio R, Hong J-W, Lee JS: "The corneal wound healing response: Cytokine-mediated interaction of the epithelium, stroma, and inflammatory cells," In: DiPietro LA & Burns-Harring AL (eds.): Wound Healing Methods and Protocols. Copyright © 2001 Humana Press, Totowa, N.J.; vol. 20, pp. 625-37.
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### Selected Abstract/Research Presented at Scientific Meetings (from >400 abstracts)

#### 2020

1. Tripathi R, Martin LM, Kamil S, Sinha NR, Hofmann AC, Green SL, Balne PK, Sinha PR, Hesemann NP, Veress LA, Fraunfelder FW, **Mohan RR**. Chlorine Gas Toxicity to the Cornea. Toxicology Letters. 2020; 331;1(21) doi: 10.1016/j.toxlet.2020.05.075.
2. **Mohan RR**, Balne PK, Tripathi R, Gupta S, Sinha PR, Hesemann NP, Chaurasia SS. Emerging therapy for corneal fibrosis (scar) reversal. World Ophthalmology Congress (WOC) organized by International Council of Ophthalmology; 2020 Jun 28; Cape Town, South Africa
3. Sinha NR, Lim RR, Balne PK, **Mohan RR**. Ossabaw pig diabetic vs non-diabetic corneas: comparative analysis of wound healing parameters. World Ophthalmology Congress (WOC) organized by International Council of Ophthalmology; 2020 Jun 26-29; Cape Town, South Africa
4. **Mohan RR**, Balne PK, Tripathi R, Martin LM, Gupta S, Heil S, Rodier JT, Sinha NR, Hofmann AC, Green SL, Kamil S, Sinha PR, Chaurasia SS, Hesemann NP. Expression and functional role of a novel restrictive element-1 silencing transcription repressor (REST) in cornea. Baltimore, MD; 2020 May 6; ARVO meeting
5. Fraunfelder M, Gupta S, Fink M, Balne PK, Tripathi R, Sinha PR, Heil S, Giuliano EA, Hesemann NP, Chaurasia SS, **Mohan RR**. Comparative analysis of generic and brand NSAIDS toxicity in human corneal stromal fibroblasts. ARVO meeting; 2020 May 6; Baltimore, MD
6. Tripathi R, Martin LM, Kamil S, Sinha NR, Hofmann AC, Green SL, Balne PK, Gupta S, Sinha PR, Hesemann NP, Fraunfelder FW, Chaurasia SS, **Mohan RR**. SIRT1: A novel target to regulate corneal myofibroblast formation. ARVO meeting; 2020 May 5; Baltimore, MD.

7. Sinha PR, Gupta S, Kamil S, Sinha NR, Balne PK, Hesemann NP, Chaurasia SS, **Mohan RR**. Safety profiling of AAV5-Id3 gene therapy using rabbits. ARVO meeting; 2020 May 5; Baltimore, MD.
8. Sinha NR, Lim RR, Balne PK, **Mohan RR**, Chaurasia SS. Diabetic Ossabaw pig cornea exhibit aberrant structural and wound healing parameters. ARVO meeting; 2020 May 5; Baltimore, MD.
9. Martin LM, Lim RR, Sinha NR, Hofmann AC, Tripathi R, Green SL, Kamil S, Grant DE, Johnson PJ, Fraunfelder M, **Mohan RR**. Modulation of autophagy-related genes in healthy, keratoconus and injured corneas. ARVO meeting; 2020 May 5; Baltimore, MD.
10. Kamil S, Gupta S, Tripathi R, Balne PK, Sinha PR, Sinha NR, Martin LM, Hesemann NP, Hofmann AC, Green SL, Fraunfelder FW, **Mohan RR**. Investigation of effects of decorin on stromal fibrillogenesis in adult un-injured and injured-healing cornea using decorin knockout and wild type mice. ARVO meeting; 2020 May 5; Baltimore, MD.
11. Hofmann AC, Balne PK, Tripathi R, Kamil S, Gupta S, Sinha PR, Sinha NR, **Mohan RR**. Effects of matrix-stiffness on human corneal stromal fibroblast differentiation. ARVO meeting; 2020 May 5; Baltimore, MD.
12. Gupta S, Sinha PR, Kamil S, Sinha NR, Tripathi R, Balne PK, Chaurasia SS, Hesemann NP, **Mohan RR**. Remarkable inhibition of corneal scarring by Id3 gene therapy in a preclinical rabbit in vivo model. ARVO meeting; 2020 May 5; Baltimore, MD.
13. Green SL, Gupta S, Sinha PR, Sinha NR, Balne PK, Hesemann NP, Chaurasia SS, **Mohan RR**. Smad3-/- mice show resistance for corneal fibrosis after ocular injury. ARVO meeting; 2020 May 5; Baltimore, MD.
14. Fraunfelder M, Tripathi R, Kamil S, Green SL, Martin LM, Sinha NR, Hofmann AC, Balne PK, Sinha PR, Rodier JT, **Mohan RR**. Dosage dependent impact of generic and brand NSAIDS preservatives on human corneal stromal Fibroblasts. ARVO meeting; 2020 May 5; Baltimore, MD.
15. Balne PK, Tripathi R, Gupta S, Kamil S, Sinha PR, Sinha NR, Hesemann NP, Chaurasia SS, Thannickal V, **Mohan RR**. Corneal stromal fibroblast-myofibroblast-fibroblast regulation via gene silencing. ARVO meeting; 2020 May 5; Baltimore, MD.
16. Chaurasia SS, Lim RR, **Mohan RR**, Hainsworth DP. Activated retinal microglial cells produce myeloid-related S100A9 protein. ARVO meeting; 2020 May 3-7; Baltimore, MD.
17. Tripathi R, Martin LM, Kamil S, Sinha NR, Hofmann AC, Green SL, Balne PK, Sinha PR, Hesemann NP, Veress LA, Fraunfelder FW, **Mohan RR**. Developing medical countermeasures to treat the acute and chronic effects of ocular chemical toxicity organized by NIH-NIAID. Developing Medical Countermeasures to treat the Acute and Chronic Effects of Ocular Chemical Toxicity organized by NIH-NIAID; 2020 Feb 25; Rockville, MD.
18. Martin LM, Tripathi R, Balne PK, Landreneau JR, Kamil S, Gupta S, Hesemann NP, Sinha PR, Rodier JT, Green SL, Sinha NR, Hofmann AC, Fraunfelder FW, Chaurasia SS, **Mohan RR**. Turbo eye drops restore sulfur mustard-induced corneal damage. Developing Medical Countermeasures to treat the Acute and Chronic Effects of Ocular Chemical Toxicity organized by NIH-NIAID; 2020 Feb 25; Rockville, MD.
19. Kamil S, Tripathi R, Landreneau JR, Balne PK, Martin LM, Hesemann NP, Sinha PR, Gupta S, Rodier JT, Green SL, Sinha NR, Hofmann AC, Fraunfelder FW, **Mohan RR**. Rescue of limbal stem cell deficiency in the cornea by a proprietary eye drop in rabbits exposed to the Sulphur mustard gas. Developing Medical Countermeasures to treat the Acute and Chronic Effects of Ocular Chemical Toxicity organized by NIH-NIAID; 2020 Feb 25; Rockville, MD.
20. Gupta S, Sinha PR, Heil S, Balne PK, Hesemann NP, Rodier JT, Tripathi R, Fraunfelder FW, Giuliano EA, Chaurasia SS, **Mohan RR**. Acrolein disrupts corneal natural defense mechanism. Developing Medical Countermeasures to treat the Acute and Chronic Effects of Ocular Chemical Toxicity organized by NIH-NIAID; 2020 Feb 25; Rockville, MD.
21. Balne PK, Hofmann AC, Tripathi R, Sinha NR, Martin LM, Anand K, Fraunfelder FW, Kamil S, Sinha PR, Gupta S, Hesemann NP, **Mohan RR**. Hydrogen sulfide gas toxicity to the cornea. Developing Medical Countermeasures to treat the Acute and Chronic Effects of Ocular Chemical Toxicity organized by NIH-NIAID; 2020 Feb 25; Rockville, MD.

22. Martin LM, Gupta S, Tripathi R, Balne PK, Sinha PR, Sinha NR, Rodier JT, Giuliano EA, Hesemann NP, Chaurasia SS, **Mohan RR**. Nanomedicine approach to counter acrolein-induced blindness and toxicity to the eye. New York Medical College NIH Counteracts U54 Research Center of Excellence; 2019 Jun 18-20; New York, NY
23. Landreneau JR, Tripathi R, Balne PK, Martin LM, Sinha PR, Giuliano EA, Sinha NR, Hesemann NP, Chaurasia SS, **Mohan RR**. Turbo eye drops to treat ocular toxicity and blindness from sulfur mustard. New York Medical College NIH Counteracts U54 Research Center of Excellence; 2019 Jun 18-20; New York, NY.
24. Tripathi R, **Mohan RR**, Gupta S, Sinha NR, Balne PK, Sinha PR, Chaurasia SS. Evaluation of turbo eye drops to counteract sulfur mustard keratopathy. University of Missouri CVM Research Day; 2019 May 10; Columbia, MO.
25. Sinha PR, **Mohan RR**, Gupta S, Balne PK, Tripathi R, Rodier JT, Hesemann NP, Heil S, Martin LM, Chaurasia SS. Characterization of a novel anti-fibrotic gene in the cornea. University of Missouri CVM Research Day; 2019 May 10; Columbia, MO.
26. Martin LM, Tripathi R, Sinha PR, Nallathambi J, Johnson PJ, Chaurasia SS, Ghosh A, **Mohan RR**. Disruption of corneal epithelium in keratoconus cornea involves autophagy. University of Missouri CVM Research Day; 2019 May 10; Columbia, MO.
27. Heil S, **Mohan RR**, Tripathi R, Balne PK, Sinha PR, Sinha NR. Promise and potential of Emodin phytochemical in corneal fibrosis management. University of Missouri CVM Research Day; 2019 May 10; Columbia, MO.
28. Gupta S, **Mohan RR**, Tripathi R, Sinha PR, Giuliano EA, Sinha NR, Chaurasia SS, Hesemann NP. Acrolein exposure to eye leads to blinding disorders. University of Missouri CVM Research Day; 2019 May 10; Columbia, MO.
29. Balne PK, **Mohan RR**, Gupta S, Tripathi R, Rodier JT, Sinha PR, Sinha NR, Heil S, Chaurasia SS. Regulation of pro/anti-angiogenic factors in corneal healing by decorin. University of Missouri CVM Research Day; 2019 May 10; Columbia, MO.
30. Sinha PR, Gupta S, Balne PK, Tripathi R, Giuliano EA, Rodier JT, Hesemann NP, Chaurasia SS, **Mohan RR**. A new approach to mitigate induced acrolein toxicity in the eye. ARVO meeting; 2019 Apr 28; Vancouver, BC.
31. Sinha NR, Tripathi R, Gupta S, Balne PK, Hesemann NP, Rodier JT, Giuliano EA, Sinha PR, Martin LM, Chaurasia SS, **Mohan RR**. Topical ophthalmic formulation to counteract sulfur mustard-induced corneal damage. ARVO meeting; 2019 Apr 28; Vancouver, BC.
32. **Mohan RR**, Tripathi R, Balne PK, Gupta S, Rodier JT, Heil S, Hesemann NP, Ghosh A, Chaurasia SS. MyoD gene silencing promotes corneal fibroblast de-differentiation and reverses fibrosis. ARVO meeting; 2019 Apr 28; Vancouver, BC.
33. Martin LM, Tripathi R, Sinha NR, Giuliano EA, **Mohan RR**. Autophagy regulates corneal wound healing. ARVO meeting; 2019 Apr 28; Vancouver, BC.
34. Lim RR, **Mohan RR**, Hainsworth DP, Chaurasia SS. Role of DAMPs in the initiation of diabetic retinopathy in a novel ossabaw pig model of prediabetes. ARVO meeting; 2019 Apr 28; Vancouver, BC.
35. Lam H, Gupta S, Tripathi R, Balne PK, Heil S, Sinha NR, Hesemann NP, Rodier JT, Sinha PR, Giuliano EA, Chaurasia SS, **Mohan RR**. KCa3.1 Ion Channel inhibition prevents exuberant corneal wound healing and ameliorates TGF $\beta$ 1-induced Corneal Fibrosis. ARVO meeting; 2019 Apr 28; Vancouver, BC.
36. Heil S, Tripathi R, Balne PK, Martin LM, Gupta S, Sinha PR, Rodier JT, **Mohan RR**. A phytochemical, Emodin, attenuates corneal stromal fibroblast differentiation and fibrosis. ARVO meeting; 2019 Apr 28; Vancouver, BC.
37. Fraunfelder F, Gupta S, Fink MT, Balne PK, Tripathi R, Sinha PR, Heil S, Giuliano EA, Hesemann NP, Chaurasia SS, **Mohan RR**. Id3 gene over-expression into corneal stromal fibroblast blocks TGF $\beta$ 1-driven fibrosis in an in vitro model. ARVO meeting; 2019 Apr 28; Vancouver, BC.
38. Chaurasia SS, Lim RR, Gupta S, Hainsworth DP, **Mohan RR**. Decorin loss compromises retinal pigment epithelium apical microvilli and photoreceptor outer segment interactions. ARVO meeting; 2019 Apr 28; Vancouver, BC.
39. Tripathi R, Balne PK, Sinha PR, Hesemann NP, Rodier JT, Chaurasia SS, Sinha NR, Heil S, **Mohan RR**. Novel ophthalmic drops (TED) effectively mitigates sulfur mustard toxicity to the cornea. Presented at

- the University of Missouri Life Science Week, Christopher S Bond Life Science; 2019 Apr 17-19; Columbia, MO.
40. Sinha PR, Gupta S, Balne PK, Tripathi R, Rodier JT, Hesemann NP, Heil S, Martin LM, Chaurasia SS, **Mohan RR**. Characterization of a novel anti-fibrotic gene in the cornea. Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2019 Apr 17-19; Columbia, MO.
  41. Sinha NR, Balne PK, Tripathi R, Gupta S, Heil S, Sinha PR, Rodier JT, Hesemann NP, Chaurasia SS, **Mohan RR**. DNA binding transcription factors modulate corneal wound healing. Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2019 Apr 17-19; Columbia, MO.
  42. Heil S, Tripathi R, Balne PK, Sinha PR, **Mohan RR**. Remarkable inhibition of corneal fibrosis by a naturally-occurring plant anthraquinone. Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2019 Apr 17-19; Columbia, MO.
  43. Gupta S, Sinha PR, Grant DA, Giuliano EA, Hesemann NP, Chaurasia SS, **Mohan RR**. Role of decorin in corneal collagen fibrillogenesis and wound healing. Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2019 Apr 17-19; Columbia, MO.
  44. Balne PK, Gupta S, Tripathi R, Rodier JT, Sinha PR, Sinha NR, Heil S, Chaurasia SS, **Mohan RR**. Decorin regulates pro- and anti-angiogenic factors in the injured cornea. Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2019 Apr 17-19; Columbia, MO.

## 2018

45. **Mohan RR**. PRK associated corneal haze and wound healing. 14th SAARC Academy of Ophthalmology Conference; 2018 Jun 21-24; Kathmandu, Nepal.
46. **Mohan RR**. Emerging gene based therapies for corneal fibrosis and neovascularization. 14th SAARC Academy of Ophthalmology Conference; 2018 Jun 21-24; Kathmandu, Nepal.
47. Selot R, Naidu JR, Kumar N, Shetty R, **Mohan RR**, Ghosh A, Sethu S. Increased expression of Retinoic acid-related Orphan Receptor gamma transcription factor and its products in keratoconus patients. ARVO; 2018 April 29-May 3; Honolulu, Hawaii.
48. Pahuja N, Khamar P, Shetty R, Nair AP, Vaidya T, Jhanji V, **Mohan RR**, Sethu S, Ghosh A. Distinct tear molecular profile of keratoconus patients with progressive disease. ARVO; 2018 April 29-May 3; Honolulu, Hawaii.
49. **Mohan RR**, Tripathi R, Gupta S, Fink MK, Martin LM, Gafen HB, Sinha NR, Rodier JT, Chaurasia SS, Hesemann NP, Giuliano EA. Corneal wound healing: Is sex a biological variable? ARVO; 2018 April 29-May 3; Honolulu, Hawaii.
50. **Mohan RR**. Nanoparticle-driven gene delivery into corneal stroma. SIG on Delivery of therapeutics to ocular tissues. ARVO; 2018 April 29-May 3; Honolulu, Hawaii.
51. McDaniel LM, Gupta S, Fink MK, Hesemann NP, Sinha PR, Heil S, Gafen HB, Bowles DK, **Mohan RR**. Characterization and Role of KCa3.1 Ion Channel in Corneal Wound Healing and Fibrosis. ARVO; April 29-May 3; Honolulu, Hawaii.
52. Lim RR, Ghosh A, **Mohan RR**, Chaurasia SS. Primary culture and characterization of porcine retinal microglial cells. ARVO; 2018 May 29; Honolulu, Hawaii.
53. Gupta S, Fink MK, Tripathi R, Sinha PR, Chaurasia SS, Giuliano EA, Hesemann NP, McDaniel LM, Dailey EM, **Mohan RR**. Acrolein exposure to eye causes corneal inflammation, fibrosis, and angiogenesis. ARVO; 2018 April 29-May 3; Honolulu, Hawaii.
54. Chaurasia SS, Lim RR, Olver TD, Padilla J, **Mohan RR**, Walters EM, Hainsworth DP. Novel pig model for translational diabetic retinopathy studies. ARVO; 2018 April 29-May 3; Honolulu, Hawaii.
55. An J, Gupta S, Fink MK, Hesemann NP, Tripathi R, Sinha PR, McDaniel LM, **Mohan RR**. A novel Decorin+SAHA combination therapy to treat bleb fibrosis in vivo in rabbits. ARVO; 2018 April 29-May 3; Honolulu, Hawaii.
56. Tripathi R. Anti-fibrotic effects of decorin in the cornea are due to EGFR degradation via caveolar endocytosis. University of Missouri CVM Research Day Sponsored by Phi Zeta Honors Society; 2018 May 25; Columbia, MO.
57. Martin LM, Tripathi R, Sinha NR, Giuliano EA, **Mohan RR**. Autophagy in the cornea. University of Missouri CVM Research Day Sponsored by Phi Zeta Honors Society; 2018 May 25; Columbia, MO.

58. Heil S, Tripathi R, Gupta S, Fink MK, Sinha NR, Chaurasia SS, Giuliano EA, Hesemann NP, **Mohan RR**. Role of histone deacetylase: Sirtuin-1 in corneal transparency maintenance. University of Missouri CVM Research Day Sponsored by Phi Zeta Honors Society; 2018 May 25; Columbia, MO.
59. Gafen HB, Tripathi R, Martin LM, Gupta S, Fink MK, Sinha PR, Giuliano EA, Rodier RT, Hesemann NP, **Mohan RR**. Is sex a biological variable in corneal wound healing? University of Missouri CVM Research Day Sponsored by Phi Zeta Honors Society; 2018 May 25; Columbia, MO.
60. Tripathi R, Gupta S, Fink MK, Sinha NR, Giuliano EA, Hesemann NP, **Mohan RR**. Anti-fibrotic effects of decorin in the cornea are due to EGFR degradation via caveolar endocytosis. University of Missouri Life Science Week, Christopher S Bond Life Science; 2018 Apr 9-14; Columbia, MO.
61. Sinha PR, Tripathi R, Gupta S, Jensen JM, Fink MK, Giuliano EA, Hesemann NP, **Mohan RR**. A novel topical drops for corneal fibrosis treatment. University of Missouri Life Science Week, Christopher S Bond Life Science; 2018 Apr 9-14; Columbia, MO.
62. Sinha NR, Lim RR, **Mohan RR**, Chaurasia SS. Characterization of Primary Pig Retinal Microglial Cells. University of Missouri Life Science Week, Christopher S Bond Life Science; 2018 Apr 9-14; Columbia, MO.
63. Mohammad M, Tripathi R, Gupta S, Fink MK, Sinha PR, Giuliano EA, Doug Bowles, Hesemann NP, **Mohan RR**. Role of KCa3.1 ion channel in corneal fibrosis. University of Missouri Life Science Week, Christopher S Bond Life Science; 2018 Apr 9-14; Columbia, MO.
64. Lim RR, Grant DG, **Mohan RR**, Hainsworth DP, Chaurasia SS. Retinal Capillary Basement Membrane Abnormalities in the Obese Ossabaw Pig Model of Diabetic Retinopathy. University of Missouri Life Science Week, Christopher S Bond Life Science; 2018 Apr 9-14; Columbia, MO.
65. Heil S, Tripathi R, Gupta S, Fink MK, Sinha NR, Chaurasia SS, Giuliano EA, Hesemann NP, **Mohan RR**. Role of histone deacetylase: Sirtuin-1 in corneal transparency maintenance. University of Missouri Life Science Week, Christopher S Bond Life Science; 2018 Apr 9-14; Columbia, MO.
66. Gupta S, Tripathi R, Sinha PR, Giuliano EA, Sinha NR, Hesemann NP, Chaurasia SS, **Mohan RR**. Exposure of Chemical Warfare Agent Acrolein induce Ocular Disorder & Blindness. University of Missouri Life Science Week, Christopher S Bond Life Science; 2018 Apr 9-14; Columbia, MO.
67. Gafen HB, Tripathi R, Gupta S, Fink MK, Sinha PR, Giuliano EA, Rodier RT, Hesemann NP, **Mohan RR**. Corneal wound healing: Is sex a biological variable? University of Missouri Life Science Week, Christopher S Bond Life Science; 2018 Apr 9-14; Columbia, MO.
68. Tripathi R, Gafen HB, Gupta S, Fink MK, Sinha PR, Giuliano EA, Rodier RT, Hesemann NP, **Mohan RR**. Is sex a biological variable? Poster Presented at Cornea and Ocular Surface Biology and Pathology, Gordon Research Conference; 2018 Feb 18-23; Ventura, CA.
69. **Mohan RR**. Combination gene therapy for treating corneal scarring and angiogenesis. Presented at Cornea and Ocular Surface Biology and Pathology, Gordon Research Conference; 2018 Feb 18-23; Ventura, CA.

## 2017

70. Tripathi R, Gafen HB, Gupta S, Martin LM, Sinha PR, **Mohan RR**. Comparison of corneal wound healing in male vs female rabbits. Health Science Research Day, organized by the University of Missouri School of Medicine; 2017 Nov 9; Columbia, MO.
71. Muhammad M, Anumanthan G, Gupta S, Sinha PR, Bowles D, **Mohan RR**. Kca3.1 ion channel: a novel therapeutic target for corneal fibrosis. Health Science Research Day, organized by the University of Missouri School of Medicine; 2017 Nov 9; Columbia, MO.
72. Jensen JM, Tripathi R, Gupta S, Sinha NR, **Mohan RR**. A novel topical drops (4d) for corneal fibrosis treatment. Health Science Research Day, organized by the University of Missouri School of Medicine; 2017 Nov 9; Columbia, MO.
73. Tripathi R, Smith KE, Gupta S, Anumanthan G, Fink MK, Sinha NR, Goyal D, **Mohan RR**. Human Xylosyltransferase-1: A New Marker for Corneal Fibrosis Detection. ARVO meeting; 2017 May 7-11; Baltimore, Maryland.
74. **Mohan RR**, Anumanthan G, Tripathi R, Gupta S, Fink MK, Sinha PR, Heil SD, Chaurasia SS, Giuliano EA, Hesemann NP. SIRT1: Expression in the cornea and its role in corneal wound healing. ARVO meeting; 2017 May 7-11; Baltimore, Maryland.



75. Lim RR, Barathi VA, **Mohan RR**, Ghosh A, Chaurasia SS. Expression of S100 proteins in diabetic retinopathy. ARVO meeting; 2017 May 7-11; Baltimore, MD.
76. Gupta S, Tripathi R, Anumanthan G, Fink MK, Sinha PR, Giuliano EA, Hesemann NP, Chaurasia SS, **Mohan RR**. Id Genes: key regulator of fibroblast transdifferentiation to myofibroblast in the cornea. ARVO meeting; 2017 May 7-11; Baltimore, MD.
77. Connon CJ, Gouveia RM, Paterson C, Lepert G, **Mohan RR**, Gupta S. The mechanical properties of the human corneal limbus and its influence on epithelial stem cell phenotype. ARVO meeting; 2017 May 7-11; Baltimore, MD.
78. Chaurasia SS, Lim RR, Gupta S, Sinha PR, **Mohan RR**. Decorin depicts structural and vascular abnormalities in adult mouse retina. ARVO meeting; 2017 May 7-11; Baltimore, MD.
79. Anumanthan G, Wilson PJ, Tripathi R, Gupta S, Hesemann NP, Giuliano EA, **Mohan RR**. Blockade of Kca3.1: A novel therapeutic target to treat TGF- $\beta$ 1 Induced fibrosis associated with glaucoma filtration surgery. ARVO meeting; 2017 May 7-11; Baltimore, MD.
80. Tripathi R, Anumanthan G, Gupta S, Sinha PR, Sinha NR, **Mohan RR**. SIRT1: Expression in the cornea and therapeutic target for corneal wound healing. University of Missouri CVM Research Day; 2017 May 6; Columbia, MO.
81. Gupta S, Fink MK, Sinha PR, Tripathi R, Chaurasia SS, Giuliano EA, **Mohan RR**. Management of preexisting and ongoing corneal fibrosis onset through novel combinatorial nanoparticle mediated bmp7 and hgf gene therapy in vivo rabbit model. University of Missouri CVM Research Day; 2017 May 6; Columbia, MO.
82. Fink MK, Gupta S, Possin M, Sinha PR, Giuliano EA, **Mohan RR**. Developing targeted gene therapies for the treatment of corneal fibrosis. University of Missouri CVM Research Day; 2017 May 6; Columbia, MO.
83. Cox A, Anumanthan G, Gupta S, Tripathi R, Sinha PR, Giuliano EA, **Mohan RR**. Role of inhibitor of differentiation (id) proteins in fibrosis of the human cornea. University of Missouri CVM Research Day; 2017 May 6; Columbia, MO.
84. Smith KE, Tripathi R, Gupta S, Anumanthan G, Hesemann NP, **Mohan RR**. Can xylosyltransferase-1 serve as a biomarker and therapeutic target for corneal fibrosis? 102 American Medical Women's Association; 2017 Mar 30-Apr 2; San Francisco, CA.
85. Tripathi R, Anumanthan G, Gupta S, Sinha PR, Sinha NR, **Mohan RR**. Expression of SIRT1 in cornea and its role and therapeutic target for corneal wound healing. Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2017 Apr 10-15; Columbia, MO.
86. Sinha PR, Tripathi R, Gupta S, Anumanthan G, Fink MK, Heil S, Giuliano EA, Hesemann NP, Chaurasia SS, **Mohan RR**. Transcriptional co-repressors regulate corneal fibroblast differentiation. Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2017 Apr 10-15; Columbia, MO.
87. Lim RR, Gupta S, Sinha PR, **Mohan RR**, Chaurasia SS. Decorin provides Neuronal and Structural Integrity to the Retinal Microvasculature. Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2017 Apr 10-15; Columbia, MO.
88. Heil S, Tripathi R, Gupta S, Anumanthan G, Fink MK, Sinha PR, Giuliano EA, Hesemann NP, Chaurasia SS, **Mohan RR**. Characterization of transcriptional co-activators in corneal wound healing. Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2017 Apr 10-15; Columbia, MO.
89. Gupta S, Fink MK, Sinha PR, Tripathi R, Hesemann NP, Chaurasia SS, Giuliano EA, **Mohan RR**. Novel Combinatorial (BMP7+HGF) Nanomedicine treating preexisting corneal fibrosis in vivo. Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2017 Apr 10-15; Columbia, MO.
90. Fink MK, Gupta S, Possin M, Sinha PR, Giuliano EA, **Mohan RR**. Pharmacologic inhibition of rock pathways as a therapeutic strategy for attenuating corneal fibrosis in vivo. Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2017 Apr 10-15; Columbia, MO.
91. Anumanthan G, Wilson PJ, Tripathi R, Gupta S, Hesemann NP, Giuliano EA, **Mohan RR**. Blockade of kca3.1: a novel therapeutic target to treat TGF- $\beta$ 1 induced fibrosis associated with glaucoma filtration surgery. Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2017 Apr 10-15; Columbia, MO.

**2016**

92. Tripathi R, Anumanthan G, Gupta S, Sinha PR, Giuliano EA, **Mohan RR**. SIRT1: Expression in the cornea and its role in corneal wound healing. Health Science Research Day, organized by the University of Missouri School of Medicine; 2016 Nov 17; Columbia, MO.
93. Smith KE, Tripathi R, Gupta S, Anumanthan G, Hesemann NP, **Mohan RR**. Can human xylosyltransferase -1 serve as a biomarker and therapeutic target for corneal fibrosis? Health Science Research Day, organized by the University of Missouri School of Medicine; 2016 Nov 17; Columbia, MO.
94. Lim RR, Gupta S, Sinha PR, Chaurasia SS, **Mohan RR**. Decorin-/- retina exhibits vascular abnormalities characteristic of retinal angiogenic diseases. Health Science Research Day, organized by the University of Missouri School of Medicine; 2016 Nov 17; Columbia, MO.
95. Gupta S, Anumanthan G, Sinha PR, Chaurasia SS, Rieger FG, Hesemann NP, Giuliano EA, **Mohan RR**. Id genes: novel target for corneal fibrosis gene therapy. Health Science Research Day, organized by the University of Missouri School of Medicine; 2016 Nov 17; Columbia, MO.
96. Fink MK, Gupta S, Possin M, Sinha PR, Giuliano EA, **Mohan RR**. Pharmacologic inhibition of rock pathways as a therapeutic strategy for attenuating corneal fibrosis in vivo. Health Science Research Day, organized by the University of Missouri School of Medicine; 2016 Nov 17; Columbia, MO.
97. Faubian M, Gupta S, Tripathi R, Sinha PR, Chaurasia SS, Hesemann NP, **Mohan RR**. Two gene (HGF-BMP7) combination therapy for corneal fibrosis treatment. Health Science Research Day, organized by the University of Missouri School of Medicine; 2016 Nov 17; Columbia, MO.
98. Tripathi R, Gupta S, Anumanthan G, Sinha PR, **Mohan RR**. Sirt1 attenuates corneal fibrosis through TGF $\beta$ 1 mediated signaling pathway. University of Missouri Life Science Week, Christopher S Bond Life Science; 2016 Apr 18-23; Columbia, MO.
99. Raikwar SP, **Mohan RR**. A Novel Gene Transfer Approach to treat Fuchs' dystrophy and Prevent Endothelial Loss. University of Missouri Life Science Week, Christopher S Bond Life Science; 2016 Apr 18-23; Columbia, MO.
100. Lim RR, **Mohan RR**, Chaurasia SS. ITF2357 activates Id3 and inhibits corneal fibrosis via TGF $\beta$ /BMP7 signaling pathways. University of Missouri Life Science Week, Christopher S Bond Life Science; 2016 Apr 18-23; Columbia, MO.
101. Gutzmann L, **Mohan RR**. Increased Transforming Growth Factor-Beta1 in Equine Laminitis. University of Missouri Life Science Week, Christopher S Bond Life Science; 2016 Apr 18-23; Columbia, MO.
102. Gupta S, Fink MK, Possin M, Zhang J, Giuliano EA, Sinha PR, Rieger FG, **Mohan RR**. Corneal Fibrosis and Neovascularization Management using ROCK Inhibitor: HA1077. University of Missouri Life Science Week, Christopher S Bond Life Science; 2016 Apr 18-23; Columbia, MO.
103. Fink MK, **Mohan RR**. Development of an ex vivo model of canine corneal fibrosis. University of Missouri Life Science Week, Christopher S Bond Life Science; 2016 Apr 18-23; Columbia, MO.
104. Bristow DE, Raikwar SP, Gupta S, **Mohan RR**. Regulators of TGF- $\beta$  Fibrotic Signaling in the Cornea. University of Missouri Life Science Week, Christopher S Bond Life Science; 2016 Apr 18-23; Columbia, MO.
105. Anumanthan G, Sharma A, Waggoner M, Rieger FG, Hamm C, Giuliano EA, Sinha PR, Gupta S, **Mohan RR**. SAHA: Effective and safe alternative to current therapy to treat corneal haze following refractive surgery. University of Missouri Life Science Week, Christopher S Bond Life Science; 2016 Apr 18-23; Columbia, MO.
106. **Mohan RR**, Raikwar SP, Gupta S, Giuliano EA, Fink MK, Anumanthan G, Rieger FG, Sinha PR, Fraunfelder F. A Novel Gene Transfer Approach to Treat Fuchs' Endothelial Corneal Dystrophy. Gordon Research Conference; 2016 Feb 28-Mar 4; Ventura, CA

**2015**

107. Steven E, Gupta S, Sinha PR, Anumanthan G, Raikwar SP, **Mohan RR**. Relaxing eye drop: in vivo safety and toxicity to the eye. Health Science Research Day, organized by the University of Missouri School of Medicine; 2015 Nov 12; Columbia, MO.

108. Smolik TJ, Fink MK, Olson E, Terryl M, Gupta S, Sinha P, **Mohan RR**. Dilute proparacaine: a potential treatment for acute corneal injury. Health Science Research Day, organized by the University of Missouri School of Medicine; 2015 Nov 12; Columbia, MO.
  109. Crider E, Gupta S, Possin M, Anumanthan G, Raikwar SP, **Mohan RR**. Rock inhibitor, HA1077, for treating corneal fibrosis. Health Science Research Day, organized by the University of Missouri School of Medicine; 2015 Nov 12; Columbia, MO.
  110. Gupta S, Fink MK, Sinha PR, **Mohan RR**. A novel DELTA method for clinical grading of corneal neovascularization in a mouse model. VA Research Day Organized by Harry S Truman Memorial Veterans Hospital; 2015 Sep 2; Columbia, MO.
  111. Fink MK, Olson E, Terryl M, Gupta S, Sinha PR, **Mohan RR**. Dilute Proparacaine: Is it a Good Option for Corneal Wound Healing and Re-Epithelialization Following Acute Injury? VA Research Day Organized by Harry S Truman Memorial Veterans Hospital; 2015 Sep 2; Columbia, MO.
  112. Wiggins LN, Gupta S, **Mohan RR**. Project 2016. Paper Presented at Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2015 May 29-30; Columbia, MO.
  113. Trovey JCK, Sharma A, Gupta S, **Mohan RR**. Corneal wound healing role in ocular homeostasis. Paper Presented at Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2015 May 29-30; Columbia, MO.
  114. Rodier JT, Sharma A, Gupta S, **Mohan RR**. Gene therapy for alkali injury. Paper Presented at Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2015 May 29-30; Columbia, MO.
  115. Possin M, Gupta S, **Mohan RR**. Safety and efficacy of ROCK (Rho Kinase) inhibitors in an alkali burn rabbit model. Paper Presented at Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2015 May 29-30; Columbia, MO.
  116. Olson EA, Gupta S, **Mohan RR**. Comfort eye drops: Part 2. Paper Presented at Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2015 May 29-30; Columbia, MO.
  117. Sharma A, Reyes R, Chen H, Sinha NR, **Mohan RR**. Decorin-PEI Nanoparticles promote bleb survival by reducing fibrosis in rabbit glaucoma trabeculectomy model. ARVO; 2015 May 3-7; Denver, CO.
  118. **Mohan RR**, Sharma A, Schultz GS, Tandon A, Rodier JT, Sinha PR. Localized AAV-PEDF gene transfer reduces corneal neovascularization significantly in rabbits in vivo via Fas ligand mediated apoptosis in vessels. ARVO; 2015 May 3-7; Denver, CO.
  119. **Mohan RR**, Karamichos D, Schultz GS, Zieske JD, Griffin M. Newer modalities to restore corneal function. Special Interest Group Meeting at ARVO; 2015 May 3-7; Denver, CO.
  120. Gupta S, Sharma A, Brown CR, Giuliano EA, Sinha PR, **Mohan RR**. Acrolein exposure severely damages cornea, eyelids, conjunctiva and causes vision loss in rabbits in vivo. ARVO; 2015 May 3-7; Denver, CO.
  121. Gronkiewicz KM, Giuliano EA, Hamm CW, Kuroki K, Kitchell JL, Sharma A, **Mohan RR**. Development of a novel in vivo canine corneal fibrosis model and therapeutic potential of Suberanilohydroxamic Acid (SAHA) for corneal scarring in vivo. Paper Presented at ARVO; 2015 May 3-7; Denver, CO.
  122. Fink MK, Sharma A, Tovey JCK, Rodier JT, Sinha PR, Sinha NR, **Mohan RR**. Molecular mechanism of corneal neovascularization inhibition by decorin therapy. Paper Presented at ARVO; 2015 May 3-7; Denver, CO.
- 2014**
123. **Mohan RR**. Paper presented at the Louis J Fox Center for Vision Restoration, UPMC Eye Center; 2014 Dec 10; Pittsburgh, PA.

124. Terryl M, Olson E, Gupta S, Sharma A, Brooke JL, **Mohan RR**. Effects of diluted proparacaine on corneal wound healing and re-epithelialization in vivo. Poster presented at the Health Science Research Day, University of Missouri; 2014 Nov 14; Columbia, MO.
125. Giuliano EA, Gronkiewicz KM, **Mohan RR**. Effects of topically applied 0.2% hyaluronic acid on corneal epithelial wound healing in dogs. Paper presented at the American College of Veterinary Ophthalmologists (ACVO) at 45th annual meeting; 2014 Oct 8-11; Ft. Worth, TX.
126. Fink MT, Giuliano EA, Sharma A, **Mohan RR**. Efficacy and safety of pirfenidone in the treatment of canine corneal fibrosis. Paper presented at the American College of Veterinary Ophthalmologists (ACVO) at 45th annual meeting; 2014 Oct 8-11; Ft. Worth, TX.
127. Fink MT, Giuliano EA, Bryan JN, Sharma A, **Mohan RR**. Role of fetal microchimerism in maternal corneal wound healing. Paper presented at the American College of Veterinary Ophthalmologists (ACVO) at 45th annual meeting; 2014 Oct 8-11; Ft. Worth, TX.
128. **Mohan RR**. Nanomedicine approaches for corneal diseases. Distinguished speaker at the Aditya Jyot Eye Hospital; 2014 Aug 8; Mumbai, India.
129. **Mohan RR**. Nanomedicine approaches for corneal diseases. Paper presented at the Aditya Jyot Eye Hospital; 2014 Aug 8; Mumbai, India.
130. Wiggins LN, **Mohan RR**. A Look into the pharmacotherapy of scleritis. Paper Presented at Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2014 May 30; Columbia, MO.
131. Tovey JCK, **Mohan RR**. Corneal wound healing. Paper Presented at Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2014 May 30; Columbia, MO.
132. Possin M, **Mohan RR**. Camostat mesilate in corneal wound healing. Paper Presented at Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2014 May 30; Columbia, MO.
133. Olson E, **Mohan RR**. Comfort Eye Drops and Corneal Wound Healing. Paper Presented at Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2014 May 30; Columbia, MO.
134. Leishman L, **Mohan RR**. Targeted disruption of profibrotic Smad-signaling pathway inhibits myofibroblasts and corneal haze. Paper Presented at Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2014 May 30; Columbia, MO.
135. Gutzmann L, Johnson PJ, **Mohan RR**. Generation of tetracycline-inducible equine hoof keratinocyte and fibroblast cells to study equine hoof wound healing and laminitis. Poster presented at the Phi Zeta Research Day, University of Missouri; 2014 May 9; Columbia, MO.
136. Gupta S, Sharma A, Sinha PR, **Mohan RR**. The AAV-mediated selective and targeted Smad7 gene delivery into stroma attenuates corneal scarring. Poster presented at the Phi Zeta Research Day, University of Missouri; 2014 May 9; Columbia, MO.
137. Fink MK, Bryan JN, Giuliano EA, **Mohan RR**. Role of fetal microchimerism in maternal corneal wound healing. Poster presented at the Phi Zeta Research Day, University of Missouri; 2014 May 9; Columbia, MO.
138. Tovey JCK, Gronkiewicz KM, Giuliano EA, Siddiqui S, Sharma A, Brooke JL, **Mohan RR**. Role of cellular kinases and Smads in the modulation of SAHA-mediated corneal fibrosis inhibition. Poster Presented at ARVO; 2014 May 4-8; Orlando, FL.
139. Sharma A, Leishman LL, Schultz GS, **Mohan RR**. Targeted Smad7 gene transfer into stroma attenuates corneal scarring. Poster Presented at ARVO; 2014 May 4-8; Orlando, FL.
140. Morgan BR, Sharma A, Waller RA, Sinha PR, Sinha NR, Stallard AN, Siddiqui S, **Mohan RR**. Hybrid Gold Nanoparticles: Cellular and Molecular Toxicity to Human Corneal Fibroblasts. Poster Presented at ARVO; 2014 May 4-8; Orlando, FL.
141. **Mohan RR**, Tandon A, Fink MK, Sharma A, Sinha NR, Sinha PR, Rodier JT. Pirfenidone potential for treating corneal fibrosis. Poster Presented at ARVO; 2014 May 4-8; Orlando, FL.

142. Chen H, Sharma A, Reyes M, Sinha NR, Siddiqui S, **Mohan RR**. Suberoylanilide Hydroxamic Acid (SAHA) Inhibits Excess Fibrosis in Glaucoma Filtration Surgery: the Animal Study and Molecular Mechanisms. Poster Presented at ARVO; 2014 May 4-8; Orlando, FL.
143. Waggoner M, Rodier J, Sharma A, Cowden JW, **Mohan RR**. Suberoylanilide hydroxamic acid (SAHA) vs Mitomycin C: A comparative study of toxicity in adjunctive treatment of corneal haze following PRK in a rabbit model. Paper presented at the American Society of Cataract and Refractive Surgery (ASCRS); 2014 Apr 25-29; Boston, MA.
144. Tovey JCK, Sharma A, Tandon A, Berstein A, Cowden JW, **Mohan RR**. Corneal wound healing in LASIK outcomes. Paper presented at the American Society of Cataract and Refractive Surgery (ASCRS); 2014 Apr 25-29; Boston, MA.
145. Leishmann L, Rodier J, Sharma A, Cowden JW, Rieger FG, **Mohan RR**. Targeted disruption of profibrotic SMAD-signaling pathway inhibits myofibroblast and corneal haze. Paper presented at the American Society of Cataract and Refractive Surgery (ASCRS); 2014 Apr 25-29; Boston, MA.
146. Sharma A, Reyes R, Chen H, Sinha NR, Sinha PR, Siddiqui S, **Mohan RR**. Suberoylanilide Hydroxamic Acid (SAHA) Inhibits Excess Fibrosis in Glaucoma Filtration Surgery: the Animal Study and Molecular Mechanisms. University of Missouri Life Science Week, Christopher S Bond Life Science; 2014 Apr 14-19; Columbia, MO.
147. Morgan B, Sharma A, Sinha NR, Sinha PR, Stallard A, Siddiqui S, Waller R, **Mohan RR**. Hybrid gold nanoparticles cellular and molecular toxicity to human corneal fibroblasts. University of Missouri Life Science Week, Christopher S Bond Life Science; 2014 Apr 14-19; Columbia, MO.
148. Gutzmann L, Cook J, Canola PA, Johnson PJ, Sharma A, **Mohan RR**. Generation of tetracycline-inducible equine hoof keratinocyte and fibroblast cells to study equine hoof wound healing and laminitis. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2014 Apr 14-19; Columbia, MO.
149. Gupta S, Sharma A, Rodier J, Leishman L, **Mohan RR**. Smad7 gene therapy potential for corneal scarring. Poster Presented University of Missouri Life Science Week, Christopher S Bond Life Science; 2014 Apr 14-19.
150. Gronkiewicz KM, Giuliano EA, Sharma A, Hamm CW, **Mohan RR**. Ocular and systemic safety of topical suberoylanilide hydroxamic acid (SAHA) in dogs. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2014 Apr 14-19; Columbia, MO.
151. Fink MT, Tandon A, Sharma A, Giuliano EA, Sinha NR, Sinha PR, **Mohan RR**. Pirfenidone potential for treating corneal fibrosis. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2014 Apr 14-19; Columbia, MO.
152. Brown M, Tandon A, Naik C, Moore H, Chaudhary K, **Mohan RR**. Decorin gene transfer attenuates peritoneal fibrosis in an in vivo rat model. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2014 Apr 14-19; Columbia, MO.
153. Brooke JL, Gronkiewicz KM, Giuliano EA, Sharma A, **Mohan RR**. Role of cellular kinases and SMADs in the modulation of SAHA-mediated corneal fibrosis inhibition. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2014 Apr 14-19; Columbia, MO.
154. **Mohan RR**. Molecular medicine for corneal diseases. Paper presented at the World Ophthalmology Congress at the Regenerative Medicine in Ophthalmology-Current and Future Perspective; 2014 Apr 3; Tokyo, Japan.
155. Chen H, Reyes M, Sharma A, **Mohan RR**. The anti-fibrosis effect of an FDA-approved histone deacetylase inhibitor, suberoylanilide hydroxamic acid (SAHA) in glaucoma filtration surgery. Paper presented at the American Glaucoma Foundation; 2014 Feb 27-Mar 2; Washington DC.

156. **Mohan RR**, Gronkiewicz KM, Sinha PR, Sinha NR, Giuliano EA, Sharma A, Tovey JCK, Brooke JL. Role of ERK, JNK and SMADs in SAHA-mediated corneal fibrosis inhibition. Poster Presented at the Gordon Research Conference; 2014 Feb 16-21; Ventura, CA.
157. Kitchell JL, Gronkiewicz KM, Giuliano EA, Hamm CW, Kunkel M, Sharma A, **Mohan RR**. Safety and Effectiveness of Vorinostat® (SAHA) in Treating Canine Corneal Fibrosis. Poster presented at the 25th Annual Merial-NIH Symposium; 2014.

**2013**

158. Waller RA, Sharma A, Rodier JT, Sinha NR, Sinha PR, Stallard AN, Siddiqui S, Giuliano EA, **Mohan RR**. Cellular and molecular toxicity of hybrid gold nanoparticles to human corneal fibroblasts. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2013 Nov 14; Columbia, MO.
159. Stallard A, Sharma A, Rodier JT, Sinha NR, Sinha PR, Siddiqui S, Giuliano EA, **Mohan RR**. Corneal blindness: Nanoparticle-driven BMP7 gene transfer inhibits fibrosis blocking keratocyte differentiation to myofibroblast via Smad modulation. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2013 Nov 14; Columbia, MO.
160. Eck CD, Sharma A, Rodier JT, Sinha NR, Stallard AN, Sinha PR, Siddiqui S, **Mohan RR**. Development of PCR-based gene array for angiogenesis diagnosis and treatment. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2013 Nov 14; Columbia, MO.
161. **Mohan RR**. The global team of nanomedicine for corneal blindness treatment and prevention. Invited paper presented at the Asia-ARVO meeting; 2013 Oct 28-31; Delhi, India.
162. **Mohan RR**. Nanoparticle-driven molecular therapy for corneal diseases. Invited paper presented at the Asia-ARVO meeting; 2013 Oct 28-31; Delhi, India.
163. Moshnikova V, **Mohan RR**. Nanoparticle-mediated gene transfer modulating equine corneal wound repair. Poster presented at the Merial-NIH Veterinary Scholar Symposium at Michigan State University; 2013 Aug 1-4; East Lansing, MI.
164. Sharma A, Rodier JT, Birk D, Tandon A, **Mohan RR**. shRNA gene-silencing therapy for congenital stromal corneal dystrophy. Poster presented at the Veterans Research Week Organized by Harry S. Truman Veterans Hospital; 2013 May 17; Columbia, MO.
165. Rodier JT, Sharma A, Stallard A, Tandon A, **Mohan RR**. RNAi gene silencing of TGF $\beta$  signaling: a powerful approach to control corneal fibrosis. Poster presented at the Veterans Research Week Organized by Harry S. Truman Veterans Hospital; 2013 May 17; Columbia, MO.
166. Huiyi Chen, Sharma A, Reyes M, Rodier JT, Tandon A, **Mohan RR**. Attenuation of glaucoma filtration surgery-induced scarring by an FDA-approved histone deacetylase inhibitor, suberoylanilide hydroxamic acid (SAHA). Poster presented at the Veterans Research Week Organized by Harry S. Truman Veterans Hospital; 2013 May 17; Columbia, MO.
167. Tandon A, Sharma A, Rodier JT, **Mohan RR**. Molecular mechanism of corneal neovascularization inhibition by decorin therapy. Poster presented at the annual ARVO meeting; 2013 May 5-9; Ft. Lauderdale, FL.
168. Sharma A, Brubaker J, Reyes M, Rodier JT, Tandon A, **Mohan RR**. Attenuation of glaucoma filtration surgery-induced scarring by an FDA-approved histone deacetylase inhibitor, suberoylanilide hydroxamic acid (SAHA). Poster presented at the annual ARVO meeting; 2013 May 5-9; Ft. Lauderdale, FL.
169. Rodier JT, Sharma A, Stallard A, Tandon A, **Mohan RR**. RNAi gene silencing of TGF $\beta$  signaling: a powerful approach to control corneal fibrosis. Poster presented at the annual ARVO meeting; 2013 May 5-9; Ft. Lauderdale, FL.

170. Naik C, Rodier JT, Sharma A, Stallard A, Tandon A, Klibanoy A, Eck CD, **Mohan RR**. Nanoparticle-BMP7 (polyethylenimine-DNA) transfection dose, anti-fibrotic efficacy and toxicity for the rabbit cornea. Poster presented at the annual ARVO meeting; 2013 May 5-9; Ft. Lauderdale, FL.
171. **Mohan RR**, Sharma A, Rodier JT, Birk D, Tandon A. shRNA gene-silencing therapy for congenital stromal corneal dystrophy. Poster presented at the annual ARVO meeting; 2013 May 5-9; Ft. Lauderdale, FL.
172. Fink MK, Giuliano EA, **Mohan RR**. Pirfenidone: A potential topical agent for the treatment of equine corneal scarring. Poster presented at the Phi Zeta Research Day, University of Missouri; 2013 May 3; Columbia, MO.
173. Donnelly K, Giuliano EA, **Mohan RR**. PEI-decorin gene therapy for corneal fibrosis. Poster presented at the Phi Zeta Research Day, University of Missouri; 2013 May 3; Columbia, MO.
174. Cook JM, Johnson PJ, **Mohan RR**. Role of myofibroblasts in equine hoof wound healing and laminitis. Poster presented at the Phi Zeta Research Day, University of Missouri; 2013 May 3; Columbia, MO.
175. Tandon A, Sharma A, Rodier JT, Eck CD, **Mohan RR**. Molecular mechanism of corneal neovascularization inhibition by decorin therapy. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2013 Apr 15-20; Columbia, MO.
176. Stallard A, Tandon A, Sharma A, Naik C, Rodier JT, Klibanoy A, Cowden JW, **Mohan RR**. Potential of PEI nanoparticle-delivered therapeutic genes for inhibition of corneal fibrosis. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2013 Apr 15-20; Columbia, MO.
177. Rodier JT, Sharma A, Tandon A, Stallard A, Eck CD, **Mohan RR**. RNA silencing of the TGF $\beta$  signaling pathway to inhibit corneal fibrosis. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2013 Apr 15-20; Columbia, MO.
178. Naik C, Rodier JT, Sharma A, Stallard A, Tandon A, Klibanoy A, Eck CD, **Mohan RR**. BMP7 gene transfer into keratocytes via nanoparticle inhibits corneal healing and fibrosis in rabbit eyes in vivo. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2013 Apr 15-20; Columbia, MO.
179. **Mohan RR**. Nanomedicine for corneal blindness. Invited speaker at the 28th Asia-Pacific Academy of Ophthalmology Congress; 2013 Jan 16-20; Hyderabad, India.
180. **Mohan RR**. Nanomedicine Approaches for corneal disorders. Invited speaker at the 28th Asia-Pacific Academy of Ophthalmology Congress; 2013 Jan 16-20; Hyderabad, India.

## 2012

181. Sharma A, Rodier JT, Tandon A, **Mohan RR**. TG-interacting factors (TGIFs): A molecular target for corneal fibrosis modulation. ARVO Meeting; 2012 May 8; Ft. Lauderdale, FL.
182. **Mohan RR**, Sharma A, Rodier JT, Tandon A. Decorin down-regulates Egfr and inhibits migration in human corneal fibroblasts. ARVO Meeting; 2012 May 7; Ft. Lauderdale, FL.
183. Tandon A, Tovey JCK, Rodier JT, Sharma A, Stallard A, Lucero J, Klibanoy AM, **Mohan RR**. Bone morphogenetic protein 7 (BMP7) gene therapy inhibits fibrosis by upregulating Smad1/5/8 in rabbit cornea, in vivo. ARVO Meeting; 2012 May 6; Ft. Lauderdale, FL.
184. Rodier JT, Sharma A, Tandon A, Klibanoy AM, **Mohan RR**. Polyethyleneimine (PEI) nanoparticle-mediated soluble transforming growth factor- $\beta$  type II receptor gene transfer prevents corneal fibrosis. ARVO Meeting; 2012 May 6; Ft. Lauderdale, FL.
185. Tandon A, Chaudhary K, Moore H, Khanna R, **Mohan RR**. Peritoneal fibrosis inhibition by decorin gene therapy given via hybrid nanoparticles or adeno-associated virus. Poster presented at the Harry S. Truman Veterans Hospital VA Research Day; 2012 Apr 26; Columbia, MO.
186. Stallard A, Tandon A, Rodier JT, Sharma A, Klibanoy A, **Mohan RR**. Potential of hybrid gold nanoparticle-delivered therapeutic genes for inhibition of corneal fibrosis. Poster presented at the Harry S. Truman Veterans Hospital VA Research Day; 2012 Apr 26; Columbia, MO.
187. Sharma A, Rodier JT, Tandon A, Stallard A, Naik C, **Mohan RR**. Gene Silencing approach for treating corneal opacity. Poster presented at the Harry S. Truman Veterans Hospital VA Research Day; 2012

Apr 26; Columbia, MO.

188. Rodier JT, Tandon A, Sharma A, **Mohan RR**. Fuchs Dystrophy: In vitro model development for studying disease pathology. Poster presented at the Harry S. Truman Veterans Hospital VA Research Day; 2012 Apr 26; Columbia, MO.
189. Korampally M, Staley C, Castorena J, Apperson S, Polo-Parada, Thiruyengadathan R, Bezmelnitsyn A, Gangopadhava K, **Mohan RR**, Gangopadhaya S. Cell transfection and particle delivery using shock waves produced by nanothermites. Poster presented at the Harry S. Truman Veterans Hospital VA Research Day; 2012 Apr 26; Columbia, MO.
190. Cebulko T, Sharma A, Tandon A, Rodier JT, Naik C, Stallard A, **Mohan RR**. Role of TG-interacting factors (TGIFs) in Corneal Fibrosis. Poster presented at the Harry S. Truman Veterans Hospital VA Research Day; 2012 Apr 26; Columbia, MO.
191. Soni C, Tovey JCK, Kleibanoy AM, Sharma A, Tandon A, **Mohan RR**. Gold-nanoparticles stabilized in polyethyleneimine (GNP2-PEI) as a vector for gene delivery into the corneal endothelium. Poster presented at the The American Society of Cataract and Refractive Surgery Meeting; 2012 Apr 20-24; Chicago, IL.
192. Stallard A, Tandon A, Rodier JT, Sharma A, Klibanoy A, **Mohan RR**. Potential of hybrid gold nanoparticle-delivered therapeutic genes for inhibition of corneal fibrosis. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2012 Apr 18; Columbia, MO.
193. Cebulko T, Sharma A, Tandon A, Rodier JT, Naik C, Stallard A, **Mohan RR**. Role of TG-interacting factors (TGIFs) in Corneal Fibrosis. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2012 Apr 18; Columbia, MO.
194. Tandon A, Chaudhary K, Moore H, Khanna R, **Mohan RR**. Peritoneal fibrosis inhibition by decorin gene therapy given via hybrid nanoparticles or adeno-associated virus. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2012 Apr 16; Columbia, MO.
195. Sharma A, Rodier JT, Tandon A, Stallard A, Naik C, **Mohan RR**. Gene Silencing approach for treating corneal opacity. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2012 Apr 16; Columbia, MO.
196. Rodier JT, Tandon A, Sharma A, **Mohan RR**. Fuchs Dystrophy: In vitro model development for studying disease pathology. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2012 Apr 16; Columbia, MO.
197. Korampally M, Staley C, Castorena J, Apperson S, Polo-Parada, Thiruyengadathan R, Bezmelnitsyn A, Gangopadhava K, **Mohan RR**. Cell transfection and particle delivery using shock waves produced by nanothermites. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2012 Apr 16; Columbia, MO.
198. Chaudhary K, Tandon A, Moore H, Khanna R, **Mohan RR**. Decorin gene therapy via hybrid nanoparticles and adeno-associated virus leads to prevention of peritoneal fibrosis. Poster presented at 32nd Annual Dialysis Conference; 2012 Feb 27; San Antonio, Texas.

## 2011

199. Tovey JCK, Rodier JT, Tandon A, Sharma A, **Mohan RR**. Effects of decorin on EGF and EGF+TGF $\beta$  induced corneal fibrosis. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2011 Nov 3; Columbia, MO.
200. Tandon A, Rodier JT, Tovey JCK, Cowden JW, Reiger FG, Hamm CW, Sharma A, Yasaman H, Cebulko T, Lucero J, Kleibanoy AM, Robertson D, Fortune FA, **Mohan RR**. Nanotechnology-based gene therapy for corneal scarring. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2011 Nov 3; Columbia, MO.
201. Rodier JT, Sharma A, Tandon A, Tovey JCK, Yasaman H, Cebulko T, **Mohan RR**. Corneal fibrosis: what is the molecular mechanism? Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2011 Nov 3; Columbia, MO.
202. Phillips D, Rodier JT, Tovey JCK, Sharma A, Tandon A, Yasaman H, Cebulko T, Lucero J, Vithana EN, **Mohan RR**. Fuchs endothelial corneal dystrophy: development of in vitro model. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2011 Nov 3; Columbia, MO.



203. Bosiack AP, Giuliano EA, Gupta S, **Mohan RR**. Canine corneal fibroblast and myofibroblast transduction with AAV5. Paper presented at the 42nd the American College of Veterinary Ophthalmologists; 2011 Oct 26-29; Hilton Head, SC.
204. Waggoner M, Tandon A, Johathan CKT, Sharma A, Lopez V, Cowden JW, Rieger GR III, Hamm CW, **Mohan RR**. Vorinostat: reducing corneal haze after PRK. Paper presented at the American Academy of Ophthalmology Annual Meeting; 2011 Oct 22-25; Orlando, FL.
205. Soni C, **Mohan RR**. Gene delivery into corneal endothelium. Paper Presented at 18th annual Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2011 Jun 4; Columbia, MO.
206. **Mohan RR**. Nanotechnology: A GPS approach to deliver therapeutics in the eye. Paper Presented at 18th annual Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2011 Jun 4; Columbia, MO.
207. Waggoner M, **Mohan RR**. Vorinostat: A Novel Approach to Corneal Alkali Burns. Paper Presented at 18th annual Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2011 Jun 3; Columbia, MO.
208. Hesemann NP, **Mohan RR**. SMAD7: An attractive target for treating corneal scarring. Paper Presented at 18th annual Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2011 Jun 3; Columbia, MO.
209. D'Souza P, **Mohan RR**. Effect of combination therapy on conjunctival fibrosis in vitro. Paper Presented at 18th annual Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2011 Jun 3; Columbia, MO.
210. Claussen JA, **Mohan RR**. Nanoparticles for corneal epithelial wound healing. Paper Presented at 18th annual Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2011 Jun 3; Columbia, MO.
211. Waggoner M, Tandon A, Tovey JCK, Sharma A, Lopez V, Cowden JW, Rieger GR III, Hamm CW, **Mohan RR**. SAHA: FDA approved histone deacetylase inhibitor demonstrates exceptionally high inhibition of corneal haze following PRK surgery in rabbit model. Poster presented at Vision Restoration Regenerative Medicine in Ophthalmology; 2011 May 26-27; Pittsburgh, PA.
212. Tandon A, Tovey JCK, Sharma A, Gupta R, **Mohan RR**. Inhibition of PRK-induced corneal haze in vivo by trichostatin-a involves epigenetic modification. Poster presented at ARVO meeting; 2011 May 1-5; Ft. Lauderdale, FL.
213. Sharma A, Phillips D, **Mohan RR**. A Possible Molecular Mechanism for Trichostatin-A-mediated Inhibition of Corneal Fibrosis. Poster presented at ARVO meeting; 2011 May 1-5; Ft. Lauderdale, FL.
214. **Mohan RR**, Sharma A, Tandon A, Tovey JCK, Cowden JW, Schultz GS, Hamm CW. Tissue-selective Controlled Decorin Gene Therapy with AAV5 significantly inhibits scarring in rabbit cornea in vivo. Paper presented at ARVO meeting; 2011 May 1-5; Ft. Lauderdale, FL.
215. Hansen ET, Sharma A, Tandon A, Gupta R, Fortune JA, Klibanoy AM, Tovey JCK, Hemmat YJ, **Mohan RR**. Nitrogen to phosphate ratio in nanoparticle-plasmid transfection reagent modulates gene delivery and toxicity in the cornea. Poster presented at ARVO meeting; 2011 May 1-5; Ft. Lauderdale, FL.
216. Gupta R, Tandon A, Hansen ET, Cebulko TC, Hemmat YJ, Fortune JA, Klibanoy A, **Mohan RR**. Rapid and substantial gene delivery into cornea in vivo and in vitro with linearized polyethyleneimine nanoparticles. Poster presented at ARVO meeting; 2011 May 1-5; Ft. Lauderdale, FL.
217. Bernstein AM, **Mohan RR**, Tovey JCK, Palaez, Wang L. TGF-beta concentration and corneal wound healing. Poster presented at ARVO meeting; 2011 May 1-5; Ft. Lauderdale, FL.
218. Tandon A, Tovey JCK, Sharma A, Gupta R, **Mohan RR**. Tyrosine-Mutant adeno associated virus (AAV) 8 and 9 serotypes: Potent vectors to deliver genes in the stroma of mouse cornea in vivo. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2011 Apr 18-23; Columbia, MO.
219. Jonathan CKT, Sharma A, Gupta R, Tandon A, **Mohan RR**. Potential of Smad7 gene therapy for corneal fibrosis. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2011 Apr 18-23; Columbia, MO.
220. Gupta R, Sharma A, Tandon A, Jonathan CKT, **Mohan RR**. Corneal fibrosis: Role of TGF $\beta$ , decorin and Smad signaling. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2011 Apr 18-23; Columbia, MO.

221. **Mohan RR**, Tandon A, Tovey JCK, Waggoner M, Sharma A, Lopez V, Hamm CW, Rieger FG, Cowden JW. Newer approaches to modulate corneal scarring. Asia-ARVO Meeting; 2011 Jan 23; Singapore.

## 2010

222. Waggoner M, Tandon A, Jonathan CKT, Sharma A, Lopez V, Cowden JW, Rieger GR III, Hamm CW, **Mohan RR**. SAHA: FDA approved histone deacetylase inhibitor demonstrates exceptionally high inhibition of corneal haze following PRK surgery in rabbit model. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2010 Nov 11; Columbia, MO.
223. Tandon A, Jonathan CKT, Sharma A, Gupta R, Cowden JW, Schultz GS, Hamm CW, **Mohan RR**. AAV5-mediated targeted decorin gene therapy: effective and safe for corneal fibrosis. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2010 Nov 11; Columbia, MO.
224. Sharma A, Tandon A, Jonathan CKT, Gupta R, Robertson D, Fortune FA, Kleibanov AM, Cowden JW, **Mohan RR**. N/P ratio in the PEI2-GNP-DNA complex affects transgene delivery in the human cornea in vitro. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2010 Nov 11; Columbia, MO.
225. Killion EA, Tandon A, Jonathan CKT, Sharma A, Gupta R, **Mohan RR**. Gene transfer technology: a tool for studying gene function and role in corneal pathogenesis. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2010 Nov 11; Columbia, MO.
226. Jonathan CKT, Tandon A, Sharma A, Schultz GS, Cowden JW, Hamm CW, **Mohan RR**. Tissue-selective controlled decorin gene delivery in the rabbit cornea significantly retards corneal angiogenesis in vivo. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2010 Nov 11; Columbia, MO.
227. Gupta R, Tandon A, Jonathan CKT, Sharma A, **Mohan RR**. Smad-signaling inhibition: potential for developing newer treatments for corneal fibrosis. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2010 Nov 11; Columbia, MO.
228. Yarnall BW, Gupta R, Giuliano EA, **Mohan RR**. Potential of Mitomycin C: A promising agent for the treatment of canine corneal scarring. Paper presented at the Merial NIH National Scholars Symposium at the University of Georgia; 2010 Aug 5-8; Augusta, GA.
229. **Mohan RR**. Targeted gene delivery into stroma affects corneal pathology. Paper presented at International Society for Eye Research; 2010 Jul 19; Montreal, Canada.
230. **Mohan RR**. Nanotechnology-mediated targeted non viral gene therapy approaches to treat corneal diseases. Paper presented at the World Ophthalmology Congress; 2010 Jun 7; Berlin, Germany.
231. Hesemann NP, **Mohan RR**. Transforming growth factor beta and corneal wound healing. Paper Presented at 17th annual Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2010 May 22; Columbia, MO.
232. D'Souza P, **Mohan RR**. Topical NSAIDS effect on corneal fibroblasts in vitro (Topical NSAIDS effect on corneal fibroblasts in vitro). Paper Presented at 17th annual Mason Eye Institute Research Day at the University of Missouri School of Medicine; 2010 May 22; Columbia, MO.
233. Tovey JCK, Sharma A, Cowden JW, Robertson D, Fortune JA, Kleibanov AM, **Mohan RR**. Does gold nanoparticle-mediated non-viral gene delivery in the cornea depend on disease condition? Poster presented at ARVO meeting; 2010 May 2-6; Ft. Lauderdale, FL.
234. Sharma A, Tovey JCK, Hauswirth WW, Chiodo V, Cowden JW, **Mohan RR**. Remarkably high and selective transgene delivery into mouse corneal endothelium in vivo with tyrosine-mutant AAV8. Poster presented at ARVO meeting; 2010 May 2-6; Ft. Lauderdale, FL.
235. Phillips DL, Sharma A, Tovey JCK, Ghosh A, Kleibanov A, Cowden JW, **Mohan RR**. Gold nanoparticles: a potent vector for non-viral corneal endothelial gene therapy. Poster presented at ARVO meeting; 2010 May 2-6; Ft. Lauderdale, FL.
236. **Mohan RR**, Tovey JCK, Schultz GS, Cebulko T, Sharma A. Controlled decorin gene delivery into stroma significantly retards vegf-induced neovascularization in rabbit cornea in vivo. Paper presented at ARVO meeting; 2010 May 2-6; Ft. Lauderdale, FL.

237. Lopez V, Tovey JCK, Waggoner MR, Sharma A, Cowden JW, **Mohan RR**. Vorinostat effectively reduces TGF $\beta$ -mediated myofibroblast formation in the cornea. Poster presented at ARVO meeting; 2010 May 2-6; Ft. Lauderdale, FL.
238. Sharma A, Bettis D, Sharma A, Cowden JW, **Mohan RR**. Eyeing ACE inhibitors for new use: modulation of corneal angiogenesis by Enalapril. VA Research Day Organized by Harry S Truman Memorial Veterans Hospital; 2010 Apr 29; Columbia, MO.
239. Gupta R, Tandon A, Tovey JCK, Cebulko T, Sharma A, **Mohan RR**. Regulation of Trichostatin-A mediated inhibition of corneal wound scarring by 5'-TG-3' Interacting Factors (TGIF). Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2010 Apr 14; Columbia, MO.
240. Tandon A, Lopez V, Tovey JCK, Waggoner MR, Cowden JW, Sharma A, **Mohan RR**. Vorinostat significantly inhibits scarring in the cornea in rabbit model. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2010 Apr 12-17; Columbia, MO.
241. **Mohan RR**. Aptamer: an emerging oligonucleotide therapies for eye diseases. Speaker at the Institute of Nuclear Medicine and Allied Sciences; 2010 Mar 30; New Delhi, India.
242. **Mohan RR**. Nanobiotechnology: Key for nanomedicine and new treatments. Invited talk at the Amity University; 2010 Mar 24; Lucknow, India.
243. **Mohan RR**, Tovey JCK, Schultz GS, Cebulko T, Hauswirth WW, Chiodo V, Cowden JW, Sharma A. Tyrosine mutant AAV8 efficient for corneal endothelial gene delivery in mouse eye in vivo. Poster presented at the Gorden Research Conference; 2010 Mar 9; Ventura, CA.

## 2009

244. Tovey JCK, Mudalagiriappa C, Sharma A, D'Souza P, Cowden JW, Hauswirth WW, Chiodo V, **Mohan RR**. Next generation tyrosine-mutant AAV8 shows high mouse corneal endothelial transduction in vivo. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2009 Nov 12; Columbia, MO.
245. Sharma A, Tovey JCK, Phillips D, Cowden JW, **Mohan RR**. Transcription factors, 5'-TG-3'-interacting factors (TGIF), regulates trichostatin-a mediated inhibition of corneal scarring. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2009 Nov 12; Columbia, MO.
246. Phillips D, Sharma A, Cowden C, Cowden JW, **Mohan RR**. Gold nanoparticles and adeno-associated virus mediated gene delivery in human corneal endothelial cells. Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2009 Nov 12; Columbia, MO.
247. Bettis D, Sharma A, Wilhite RW, Fox J, Cowden JW, **Mohan RR**. Angiotensin converting enzyme modulates corneal angiogenesis in vivo Received Best Poster Award in Basic Science Category-I (3rd place). Poster Presented at the Health Science Research Day, organized by the University of Missouri School of Medicine; 2009 Nov 12; Columbia, MO.
248. Buss D, Sharma A, Giuliano EA, **Mohan RR**. Gene delivery in the equine cornea: a novel therapeutic strategy. Paper presented at American College of Veterinary Ophthalmologists Annual meeting; 2009 Nov 4-7.
249. **Mohan RR**. New approaches to prevent corneal haze associated with PRK surgery. Paper presented at the Buessler Lecture Conference, Mason Eye Institute University of Missouri; 2009 Oct 31; Columbia, MO.
250. **Mohan RR**. Non viral Delivery Systems to the Eye: Advances and Challenges. Paper presented at the American Society for Nanomedicine Meeting; 2009 Oct 24; Potomac, MD.
251. **Mohan RR**. Gold Nanoparticles: efficient and safe for corneal gene therapy. Invited guest speaker at the Jules Stein Eye Institute, UCLA; 2009 Aug 14; Los Angeles, CA.
252. **Mohan RR**. Tissue-targeted gene therapy approaches for corneal diseases. Invited talk presented at the Institute of Nuclear Medicine & Allied Sciences; 2009 Jun 8; New Delhi, India.
253. Sharma A, **Mohan RR**. Does angiotensin converting enzyme regulate corneal angiogenesis? Paper presented at the 16th Annual Residents and Alumni Day and 50th Anniversary of Department of Ophthalmology at the Mason Eye Institute University of Missouri; 2009 May 30; Columbia, MO.

254. Davis G, **Mohan RR**. Gene transfer to corneal stroma. Paper presented at the 16th Annual Residents and Alumni Day and 50th Anniversary of Department of Ophthalmology at the Mason Eye Institute University of Missouri; 2009 May 29-30; Columbia, MO.
255. D'Souza P, Tovey JCK, Siddappa C, **Mohan RR**. Gene transfer to corneal endothelium. Paper presented at the 16th Annual Residents and Alumni Day and 50th Anniversary of Department of Ophthalmology at the Mason Eye Institute University of Missouri; 2009 May 29; Columbia, MO.
256. **Mohan RR**, Sharma A, Siddappa C, Sinha S, Cowden JW. Decorin, TGF $\beta$ 1 and TGF $\beta$ 2 levels and localization in the normal and PRK-treated rabbit corneas. Paper presented (#5699) at ARVO meeting; 2009 May 7; Ft. Lauderdale, FL.
257. Buss D, Sharma A, Giuliano EA, **Mohan RR**. Isolation and cultivation of equine corneal keratocytes, fibroblasts and myofibroblasts. Paper presented at the University of Missouri Veterinary Ophthalmology Resident Seminar; 2009 May 7; Columbia, MO.
258. Vithana EN, Venkatraman A, Koh L, **Mohan RR**, Seet L. Analysis of the effects of SLC4A11 (CHED2) gene depletion on corneal endothelial cell growth and proliferation. Poster presented (#1799) at ARVO meeting; 2009 May 4; Ft. Lauderdale, FL.
259. Sharma A, Hansen ET, Newman JM, Sinha S, Cowden JW, Klivanov AM, Robertson D, Katti K, Kannan R, **Mohan RR**. Gold nanoparticles as potential vectors for gene transfer in the cornea. Poster presented (#2415) at the ARVO meeting; 2009 May 4; Ft. Lauderdale, FL.
260. **Mohan RR**. New applications of nanotechnology in ophthalmology. Invited paper presented at the Nanotechnology cross-section SIG at ARVO; 2009 May 4; Ft. Lauderdale, FL.
261. Buss DG, **Mohan RR**, Sharma A, Giuliano EA. AAV-mediated equine corneal gene therapy. Paper presented at the Phi Zeta Research Day, University of Missouri; 2009 Mar 13; Columbia, MO.
262. **Mohan RR**. Improving drug delivery in microbial keratitis - use of nanotechnology. Paper presented at Asia-ARVO meeting; 2009 Jan 16; Hyderabad, India.
263. **Mohan RR**. Nanoparticle-based corneal gene therapy. Paper presented at Asia-ARVO meeting; 2009 Jan 15; Hyderabad, India.

## 2008

264. **Mohan RR**. Quantification and localization of gene transfer in the cornea using in vivo confocal microscopy. Paper presented "Imaging the Eye for Research and Clinical Application meeting" University of Florida; 2008 Dec 4; Gainesville, Florida.
265. Thakkar MM, Engemann SC, Walsh K, Sahota P, **Mohan RR**. Cellular underpinnings of sleep induced by acute ethanol intake. Poster presented at the Society for Neuroscience meeting; 2008 Nov 17; Washington DC.
266. Sharma A, Mehan MM, Sinha S, Cowden JW, **Mohan RR**. Trichostatin-A inhibits TGF $\beta$ 1-induced corneal fibrosis in vitro and refractive surgery-induced corneal haze in vivo. Poster Presented at the Research Day, organized by the University of Missouri School of Medicine; 2008 Nov 13; Columbia, MO.
267. Newman JM, Hansen ET, Sharma A, Sinha S, Cowden JW, Katti KV, Robertson D, **Mohan RR**. Evaluation of polyethyleneimine conjugated gold nanoparticles as a vector for corneal gene therapy. Poster Presented at the Research Day, organized by the University of Missouri School of Medicine; 2008 Nov 13; Columbia, MO.
268. Hansen ET, Newman JM, Sharma A, Sinha S, Cowden JW, **Mohan RR**. In vitro evaluation of adeno-associated virus gene therapy in epithelial, endothelial, and fibroblast cells of the human cornea. Poster Presented at the Research Day, organized by the University of Missouri School of Medicine; 2008 Nov 13; Columbia, MO.
269. **Mohan RR**. Decorin over-expression significantly reduces myofibroblast formation in the cornea. Invited paper presented at the XVIII International Congress for Eye Research; 2008 Sep 25; Beijing, China.
270. **Mohan RR**. Gold nanoparticles for delivering drugs/genes in the cornea. Invited talk presented at the "First International Conference on Nano and Ophthalmic medicine" meeting; 2008 Sep 5; Shankar Nethralaya, Chennai, India.
271. Thakkar MM, Engemann SC, Sahota P, **Mohan RR**. Role of Adenosine in Ethanol Induced Sleep. Poster presented at the 22nd Annual Meeting of the Associated Professional Sleep Societies meeting; 2008 Jun 9; Baltimore, MD.

272. Mehan MM, Sharma A, Thakkar MM, Sinha S, Cowden JW, **Mohan RR**. Trichostatin A inhibition of corneal haze. Paper presented at the 15th Annual Residents and Alumni Day of Mason Eye Institute University of Missouri; 2008 Jun 7-8; Columbia, MO.
273. Sharma A, Thakkar MM, Sinha S, **Mohan RR**. PDGF-mediated corneal fibroblast migration and proliferation involves STAT signaling under negative regulation of SOSC3. Poster presented at the VA Research Day Organized by Harry S Truman Memorial Veterans Hospital; 2008 May 16; Columbia, MO.
274. **Mohan RR**, Sharma A, Sinha S, Mehan MM, Cowden JW. Decorin gene therapy can treat corneal haze and the blindness. Poster presented at the VA Research Day Organized by Harry S Truman Memorial Veterans Hospital; 2008 May 16; Columbia, MO.
275. Mehan MM, Sharma A, Thakkar MM, Sinha S, Elliott CT, Rieger FG, Cowden JW, **Mohan RR**. Trichostatin A inhibits myofibroblast formation and haze in the cornea, in vitro. Poster presented at the VA Research Day Organized by Harry S Truman Memorial Veterans Hospital; 2008 May 16; Columbia, MO.
276. McKnight D, Sinha S, Kannan R, Katti KV, Robertson D, Nune S, Katti K, Cowden JW, **Mohan RR**. Gold nanoparticles suitability for corneal gene therapy. Poster presented at the VA Research Day Organized by Harry S Truman Memorial Veterans Hospital; 2008 May 16; Columbia, MO.
277. Engemann SC, Walsh K, Krieger JN, **Mohan RR**, Sahota P, Thakkar MM. Cellular underpinnings of sleep induced by acute alcohol intake. Poster presented at the VA Research Day Organized by Harry S Truman Memorial Veterans Hospital; 2008 May 16; Columbia, MO.
278. Sinha S, McKnight D, Kannan R, Katti KV, Robertson D, Cowden JW, **Mohan RR**. Evaluation of gold nanoparticles stabilized in gum arabic for corneal gene therapy. Poster presented (#4787) at the ARVO meeting; 2008 Apr 30; Ft. Lauderdale, Florida.
279. **Mohan RR**, Thakkar MM, Sinha S, Elliott CT, Rieger FG, Nistala R, Cowden JW. Trichostatin A blocks TGF $\beta$ -induced accumulation of extracellular matrix and myofibroblast in human corneal fibroblasts. Poster presented (#2692) at the ARVO meeting; 2008 Apr 29; Ft. Lauderdale, Florida.
280. Mehan MM, Sharma A, Thakkar MM, Sinha S, Elliott CT, Rieger FG, Cowden JW, **Mohan RR**. Trichostatin A inhibits myofibroblast formation and haze in the cornea, in vitro. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2008 Apr 16; Columbia, MO.
281. Sharma A, Thakkar MM, Sinha S, **Mohan RR**. PDGF-mediated corneal fibroblast migration and proliferation involves STAT signaling under negative regulation of SOSC3. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2008 Apr 14; Columbia, MO.
282. **Mohan RR**, Sharma A, Sinha S, Mehan MM, Cowden JW. Decorin gene therapy can treat corneal haze and the blindness. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2008 Apr 14; Columbia, MO.
283. McKnight D, Sinha S, Kannan R, Katti KV, Robertson D, Nune S, Katti K, Cowden JW, **Mohan RR**. Gold nanoparticles suitability for corneal gene therapy. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2008 Apr 14; Columbia, MO.
284. Engemann SC, Walsh K, Krieger JN, **Mohan RR**, Sahota P, Thakkar MM. Cellular underpinnings of sleep induced by acute alcohol intake. Poster Presented at the University of Missouri Life Science Week, Christopher S Bond Life Science; 2008 Apr 14; Columbia, MO.
- 2007**
285. McKnight D, Tyagi M, Sinha S, Katti KV, Kannan K, Robertson D, Cowden JW, **Mohan RR**. Evaluation of gum arabic stabilized gold nanoparticle's potential for gene therapy in the cornea. Poster Presented at the Research Day, organized by the University of Missouri School of Medicine; 2007 Nov 1; Columbia, MO.
286. **Mohan RR**, Tyagi M, McKnight D, Sinha S, Katti KV, Kannan K, Robertson D, Cowden JW. Gum arabic-stabilized gold nanoparticles for drug/gene delivery in the cornea. Paper presented at the Ocular Cell and Molecular Biology meeting sponsored by the ARVO; 2007 Sep 8; Sarasota, FL.
287. Mehan MM, Sinha S, Cowden JW, **Mohan RR**. Decorin inhibits corneal scarring in vivo. Paper presented at the 14th Annual Residents and Alumni Day of Mason Eye Institute University of Missouri; 2007 Jun 9; Columbia, MO.

288. Wilson SE, Netto MV, **Mohan RR**, Mederios FW, Dupps WJ, Sinha S, Krueger RR, Stapleton WM, Rayborn M, Suto C. Necrosis Is the Primary Mode of Stromal Cell Death Induced by the Femtosecond Laser: Don't Apply the Tunnel Assay in Isolation. Poster presented (#3519) at the ARVO meeting; 2007 May 8; Ft. Lauderdale, FL.
289. **Mohan RR**, Sinha S, Katti KV, Kannan K, Stapleton WM, Schultz GS. Evaluation of polymeric- and gold-nanoparticles for gene delivery in the cornea. Poster presented (#2733) at the ARVO meeting; 2007 May 8; Ft. Lauderdale, FL.
290. Mederios FW, **Mohan RR**, Suto C, Sinha S, Chaurasia SS, Bonilha VS, Wilson SE. Haze Development After Photorefractive Keratectomy: Mechanical vs. Chemical Epithelial Removal. Poster presented (#3512) at the ARVO meeting; 2007 May 8; Ft. Lauderdale, FL.

## 2006

291. **Mohan RR**, Stapleton WM, Sinha S, Netto MV. Decorin gene transfer into keratocytes inhibits alpha smooth muscle actin (SMA) expression and myofibroblast transformation. Poster presented (#5) at the Cole Eye Institute Alumni meeting; 2006 Jun 15-16; Cleveland, Ohio.
292. **Mohan RR**, Sinha S, Stapleton WM, Netto MV, Wilson SE. A novel method for generating corneal haze in anterior stroma of the mouse eye with excimer laser. Paper presented at the Cole Eye Institute Alumni meeting; 2006 Jun 15-16; Cleveland, Ohio.
293. Stapleton WM, **Mohan RR**, Dupps WJ, Sinha S, Netto MV, Wilson SE. Decreased stromal cell death with Model III 30 kHz femtosecond laser and the effect of the side cut on stromal cell death & monocyte infiltration. Poster presented (#2733) at ARVO meeting; 2006 Apr 30-May 4; Ft. Lauderdale, FL.
294. Sinha S, **Mohan RR**, Stapleton WM, Netto MV, Wilson SE. A novel method for generating corneal haze in anterior stroma of the mouse eye with excimer laser. Poster presented (#2744) at ARVO meeting; 2006 Apr 30-May 4; Ft. Lauderdale, FL.
295. **Mohan RR**, Stapleton W, Sinha S, Netto MV. Decorin gene transfer into keratocytes inhibits alpha smooth muscle actin (SMA) expression and myofibroblast transformation. Paper presented (#1815) at ARVO meeting; 2006 Apr 30-May 4; Ft. Lauderdale, FL.

## 2005

296. **Mohan RR**, Schultz GS, Sinha S, Sharma A, Netto MV, Wilson SE. Site-selective tissue targeted gene delivery methods for the cornea. Poster presented (#8) at OCMB meeting; 2005 Sep 8-10; Sarasota, FL.
297. Netto MV, **Mohan RR**, Sinha S, Wilson SE. Prophylactic and treatment effect of MMC in controlling laser-induced corneal haze. Poster presented at the Cole Eye Institute Alumni meeting; 2005 Jun 16-17; Cleveland, Ohio.
298. Netto MV, **Mohan RR**, Krueger RR, Dupps WJ, Sinha S, Wilson SE. Corneal cellular response following femtosecond and conventional microkeratome. Paper presented at the Cole Eye Institute Alumni meeting; 2005 Jun 16-17; Cleveland, Ohio.
299. **Mohan RR**, Sharma A, Sinha S, Netto MV, Wilson SE. Novel tissue- and site-selective gene transfer methods for delivering therapeutic gene in the cornea. Poster presented at the Cole Eye Institute Alumni meeting; 2005 Jun 16-17; Cleveland, Ohio.
300. **Mohan RR**, Netto MV, Sinha S, Wilson SE. Role of stromal surface irregularity and basement membrane in the generation of laser-induced corneal haze. Paper presented at the Cole Eye Institute Alumni meeting; 2005 Jun 16-17; Cleveland, Ohio.
301. Wilson SE, Netto MV, **Mohan RR**. Myofibroblast generation in the anterior stroma is triggered by surface irregularity. Poster presented (#2159) at ARVO meeting; 2005 May 1-5; Ft. Lauderdale, FL.
302. Netto MV, **Mohan RR**, Sinha S, Sharma A, Wilson SE. Prophylactic Mitomycin C effect corneal haze and cellularity. Poster presented (#4913) at ARVO meeting; 2005 May 1-5; Ft. Lauderdale, FL.
303. **Mohan RR**, Schultz GS, Sinha S, Sharma A, Netto MV, Wilson SE. Controlled and Site-selective Gene Delivery into Mouse Keratocytes by Adeno-associated viral, Lentiviral and Plasmid Vectors. Poster presented (#2163) at ARVO meeting; 2005 May 1-5; Ft. Lauderdale, FL.
304. **Mohan RR**. Site-selective tissue targeted gene delivery in the cornea. Paper presented at the Visual Science and Research Center, CWRU; 2005 Mar 30; Cleveland, OH.

**2004**

305. Wilson SE, **Mohan RR**, Sinha S, Netto MV. Gene Expression Profiling and Comparative Expression Analysis of Genes Modulated in Response to TGF $\beta$ -1, 2 & 3 in Human Corneal Fibroblast Cells. Poster presented at the Cole Eye Institute Alumni meeting; 2004 Jun 24-25; Cleveland, Ohio.
306. Netto MV, **Mohan RR**, Sinha S, Sharma A, Wilson SE. Corneal haze treatment with Mitomycin C. Poster presented at the Cole Eye Institute Alumni meeting; 2004 Jun 24-25; Cleveland, Ohio.
307. **Mohan RR**, Netto MV, Sinha S, Wilson SE. Microarray analysis of PDGF-regulated gene expression in HSF cells. Poster presented at the Cole Eye Institute Alumni meeting; 2004 Jun 24-25; Cleveland, Ohio.
308. Netto MV, **Mohan RR**, Sinha S, Sharma A, Wilson SE. Prophylactic Mitomycin C effect on corneal haze formation. ASCRS meeting; 2004 May 1-4; San Diego, CA.
309. Wilson SE, **Mohan RR**, Netto MV. Interaction between cells expressing RANK and RANKL in the stroma of wounded mouse corneas. Poster presented (#3520) at ARVO meeting; 2004 Apr 25-29.
310. Wilson SE, **Mohan RR**, Alekseev A. Expression of monocyte-regulatory cytokines and receptors mRNAs and proteins by corneal fibroblasts. Poster presented (#4223) at ARVO meeting; 2004 Apr 25-29.
311. **Mohan RR**, Wilson SE. Microarray Analysis of PDGF-Regulated Gene Expression in Human Corneal Fibroblast Cells. Poster presented (#3776) at ARVO meeting; 2004 Apr 25-29.

**2003-1985**

312. **Mohan RR**, Wilson S. Gene expression profile in human corneal fibroblast cells in response to TGF beta-1, beta-2 and beta-3 using microarray technology. Poster presented (#843) at ARVO meeting; 2003 May 4.
313. **Mohan RR**, Schultz GS, Hong JW, Mohan RR, Wilson SE. Gene transfer into rabbit keratocytes using AAV and lipid-mediated plasmid DNA vectors with a lamellar flap for stromal access. *Exp Eye Res.* 2003 Mar;76(3):373–83.
314. Wilson SE, **Mohan RR**, Hong JW, Mohan RR, Lee JS, Ambrósio R, Hutcheon AEK, Zieske JD. Role of Epithelium in Myofibroblast Transformation in the Cornea. *Invest Ophthalmol Vis Sci* . 2002 Dec 1 [cited 2020 Apr 12];43(13):2931–2931.
315. **Mohan RR**, Mohan RR, Ambrosio R, Wilson SE. Activation Of Keratocyte Apoptosis In Response To Epithelial Scrape Injury Does Not Require Tears. *Invest Ophthalmol Vis Sci* . 2002 Dec 1 [cited 2020 Apr 12];43(13):1679–1679.
316. Ambrósio R, Kalina R, **Mohan RR**, Mohan RR, Possin DE, Huang J, Hutcheon AEK, Zieske JD, Wilson SE. Early Wound Healing Response to Epithelial Scrape Injury in the Human Cornea. *Invest Ophthalmol Vis Sci* . 2002 Dec 1 [cited 2020 Apr 12];43(13):4206–4206.
317. **Mohan RR**, Choi R, Hong JW, Lee JS, Mohan RR, Ambrósio R, Hutcheon AEK, Zieske JD, Wilson SE. Stromal cell apoptosis and necrosis following PRK and LASIK. Poster presented at ICER; 2002 Oct 6.
318. Ambrósio R, **Mohan RR**, Mohan RR, Wilson SE. Relevance of cornea wound healing in refractive surgery. Poster presented at AAO; 2001 Nov 14.
319. **Mohan RR**, Mohan RR, Wilson SE. Discoidin domain receptor (DDR) 1 and 2: collagen-activated tyrosine kinase receptors in the cornea. *Exp Eye Res.* 2001 Jan;72(1):87–92.
320. Wilson SE, **Mohan RR**, Possin DE, Mohan RR. Characterization of genetically engineered human corneal epithelial cell lines: Regulated expression of E6/E7. *Invest Ophthalmol Vis Sci.* 2001;42(4).
321. **Mohan RR**, Choi R, Mohan RR, Lee JS, Hong JW, Zieske JD, Wilson SE. Keratocyte apoptosis in the wound healing response after PRK and LASIK. *Invest Ophthalmol Vis Sci.* 2001;42(4).
322. **Mohan RR**, Mohan RR, Kim WJ, Stark GR, Wilson SE. Defective keratocyte apoptosis in response to epithelial injury in stat 1 null mice. *Exp Eye Res.* 2000 Apr;70(4):485–91.
323. **Mohan RR**, Mohan RR, Wilson SE. Retrovirus-mediated HPV16-E6/E7 transduction into human corneal epithelial cells: tight regulation of proliferation. *Invest Ophthalmol Vis Sci.* 2000;(41):4.
324. **Mohan RR**, Wilson SE. Ex vivo human corneal epithelial cells express membrane-bound precursor and mature soluble epidermal growth factor (EGF) and transforming growth factor (TGF) alpha proteins. *Exp Eye Res.* 1999 Jan;68(1):129–31.

325. Wilson SE, **Mohan RR**, Liang Q, Liu J. HGF, KGF, and EGF mRNA levels in the Cornea and lacrimal gland in response to corneal epithelial wounding. *Pro ocular cell and molecular biology*. 1999;(B7):25.
326. **Mohan RR**, Mohan RR, Kim WJ, Wilson SE. NF-kappa B in modulation of corneal fibroblasts apoptosis. *Invest Ophthalmol and Vis Sci*. 1999;40(4).
327. Wilson SE, **Mohan RR**, Kim WJ, Mohan RR, Liang Q. Modulators of keratocyte apoptosis in the cornea. Paper presented at 13th International Congress of Eye Research; 1998 Jul 26; Paris, France.
328. Wilson SE, Kim WJ, Shah S, **Mohan RR**, Mohan RR. Modulation of keratocyte apoptosis after corneal injury. *Invest Ophthalmol and Vis Sci*. 1998;39(4).
329. Wilson SE, Kim WJ, Shah S, **Mohan RR**, Mohan RR. Modulation of keratocyte apoptosis after corneal injury. *Proceedings of Ohio Vision Research*; 1998.
330. **Mohan RR**, Kim WJ, Mohan RR, Wilson SE. Platelet-derived growth factor (PDGF) and receptor expression in human cornea and chemotactic effect of PDGF (AA, AB, or BB) on corneal fibroblasts. *Invest Ophthalmol and Vis Sci*. 1998;39(4).
331. **Mohan RR**, Kim WJ, Mohan RR, Wilson SE. Active role of transcription actor NF-kB in suppression of TNF alpha induced apoptosis in corneal fibroblasts. *Invest Ophthalmol and Vis Sci*. 1998;39(4).
332. Liang Q, Leaman DW, **Mohan RR**, Shay W, Stark G, Wilson SE. Effect of hepatocyte growth factor (HGF) and keratinocyte growth factor (KGF) stimulation of human cornea and mammary epithelial cells on JAK-STAT and RAS related signal transduction pathways. *INVESTOPHTHALVISUAL SCI* . 1997 Dec 1 [cited 2020 Apr 21];38(4).
333. Wilson SE, **Mohan RR**, Liang Q, Kim WJ. Keratocyte apoptosis: Further characterization of the Fas and IL-1 systems. *Investigative Ophthalmology and Visual Science*. 1997;38(4).
334. **Mohan RR**, Wilson SE. Ex vivo human corneal epithelial cells express membrane-bound precursor and mature soluble epidermal growth factor (EGF) and transforming growth factor alpha (TGF alpha) proteins. *Proceeding of Ocular cell and molecular biology*. 1997;A3:26.
335. **Mohan RR**, Kim WJ, Mohan RR, Chen L, Wilson SE. Expression of bone morphogenic proteins (BMP) 2 and BMP4 and their receptors in the adult human cornea. *Invest Ophthalmol Vis Sci*. 1997;38(4):2626–36.
336. Liang Q, Leaman DW, **Mohan RR**, Shay JW, Stark G, Wilson SE. Effect of hepatocyte growth factor and keratinocyte growth factor (KGF) stimulation of human corneal and mammary epithelial cells on Jak-Stat and Ras-related signal transduction pathways. *Pro ocular cell mol biol*. 1997;A3:25.
337. Agarwal R, **Mohan RR**, Khanna SK, Mukhtar H. Bifonazole, an anti-fungal imidazole, inhibits HMG-CoA reductase followed by ras p21 farnesylation leading to a selective growth inhibition of ras transformed cells. *Proceedings of American Association for Cancer Research*. 1997;38:96.
338. Sinha SV, **Mohan RR**, Agarwal R, Benson PJ, Rudy MA, Hu X, Xia H, Mack LM, Mukhtar H, Gupta V, Katoh A, Zaren H. Inhibition of H-ras oncogene transformed tumor cell growth in vivo by diallyl disulfide is associated with inhibition of HMG-Co A reductase activity and ras p21 membrane localization. *Proceedings of American Association for Cancer Research*. 1996;37:391–2.
339. Mukhtar H, **Mohan RR**, Bostwick DG, Amini SG, Agarwal R. Significantly higher ODC activity in human prostate cancer than in normal tissue. *Pro Am Assoc Can Res*. 1996;37(244).
340. **Mohan RR**, Li Q, Weng J, Bennett GL, Schwall R, Wang ZF, Tabor K, Kim J, Wilson SE. HGF and HGF receptor expression in the lacrimal gland. *nvest Ophthalmol Vis Sci*. 1996;37(3).
341. Agarwal R, Lahiri M, **Mohan RR**, Mukhtar H. Stage specific anti-tumor promoting potential of silymarin in mouse skin. *Proceedings of American Association for Cancer Research*. 1996;37(278).
342. Agarwal R, Lahiri M, **Mohan RR**, Mukhtar H. Anti-tumor promoting potential of silymarin against both phorbol and nonphorbol ester type tumor promoter-caused promotion in sencar mouse skin. *J Investigative Dermatology*. 1996;106:856.
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345. **Mohan RR**, Khan SG, Agarwal R, Mukhtar H. Testosterone induces ornithine decarboxylase (ODC) activity and mRNA expression in human prostate carcinoma cell line LNCaP: inhibition by green tea. *Proceedings of American Association for Cancer Research*. 1995;36(274).



346. **Mohan RR**, Kativar SK, Mukhtar H, Agarwal R. Protective effects of retinoic acid against tumor promotion and progression in low- & high-risk mouse skin carcinogenesis. *J Invest Derm.* 1995;104:574.
347. Srivastava V, **Mohan RR**. Synthesis of some newer aryl oxadiazoles as an anti-inflammatory agents. *Proceedings of Indian Council of Chemists.* 1994;12:137.
348. Singh RP, Singh L, **Mohan RR**. Synthesis of newer pyrazolyl imidazoles derivatives as potential anti-inflammatory agents. *Proceedings of Indian Council of Chemists, India.* 1993;11:169.
349. Singh RP, Saxena A, Trivedi V, **Mohan RR**. Synthesis of methyl/styryl quinazoliny-imidazoles as potential anti-inflammatory agents. *Pro Ind Sci Cong Assoc, India.* 1993;80:329.
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351. **Mohan RR**. Synthesis of newer quinaziny-hydrazides as CNS active and anti-inflammatory agents. *Proceedings of Indian Science Congress Association, India.* 1992;79:293.
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356. **Mohan RR**. Synthesis of some newer heterocycles as anthelmintic agents. *Proceedings of Indian Council of Chemists, India.* 1987;7:99.
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358. **Mohan RR**, Agarwal C, Agarwal R, Misra VS. Indophenazine. A new class of CNS and anti-inflammatory agents. *Proceedings of Indian Council of Chemists, India.* 1985;1:79.

### National and International Committees

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| 2019-2022    | ARVO's Annual Meeting Program Committee for the Cornea                               |
| 2018-2021    | ARVO's Member-in-Training Committee  |
| 2018-2021    | University of Missouri College Promotion & Tenure Committee                          |
| 2016         | International Society for Eye Research (ISER) Cornea Program Committee, Tokyo, Japan |
| 2016-2019    | Judge for the ISER Young Scientists poster competition, Tokyo, Japan                 |
| 2015-2017    | Judge for the ARVO MIT poster competition  |
| 2014-present | International Advisory Board of Indian Journal of Ophthalmology                      |
| 2012-2016    | University of Missouri Campus Promotion and Tenure Committee                         |
| 2009-2014    | ARVO's Nanotechnology and Regenerative Medicine Program Committee                    |
| 2009-2013    | ARVO's Cross-sectional Nanotechnology and regenerative Group Organizer               |
| 2008-2014    | ARVO Annual Meeting Program Committee for Nanotechnology section                     |
| 2008-2014    | ARVO Abstract Review Committee for Nanotechnology section                            |
| 2010         | International Society for Eye Research Cornea Program Committee                      |
| 2010         | Asia-ARVO Nanotechnology SIG hosted by the Singapore Eye Research Institute          |
| 2001-2003    | Faculty Senate, University of Washington, Seattle                                    |

### Institutional Committees

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|---------------|--|
| 2019-present  | School of Medicine Translational Research Strategic Planning Committee       |
| 2019-present  | Council on International Initiatives (CII)                                   |
| 2019-present  | International Memorandum of Understanding (iMOU) Review Committee            |
| 2019-present  | Internationalization Strategic Planning Committee                            |
| 2018-2021     | Graduate Faculty Senate  |
| 2018-2021     | Parking and Transportation Committee   |
| 2018-2021     | Promotion & Tenure Committee, Veterinary Medicine and Surgery                |
| 2015- present | Board of Directors of the Missouri Foundation for Veterans' Medical Research |
| 2015-2018     | Graduate Faculty Senate University of Missouri-Columbia                      |

2014-2017	Chair Ophthalmology Faculty Recruitment Committee
2014-2017	Chair Veterinary Medicine & Surgery Research Committee, MU
2014- present	Chair Subcommittee of Research Safety, Truman VA Hospital
2013-present	Director One-health One-medicine Vision Research Center
2013-2016	Graduate Student Committee, Veterinary Medicine and Surgery
2012-2015	University of Missouri Campus Promotion and Tenure Committee
2010-present	Voting Member of Subcommittee of Animal Safety, Truman VA Hospital
2010-2013	P&T Guideline Preparing Committee, Mason Eye Institute, MU
2008-present	Director Resident Research Mason Eye Institute, MU
2008-2018	MU Annual Health Research Day Review Panel
2008-2014	MU Annual Health Research Day Review Panel
2008-2013	Resident Education Committee, Mason Eye Institute, MU
2008-2013	Research Strategic Planning Committee, Mason Eye Institute, MU
2007-2013	School of Medicine Student Research Program Member
2007-2013	Research Journal Club Organizer & Chair, Mason Eye Institute
2007-2010	Faculty Research Council, School of Medicine, MU, Columbia

### Invited Talks at National and International Meetings/Institutions

1. Invited distinguished speaker at the Dr. Jim Zieske Memorial Symposium at the Cornea Center of Excellence, Schepens Eye Research Institute, Harvard Medical School. Title: Corneal stromal wound healing following refractive surgery. 2021 Jan 15; Boston, MA. This event will occur virtual.
2. Invited speaker at the XXIV Biennial meeting of the International Society for Eye Research (ISER), (October 25-29, 2020). Title: Corneal fibrosis reversal by epigenetic therapy. 2020 Oct 28; Buenos Aires, Argentina. This meeting is canceled in June due to coronavirus epidemic.
3. Invited speaker at the XXIV Biennial meeting of the International Society for Eye Research (ISER), (October 25-29, 2019). Title: Gene therapy to treat corneal scarring. 2020 Oct 26; Buenos Aires, Argentina. This meeting is canceled in June due to coronavirus epidemic.
4. Invited Visiting Distinguished Professor lecture series at the Harvard Medical School, Department of Ophthalmology Cornea Center of Excellence (Sept 17-18, 2020). Title: Gene therapy for corneal diseases. 2020 Sep 17; Boston, MA (due to Covid-19 lecture will be delivered via Zoom).
5. Keynote speaker at the "Precision Medicine Virtual 2020" on July 15-16, 2020. Title: Precision nanomedicine for treating blindness and restoring vision. <https://magnusconferences.com/precision-medicine/webinar-online-event>
6. Invited speaker at "Visual Science" the 37th World Ophthalmology Congress (WOC) of the International Congress of Ophthalmology (June 26-29, 2020). Title: Emerging therapy for corneal fibrosis/scar reversal. 2020 Jun 27; Cape Town, South Africa (due to Covid-19 lecture was switched to virtual).
7. Invited speaker at the 35th Asia-Pacific Academy of Ophthalmology (APAO) Congress, April 22-26, 2020, Xiamen, China. Title: An innovative tactic to treat bleb fibrosis and improve success of glaucoma filtration surgery. This meeting has been rescheduled for Aug. 5-8, 2020 due to coronavirus epidemic and now cancelled.
8. Invited speaker at the India-Wakayama Ocular Disease Symposium at the Medical School campus of the Wakayama Medical University from April 4-6, 2020. Title: corneal transparency restoration through myofibroblast modulation. This meeting was postponed due to coronavirus pandemic.
9. Distinguished keynote speaker at an international conference on "Disease biology: diagnostics and therapeutics" at the Department of Biotechnology and the Savitribai Phule (March 4-6, 2020). Title: Gene-based therapies for ocular diseases. 2020 Mar 4; Pune, India.
10. Invited speaker at the distinguished speaker series of the Department of Biomedical Sciences, University of Missouri. Title: Corneal stromal fibroblast-myofibroblast interchange through gene therapy approach. 2020 Feb 13; Columbia, MO.
11. Distinguished lecturer at the Department of Ophthalmology, UT Southwestern Medical Center. Title: Corneal stromal fibroblast-myofibroblast interchange through gene therapy approach. 2019 Dec 5; Dallas, TX.
12. Invited speaker at the International Drug Discovery Science & Technology Annual Congress (Nov 15-17, 2019). Title: Gene Therapy for Treating Corneal Scar and Blindness. 2019 Nov 16; Nanjing, China.

13. Invited speaker at the European Association for Vision and Eye Research (EVER), (Oct 17-19, 2019). Title: Corneal fibrosis reversal by gene therapy. 2019 Oct 19; Nice, France.
14. Invited speaker at the European Association for Vision and Eye Research (EVER), (Oct 17-19, 2019). Title: Corneal transparency restoration by gene therapy. 2019 Oct 18; Nice, France.
15. Invited speaker at the Institut de la Vision, Quinze-Vingts National Eye Hospital. Title: Clinical management through basic-science understanding. 2019 Oct 15; Paris, France.
16. Invited speaker at the University of California San Diego. Title: Targeted gene therapy approaches for corneal disorders. 2019 Sep 12; San Diego, CA.
17. Invited speaker at the University of Birmingham. Title: Decorin treats corneal scars and angiogenesis in preclinical models. 2019 Jul 26; Birmingham, UK.
18. Invited speaker at the Gordon Research Conference on Collagens and associated molecules in organ structure and function. Title: Collagens in aging corneal wound. 2019 Jul 18; New London, NH.
19. Invited speaker at the 13th Annual CounterACT Network Research Symposium. Title: Turbo Eye Drops to treat ocular toxicity and blindness from sulfur mustard. 2019 Jun 18; New York, NY.
20. Invited speaker at the Truhlsen Eye Institute, University of Nebraska Medical Center. Title: Corneal wound healing guiding gene therapy research. 2019 May 17; Omaha, NE.
21. Invited speaker/panelist in a Special Interest Group workshop on Keratoconus at ARVO meeting (Apr 27-May 2, 2019). Title: Focal vs global: Is Keratoconus pathology driven by focal corneal tissue changes or is it a global corneal defect influenced by systemic factors? 2019 May 1; Vancouver BC, Canada.
22. Lecturer in "Corneal stroma wound healing and repair" at annual ARVO meeting (Apr 27-May 2, 2019). Title: MyoD gene silencing promotes de-differentiation in human corneal myofibroblasts. (11, 10); 2019 May 1; Vancouver BC, Canada.
23. Invited speaker/panelist in a Special Interest Group workshop on Keratoconus at 2019 ARVO meeting (Apr 27-May 2, 2019). Title: Focal vs global: Is Keratoconus pathology driven by focal corneal tissue changes or is it a global corneal defect influenced by systemic factors? 2019 May 1; Vancouver BC.
24. Invited speaker at the Minisymposium on "Emerging gene-driven therapies for anterior segment disease" at an annual ARVO meeting. Title: Gene therapy to prevent corneal scarring. 2019 Apr 28; Vancouver BC, Canada.
25. Invited guest speaker at 2019 Combined University of Missouri Ophthalmology Symposium organized by UMKC (04/12-13/2019). Title: Cornea gene therapy. 2019 Apr 12; Kansas City, MO.
26. Invited speaker at the symposium organized by the Cultural Association of India, Jesse Wrench Auditorium, University of Missouri. Title: Curing blindness through gene therapy. 2019 Jan 27; Columbia, MO.
27. Invited guest speaker at the symposium organized by the All India Institute of Medical Science and Bhopal Ophthalmic Society on the "Cornea and Cataract" at the Hotel Nisarga. Title: Novel non-surgical precision nanomedicine an alternative for corneal transplantation. 2019 Jan 19; Bhopal, India.
28. Invited guest speaker at the symposium organized by the All India Institute of Medical Science and Bhopal Ophthalmic Society on the "Cornea and Cataract" at the Hotel Nisarga. Title: Molecular networking driving keratoconus. 2019 Jan 19; Bhopal, India.
29. Invited guest speaker at the symposium organized by the All India Institute of Medical Science and Bhopal Ophthalmic Society on the "Cornea and Cataract" at the Hotel Nisarga. Title: How wound healing impacts refractive laser surgery? 2019 Jan 19; Bhopal, India.
30. Invited distinguished lecturer at the Narayana Nethralaya. Title: Corneal opacity elimination & vision restoration by localized 2-gene combination therapy. 2019 Jan 12; Bangalore, India.
31. Invited guest speaker at the 14th SAARC Academy of Ophthalmology Conference (June 21-24, 2018). Title: PRK associated corneal haze and wound healing. Kathmandu, Nepal.
32. Invited guest speaker at the 14th SAARC Academy of Ophthalmology Conference (June 21-24, 2018). Title: Emerging gene-based therapies for corneal fibrosis and neovascularization. Kathmandu, Nepal.
33. Invited guest speaker at the "Innovations in Gene Therapy Workshop" at the San Diego VA Medical Center (May 14-15, 2018). Title: Gene-based nanomedicine approaches to treat corneal fibrosis. San Diego, CA.
34. Invited guest speaker at the Dialysis Clinic Inc. Title: Development of innovative anti-fibrotic gene-based combination therapies. 2018 Apr 23; Columbia, Missouri.

35. Invited speaker at the 2018 Combined University of Missouri Ophthalmology Symposium (April 20-21, 2018). Title: Ocular fibrosis long-term management through gene therapy. Columbia, Missouri.
36. Invited speaker at the Cornea and Ocular Surface Biology and Pathology, Gordon Research Conference (Feb 18-23, 2018). Title: Combination gene therapy for treating corneal scarring and angiogenesis. Ventura, CA.
37. Invited speaker at the Veterans Health Affairs Central Office. Title: Novel Therapies for Corneal Blindness. 2017 Oct 18; Washington DC.
38. Invited distinguished speaker at the Biennial Cornea Conference, Harvard Medical School and Schepens Eye Research Institute (Oct 12-14, 2017). Title: Decorin+PEDF gene therapy abolishes corneal neovascularization and restores vision. 2017 Oct 13; Boston, MA.
39. Invited speaker at the gene therapy SIG at the European Association for Vision and Eye Research (EVER), (Sept 27-30, 2017). Title: Novel tissue-targeted localized corneal gene therapy. 2017 Sep 29; Nice, France.
40. Invited keynote speaker at the Third Annual Recent Trends in Vision and Ophthalmic Drug Delivery Conference, University of South Florida. Title: A potential cure for pre-existing corneal fibrosis and vision restoration by BMP7+HGF gene therapy. 2017 Sep 19; Tampa, FL.
41. Invited distinguished speaker at the Department of Ophthalmology, University of Illinois. Title: Precision nanomedicine for treating pre-existing corneal scarring. 2017 Sep 8; Chicago, IL.
42. Invited distinguished speaker at the Micro Lab Inc. Title: SAHA: For treating corneal scarring. 2017 Jun 28; Bangalore, India.
43. Invited speaker at the European Association for Vision and Eye Research meeting (Oct 5-8, 2016). Title: Novel tissue-targeted localized gene therapy for corneal scarring and neovascularization. Nice, France.
44. Invited speaker at the XXII Biennial Meeting of the International Society for Eye Research. Title: Nanomedicine for Corneal Disorders. 2016 Sep 28; Tokyo, Japan.
45. Invited speaker at the International Cataract & Refractive Surgery Forum and the 22nd Annual Meeting of the Academy of Ophthalmology of Henan Province. (Aug 12-14, 2016). Title: Corneal Wound Healing Impacting Refractive Surgical Outcome. Zhengzhou, China.
46. Invited distinguished speaker at the Ocular and Skin Wound Healing Meeting at University of Florida. Title: Corneal Wound Healing Guiding Path for Translational Medicine. 2016 Jun 6; Gainesville, Florida.
47. Invited distinguished speaker at the Amity University. Title: Nanotechnology: Delivering innovation in curing blindness. 2016 Jan 18; Lucknow, India.
48. Invited Colloquium speaker at the National Institute of Science Education & Research, (Jan 14-16, 2016). Title: Nanotechnology application in curing blindness. Bhubneshwar, Orissa India.
49. Plenary Invited Speaker at the Recent Trends in Vision and Ophthalmic Drug Deliver Symposium organized by the University of South Florida (Sept 22-23, 2015). Title: Vorinostat: Potential alternative of Mitomycin C to treat corneal scarring. Tampa, FL.
50. Invited Speaker at the Current Issues in Medicine and Pharma 13th Annual International Conference (Aug 10-11, 2015). Title: Regenerative Medicine Approaches for Treating Corneal Blindness – Current Issues. Albany, NY.
51. Invited distinguished speaker at the Delhi Institute of Pharmaceutical Sciences and Research University of Delhi. Title: Nanomedicine For Corneal Blindness. 2015 May 29; Delhi, India.
52. Invited Speaker at the VA-Annual Research Week for the symposium “Translating Nano- and Regenerative Medicine approaches to Advance Veterans’ Health Care” in James A. Haley VA Hospital (May 20-21, 2015). Title: Translational nanomedicine approaches for curing corneal blindness. Tampa, FL.
53. Invited distinguished speaker at the Dean McGee Eye Institute, University of Oklahoma Health Sciences Center. Title: Gene therapy modalities to rescue corneal scarring and neovascularization. 2015 Jan 22; Oklahoma City, OK.
54. Invited guest lecturer at the UPMC Eye Center, Louis J Fox Center for Vision Restoration and McGowan Institute for Regenerative Medicine University of Pittsburgh Title: Gene-based therapy corneal diseases and vision restoration. 2014 Dec 10; Pittsburgh, PA.

55. Invited distinguished speaker at the Aditya Jyot Institute of Vision Sciences and Research. Title: Nanomedicine for corneal diseases. 2014 Aug 8; Mumbai, India.
56. Invited lecturer at symposium on "Cancer prevention and Chemoprevention: State of the Art" organized by the Comprehensive Cancer Center and Department of Dermatology University of Alabama (UAB). Title: Nanotechnology: Expanding power and scope of chemoprevention. 2014 Mar 27; Birmingham, AL.
57. Invited speaker at the Nanotechnology and Advanced Approaches in Ocular Drug Development, Asia-ARVO. Title: Nanoparticle-driven molecular therapy for corneal diseases. 2013 Oct 31; Delhi India.
58. Invited speaker at the Emerging issues and challenges in global eye health for the next century, Asia-ARVO. Title: Nanomedicine Approaches in Corneal Blindness Treatment and Prevention. 2013 Oct 29; Delhi India.
59. Invited distinguished lecturer at the Narayan Netralaya. Title: Corneal wound healing and molecular therapy. 2013 Oct 23; Bangalore, India.
60. Platform speaker at the Cornea and External Eye Disease Translational Research, Asia-Pacific Academy of Ophthalmology Congress. Title: Nanomedicine for corneal diseases. 2013 Jan 20; Hyderabad, India.
61. Platform speaker at the Visual Science Nanotechnology, Asia-Pacific Academy of Ophthalmology Congress. Title: Nanomedicine approaches for corneal blindness. 2013 Jan 17; Hyderabad, India.
62. Invited distinguished lecturer at the Department of Microbiology, Botany and Biochemistry, Lucknow University. Title: Nanotechnology: Small size, Endless applications. 2013 Jan 16; Lucknow, India.
63. Invited guest lecturer at the Department of Ophthalmology University of North Carolina. Title: Gene therapy and nanomedicine approaches for corneal diseases. 2012 Dec 10; Chapel Hill, NC.
64. Invited lecturer at the Department of Ophthalmology of the First Affiliated Hospital of Chongqing Medical University. Title: Corneal wound healing and gene therapy. 2012 Sep 3; Chongqing, China.
65. Keynote speaker at the First International Ophthalmology Forum in Yinchuan (Aug 31-Sept 2, 2012). Title: Gene therapy for corneal diseases. Ningxia, China.
66. Distinguished lecturer at the Skin Disease Research Center, University of Alabama. Title: Nanomedicine for corneal fibrosis and beyond eye. 2012 Jun 13; Birmingham, AL.
67. Invited speaker at the Vision Science Research Center, University of Alabama. Title: AAV-mediated decorin gene therapy for corneal blindness. 2012 Jun 12; Birmingham, AL.
68. Invited speaker at the College of Optometry at the University of Missouri. Title: Refractive surgery and corneal wound healing. 2012 Mar 19; St. Louis, MO.
69. Distinguished speaker at the Central Drug Research Institute. Title: Vision restoration: Gene therapy using AAV and Nanotechnology delivery systems. 2012 Feb 14; Lucknow, India.
70. Invited speaker at the "New Technology Session" of the World Ophthalmology Congress (Feb 16-20, 2012). Title: Gold nanoparticles for corneal gene therapy. Abu Dhabi.
71. Invited speaker at the Dialysis Clinic Inc, Department of Nephrology, University of Missouri. Title: Nanotechnology-mediated anti-fibrotic gene therapy approaches: From cornea to peritoneum. 2012 Jan 23; Columbia, MO.
72. Invited speaker at the ARVO-International Society for Ocular Cell Biology Meeting (Sept 7-10, 2011). Title: PEI-stabilized gold nanoparticles (GNP-PEI): An efficient and safe vector for non-viral corneal gene therapy. 2011 Sep 10; Vancouver BC, Canada.
73. Invited speaker at the Deakin University. Title: Nanomedicine for corneal diseases. 2011 Jul 18; Geelong Australia.
74. Invited speaker at the Sydney International Nanomedicine conference (July 14-16, 2011). Title: Hybrid gold nanoparticles for ocular gene therapy. 2011 Jul 15; Sydney Australia.
75. Invited speaker at the mini symposium titled "Versatile functions of small leucine rich repeat proteoglycan family: implications in corneal inflammation, infection and tissue bioengineering" at the annual ARVO meeting (May 1-5, 2011). Title: Tissue-selective controlled decorin gene therapy with AAV5 significantly inhibits scarring in rabbit cornea in vivo. 2011 May 3; Ft. Lauderdale, FL.
76. Invited speaker in "Refractive/lens" platform session at the Asia-ARVO (Jan 20-23, 2011). Title: New approaches to modulate corneal scarring. 2011 Jan 21; Singapore.

77. Invited speaker at the “Corneal Stroma Platform Session” at the International XIX biennial eye and vision research meeting organized by the International Society for Eye Research (July 18-23, 2010). Title: Targeted gene delivery into stroma affects corneal pathology. 2010 Jul 19; Montreal, Canada.
78. Invited speaker at World Ophthalmology Congress and XXXII International Congress of Ophthalmology, organized by the International Council of Ophthalmology, German Society of Ophthalmology and German Academy of Ophthalmology (Jun 5-9, 2010). Title: Nanotechnology-mediated targeted nonviral gene therapy approaches to treat corneal diseases. Berlin, Germany.
79. Invited guest lecturer at Amity University. Title: Nanobiotechnology: key for nanomedicine and new treatments. 2010 Mar 24; Lucknow, India.
80. Guest lecturer at the John Aure Buessler Visiting Professorship symposium Mason Eye Institute, MU. Title: New Approaches to prevent corneal haze associated with PRK surgery. 2009 Oct 31; Columbia, MO.
81. Invited lecturer at an inaugural first meeting of the American Society for Nanomedicine (Nanomaterial Safety and Toxicology session), (Oct 22-25, 2009). Title: Nonviral delivery systems to the eye: advances and challenges. 2009 Oct 24; Potomac, MD.
82. Invited guest lecturer at the Jules Stein Eye Institute, UCLA. Title: Gold nanoparticles: efficient and safe for corneal gene therapy. 2009 Aug 14; Los Angeles CA.
83. Invited guest lecturer at the Institute of Nuclear Medicine and Allied Sciences (INMAS). INMAS is a leading public research institute in India. Title: Cell-specific gene transfer in the cornea. 2009 Jun 8; New Delhi, India.
84. Invited speaker at platform cross-sectional session of “Nanotechnology and Nanomedicine” at the ARVO annual meeting (May 3-7, 2009). Title: New applications of nanotechnology in ophthalmology. 2009 May 4; Ft. Lauderdale, FL.
85. Invited speaker in “Step-By-Step Approach to Infectious Keratitis”, platform session of the Asia-ARVO (Jan 14-18, 2009). Title: Improving drug delivery in microbial keratitis - use of nanotechnology. 2009 Jan 16; Hyderabad, India.
86. Invited speaker at the “Nanotechnology and Cell Based Delivery - The Future”, platform session of the Asia-ARVO (Jan 14-18, 2009). Title: Nanoparticle-based corneal gene therapy. 2009 Jan 15; Hyderabad, India.
87. Invited speaker at the symposia “Imaging of the Eye” at the University of Florida (Dec 4-6, 2008). Title: Quantification and localization of gene transfer in the cornea. Gainesville, Florida.
88. Invited speaker at the “Myofibroblast Biology” session of XVIII biennial International Society for Eye Research meeting (Sept 24-29, 2008). Title: Decorin significantly reduces myofibroblast formation in the cornea. Beijing, China.
89. Invited speaker at International Conference on Nanomedicine and Recent Advances in Ophthalmic Research (Sept 3-6, 2008). Title: Gold nanoparticles for delivering drugs/genes in the cornea. Chennai, India.
90. Invited speaker at the platform session of Ocular Cell and Molecular Biology meeting (Sept 6-8, 2007). Title: Gold nanoparticles for drug/gene delivery in the cornea. Sarasota, Florida.
91. Invited guest lecturer at the Shankar Netralaya. Title: Tissue-selective targeted gene therapy approaches for the cornea. 2007 Aug 23; Chennai, India.
92. Invited guest lecturer at the Lucknow University. Title: Role of myofibroblasts in corneal healing. 2007 Aug 20; Lucknow India.
93. Invited guest speaker at the Duke University Eye Center, Duke University. Title: Novel site- and tissue-selective gene transfer approaches for the cornea. 2006 Sep 18; Durham, NC.
94. Invited guest speaker at the Dean A. McGee Eye Institute, University of Oklahoma. Title: Novel site- and tissue-selective gene transfer approaches for the cornea. 2006 Aug 17; Oklahoma City, OK.
95. Invited guest speaker at the Department of Ophthalmology, University of Missouri. Title: Novel site – and tissue-selective gene therapy approaches for the cornea. 2006 Aug 7; Columbia, MO.
96. Invited guest speaker at the Vision Research Symposium, Visual Science Research Center, Case Western Reserve University. Title: Site-selective tissue targeted gene delivery in the cornea. 2005 Mar 30; Cleveland, Ohio.
97. Invited lecturer in the Chemistry Department RBS College. Title: Role of cytokines in wound healing. 2003 Feb 19; Agra, India.

98. Invited lecturer at the distinguished seminar lecture series at Ophthalmology Department, University of Washington. Title: Gene transfer in the cornea. 2002 Sep 30; Seattle, WA.

**National and International Scientific Committee Service (Organizer, Chair, Co-chair, Moderator, etc.)**

- 2021 Co-organizer of the cornea scientific sessions (paper and poster) for annual meeting of the Association for Research in Vision and Ophthalmology (ARVO) scheduled in San Francisco, CA (May 1-7, 2020). This year meeting has been shifted to a virtual platform due to Covid-19 pandemic. About 7,000 vision researchers are expected to attend this meeting.
- 2020 Co-organizer and co-chair of the "Cornea Session III: New strategies to control corneal/ocular illnesses" at the XXIV Biennial Meeting of the International Society for Eye Research (ISER) meeting, Buenos Aires, Argentina (Oct 25-29, 2020).
- 2020 Co-chair of the cornea paper session "Corneal angiogenesis" at the Association for Research in Vision and Ophthalmology scheduled for Baltimore, MD (May 3-7, 2020).
- 2020 India-Wakayama Ocular Disease Symposium at the Medical School campus of Wakayama Medical University, Wakayama, Japan from April 3-5, 2020. This meeting has been postponed due to COVID-19 until situation gets under control. New dates will be announced soon.
- 2020 Co-organizer of the India-Wakayama Ocular Disease Symposium at the Medical School campus of Wakayama Medical University, Wakayama, Japan from April 3-5, 2020. This meeting has been postponed due to COVID-19 until situation gets under control. New dates will be announced soon.
- 2020 Co-organizer/chair of the session titled 'Upcoming Novel Biotherapies for Glaucoma Treatment/ Management' at the 35<sup>th</sup> Asia-Pacific Academy of Ophthalmology (APAO) Congress, Xiamen, China (April 22-26, 2020). This meeting has been re-scheduled for Aug 5-8, 2020 due to COVID-19.
- 2020 Co-organizer of the "Potpourri: Translational Ophthalmology" symposium at the 35<sup>th</sup> Asia-Pacific Academy of Ophthalmology (APAO) Congress, Xiamen, China (April 22-26, 2020). This meeting has been re-scheduled for Aug 5-8, 2020 due to COVID-19.
- 2020 Co-organizer of the "Corneal transparency management" scientific session at the India-Wakayama Ocular Disease Symposium at the Medical School campus of the Wakayama Medical University from April 4-6, 2020. This meeting was postponed due to Covid-19 pandemic.
- 2020 Discussion Leader at the Gordon Research Conference on Cornea and Ocular Surface Biology and Pathology at the Renaissance Tuscany Il Ciocco, Lucca (Barga) Italy (Feb 16-21, 2020). Title: Emerging Tools for Ocular Drug Delivery.
- 2020 Planned organization of 46 cornea scientific sessions (16-paper and 40-poster) for annual meeting of the Association for Research in Vision and Ophthalmology (ARVO) scheduled in Baltimore, MD (May 3-7, 2020). About 7,000 eye researchers are expected to attend.
- 2019 Co-organizer of the Launching Ceremony of Jiangning Tianyin Medicine Valley and Biopharma Innovation Transformation Cluster at the Drug Discovery Science & Technology conference, Nanjing, China (Nov 15, 2019).
- 2019 Co-Chair of session "Update in Translational Research in Cornea & Ocular Surface" at the European Association for Vision and Eye Research, Nice, France (Oct 18, 2019).
- 2019 Organizer/co-moderator of SIG titled "Focal vs global: Is Keratoconus pathology driven by focal corneal tissue changes or is it a global corneal defect influenced by systemic factors?" at the 2019 ARVO meeting, Vancouver, BC, Canada (May 1, 2019).
- 2019 Co-moderator of session titled "Corneal Stroma Wound Healing and Repair" at the 2019 ARVO meeting, Vancouver, BC, Canada (May 1, 2019).
- 2018 Organizer/co-moderator of SIG titled "Delivery of therapeutics to ocular tissues" at the 2018 ARVO meeting, Honolulu, HI (April 29, 2018).
- 2018 Innovation to implementation in Gene Therapy by the VA Research Week in San Diego CA (May 14-18, 2018).
- 2018 Co-moderator of corneal session "Refractive Surgery" at the 14<sup>th</sup> SAARC Academy of Ophthalmology conference in Kathmandu, Nepal (June 21-24, 2018).
- 2018 Co-organizer of the Robert P. Burns & Lynette Feeney-Burns Visiting Professorship lecture given by Dr. Ilene Gipson, Prof and Senior Scientist Ophthalmology, Harvard Medical School, at the Mason Eye Institute, University of Missouri, Columbia (Aug 16-17, 2018).

- 2017 Co-moderator of session titled “Keratoconus: Basic Science and Clinical Applications” at the 2017 ARVO meeting, Baltimore, MD (May 11, 2017).
- 2017 Co-host of tour for the CO posters (Conjunctival cell biology and meibomian glands; A0193-A0239) at the 2017 ARVO meeting, Baltimore, MD (May 10, 2017).
- 2016 Co-moderator of session titled “Corneal refractive surgery II” at the 2016 ARVO meeting in Seattle, WA (May 4, 2016).
- 2016 Co-moderator of session titled “Corneal refractive surgery I” at the 2016 ARVO meeting in Seattle, WA (May 4, 2016).
- 2016 Judge of the Members-in-Training posters at the 2016 ARVO meeting in Seattle, WA (May 3, 2016).
- 2016 Co-organizer of the 2<sup>nd</sup> National Veterans Health Affairs Research Conference, 21<sup>st</sup> Century Translational Medicine: Path to Progress for Improving Veterans Health at the Harry S. Truman VA Hospital in Columbia, MO (May 18-19, 2016).
- 2016 Co-organizer of the “Cornea and Ocular Surface” scientific program for the XXII Biennial Meeting of the International Society for Eye Research in Tokyo, Japan (Sept 25-29, 2016).
- 2015 Plenary session invited speaker in session on the “Recent Trends in Regenerative Medicine” at the Asia-ARVO in Tokyo, Japan (Feb 18, 2015).
- 2015 Judge of the Members-in-Training posters at the 2015 ARVO meeting, Denver, CO (May 5, 2015).
- 2015 Co-moderator of the SIG titled “Newer modalities to restore corneal function” at the 2015 ARVO meeting, Denver, CO (May 6, 2015).
- 2015 Chair of the “Vision I” session of the conference on the “Recent Trends in Vision and Ophthalmic Drug Delivery” at the Patel Center for Global Solutions, University of South Florida in Tampa, FL (Sept 23, 2015).
- 2014 Co-committee member of the ARVO’s Annual Meeting Program Review and Final Scheduling of the Nanotechnology program in Orlando, FL (Feb 7-8, 2014).
- 2014 Co-chair of the session on “Regenerative Medicine in Ophthalmology-Current Status and Future Perspective” at the World Ophthalmology Congress in Tokyo, Japan (April 2-6, 2014).
- 2014 Co-organizer & co-moderator of “Nanotechnology and Regenerative Medicine Group: Nanotechnology in Extracellular Matrix Reengineering” session at the ARVO meeting in Orlando, FL (May 7, 2014).
- 2013 Organizer/co-chair of symposium on “Emerging Issues and Challenges in Global Eye Health for the Next Century” in the Asia-ARVO biannual meeting in Delhi, India (Oct 29).
- 2013 Chair for Nanotechnology Theme, of the 28<sup>th</sup> Asia-Pacific Academy of Ophthalmology Congress & APAO-AIOS in Hyderabad, India (Jan 17, 2013; meeting dates Jan 17-20).
- 2013 Committee member of the ARVO’s Annual Meeting Program Review and Final Scheduling of the Nanotechnology program in Rockville, MD (Feb 8, 2013).
- 2013 Co-moderator of the “Nanotechnology and Regenerative Medicine” session at the ARVO meeting in Seattle, WA (May 6, 2013).
- 2013 Co-moderator of the “Cell and Molecular Biology” session at the ARVO meeting in Seattle, WA (May 7, 2013).
- 2013 Co-organizer and co-moderator of an international workshop on the “Global Health and Vision Research: The Future of International Collaborations and Impacts” at the Asia-ARVO conference in Seattle, WA (May 7, 2013).
- 2013 Co-organizer and speaker in symposium on “Global Eye Health: Emerging Issues and Challenges in Global Eye Health for the Next Century” at the Asia-ARVO conference in New Delhi, India from Oct 28-31, 2019 (Oct 29, 2013).
- 2013 Co-organizer and speaker in symposium on “Nano Technology and Advanced Approaches in Ocular Drug Development” at the Asia-ARVO conference in New Delhi, India from Oct 28-31, 2019 (Oct 31, 2013).
- 2012 Committee member of the ARVO’s Annual Meeting Program Review and Final Scheduling of the Nanotechnology program in Seattle, WA (Jan 21, 2012).
- 2012 Chair & speaker of the session “New Technology in Ophthalmology Part 1” at the World Ophthalmology Congress in Abu Dhabi from Feb 16-20, 2012 (Feb 17, 2012).
- 2012 Chair & speaker of the session “New Technology in Ophthalmology Part 2” at the World Ophthalmology Congress in Abu Dhabi from Feb 16-20, 2012 (Feb 17, 2012).



- 2012 Organizer and Chair of the workshop on Nanotechnology and Regenerative Medicine at the ARVO meeting in Ft. Lauderdale, FL (May 7, 2012).
- 2012 Chair of the “Nanotechnology and Regenerative Medicine Cross-section Paper” session at the ARVO meeting in Ft. Lauderdale, FL (May 8, 2012).
- 2011 Moderator for “Corneal Wound Healing Signal Transduction” session at ARVO meeting in Ft. Lauderdale, FL (May 02).
- 2011 Moderator for “Nanotechnology and Regenerative Medicine” session at ARVO meeting in Ft. Lauderdale, FL (May 03).
- 2011 Organizer and Chair of the Nanotechnology session at the Asia-ARVO, Singapore (Jan 21).
- 2010 Platform Corneal Stroma” session organizer/chair at ISER meeting, Montreal, (July 19).
- 2010 Moderator, ARVO Nanotechnology (Drug and gene delivery) session in Ft. Lauderdale, FL (May 02).
- 2010 ARVO Organizing and Program Planning Committee (Nanotechnology and Nanomedicine) in Ft. Lauderdale, FL (May 02-06)
- 2009 ARVO Organizing and Program Planning Committee (Nanotechnology and Nanomedicine) in Ft. Lauderdale, FL (May 03-07).
- 2009 Moderator “Step-by-step approach to infectious keratitis” session Asia-ARVO, India (Jan 16).
- 2009 ARVO Advocacy day organized by the NAVAR, Rockville, MD (Jan 23).
- 2009 Moderator “Nanotechnology” paper session at ARVO, Ft. Lauderdale, FL (May 04).
- 2008 Invited member for 15th Annual International Glaucoma Foundation Think Tank meeting on Regenerative Medicine and Optic Nerve Rescue and Restoration. New York (Sept 18-20)
- 2008 ARVO Organizing Committee (Nanotechnology and Nanomedicine)
- 2008 Moderator “Nanotechnology and Nanomedicine” session at ARVO, Ft. Lauderdale, FL
- 2008 Moderator “Neovascularization” session at ARVO meeting, Ft. Lauderdale, FL
- 2007 Moderator “Growth Factors/Cytokines/Receptors/Signal Transduction Ocular Cell and Molecular Biology meeting at Sarasota, FL (Oct 06-09).
- 2007 Moderator “Neovascularization and Lymphangiogenesis” session, ARVO, Ft. Lauderdale, FL
- 2004 Moderator “Corneal Wound Healing in Mice and Rats” ARVO, Ft. Lauderdale, FL

### Current Research Grants

- 2020-2025 1U01EY031650-01 National Eye Institute and NIAID, NIH entitled “Turbo eye drops to treat ocular toxicity and blindness from sulfur mustard” **Role: PI**
- 2019-2023 RO1EY030774-01 National Eye Institute, NIH, entitled “Novel approaches for corneal haze/fibrosis elimination” **Role: PI**
- 2019-2024 RO1EY029795-01 National Eye Institute, NIH, entitled “Role of S100 proteins in diabetic retinopathy” **Role: Co-I**
- 2016-2021 Research Career Scientist Award by the Veteran Health Affairs, Washington D.C. entitled “Targeted gene therapy and nanomedicine approaches to treat corneal diseases” **Role: PI**
- 2018-2021 1I01BX000357-01 Merit grant from the Veteran Health Affairs, Washington D.C. Title “Targeted gene therapy and nanomedicine approaches to treat corneal diseases” **Role: PI**
- 2018-2021 1R21EY024880-01 National Eye Institute, NIH entitled “Ocular toxicity of acrolein: Mechanism and Countermeasure characterization” **Role: PI**
- 2018-2021 1R21EY030234-01 National Eye Institute, NIH entitled “Turbo eye drops to treat ocular toxicity and blindness from sulfur mustard” **Role: PI**
- 2014-2020 RO1EY017294-12 National Eye Institute, NIH, titled “Gene therapy in the cornea” **Role: PI**; \$1.91 million (renewal under preparation)
- 2019-2021 ACVO Vision for Animals Foundation grant titled “A novel multi-modal topical ophthalmic drop to treat corneal fibrosis” **Role: Co-I and Mentor**
- 2020-2021 Phi-zeta pilot grant award title “Hydrogen sulfide gas induce corneal inflammation via activation of NLR” **Role: Co-I and Mentor**
- 2020-2021 Phi-zeta pilot grant award title “Investigating autophagy-related genes in the equine laminitis: A pilot study”. **Role: Co-I and Mentor**
- 2020-2021 Phi-zeta pilot grant award title “Tolerability and efficacy of TRAM-34 and ascorbic acid in prevention of corneal fibrosis in a rabbit model” **Role: Co-I and Mentor**

2020-2022 1R43EY032018 National Eye Institute and NIAID, NIH entitled "Treatment of Neurotrophic Keratitis corneal wounds by MT002, a PI3K-Akt activator"; **Role: PI** (MU component)

### Thesis Advisory Committee (PhD and Masters)

1. Allison Fuchs, DVM, (Masters), College of Veterinary Medicine, MU-Columbia (2019-present)
2. Lynn Martin DVM, Veterinary Pathology, College of Vet Medicine (2017-present)
3. Rayne Lim, Biomedical Sciences, College of Veterinary Medicine (2015-2019)
4. Todd Marlo, DVM, (Masters), College of Veterinary Medicine, MU-Columbia (2015-2018)
5. Michael Fink DVM, Veterinary Pathology, College of Veterinary Medicine (2013-2018)
6. Kristina Gronkiewicz, DVM, (Masters), College of Veterinary Medicine, MU-Columbia (2013-2016)
7. Madhuri Korampally, BS (Masters), College of Engineering School, MU (2008-2010)
8. Lori Gutzmann DVM, Biomedical Sciences, College of Veterinary Medicine (2013-2016)
9. Ann Bosiack, DVM, (Masters), College of Veterinary Medicine, MU-Columbia (2011-2014)
10. Kevin Donnelly DVM, (Masters), College of Veterinary Medicine, MU-Columbia (2012-2015)
11. Jerry KG Leung, BS, (Masters) Interdisciplinary with College of Engineering School (2012)
12. Kisley Roy MSc, Centre for Biotechnology and Interdisciplinary Biosciences, Institute for Technology and Research Innovation, Deakin University, Geelong, Australia (2011-2014).
13. Jennifer Fortune, Chemistry, Massachusetts Institute of Technology, Cambridge, MA (2011-2012)
14. Dylan Buss, DVM, (Masters), College of Veterinary Medicine, MU-Columbia (2009-2012)
15. Raksh Pal Singh, MSc, RBS College, Agra University, India (1991-1993)
16. Virender Srivastava, MSc, RBS College, Agra University, India (1990-1993)
17. Manoj Srivastava, MSc, RBS College, Agra University, India (1988-1992)
18. Ram Kumar, MSc, RBS College, Agra University, India (1992-1993)
19. Latika Singh, MSc, RBS College, Agra University, India (1992-1993)

### Student Mentoring (Postdoc, Resident, Medical, Veterinary Medicine and other)

#### Current Students:

1. Allison Fuchs, DVM, Veterinary ophthalmology resident, VMS, MU (2019-present)
2. Nicholas Hauser Undergrad student (Jan 2021-present-Research Honor)
3. Sabeeh Kamil MBBS, Postdoctoral fellow (July 2019-present)
4. Sydney L. Green, Undergrad student (Jan 2020-present-Research Honor)
5. James Landreneau, MD, Ophthalmology Resident (April 2018-present)
6. Maryam Muayad, MBChB, Research fellow (Aug 2020-present)
7. Runa Akter Swity, MBBS, Research fellow (Aug 2020-present)
8. Katherine Simkins, BS, Research tech (Oct 2020-present)
9. Landon Keele, BS, Research tech (Nov 2020-present)
10. Laila Suleiman, Intern Rockbridge High School student (Dec 2020-present)
11. Benjamin Van Amburg, Medical student (Aug 2019-present)
12. Nishant Sinha, BS, Graduate PhD student (May 2019-present)
13. Suneel Gupta, PhD, Research Assistant Professor (Dec 2018-present)
14. Olga Glinskii, PhD, Research Assistant Professor (Apr 2018-present)
15. Ratnakar Tripathi, PhD, Research Assistant Professor (Dec 2018-present)
16. Praveen Balne, PhD, Postdoctoral fellow (Apr 2018-present)
17. Lynn Martin, DVM, Graduate PhD student (Dec 2017-present)
18. Maaz Muhammad, Medical student (Oct 2019-present)
19. Prashant Sinha, Undergrad and Research Tech (May 2016-present)
20. Alexandria Hofmann, BA, Research Internship (Oct 2019-present)

#### Students Completed Training:

1. Eenika (Ananya) Kumar, EEE Intern Rockbridge High School student (Sept 2019-June 2020)
2. Ashwath J. Sampath, M4 student (Aug 2019-Jan 2020)

3. Andrew J. Polk, M3 student (Jul 2018-Oct 2019)
4. Sally D. Heil, Premed undergrad student (July 2016-2019)
5. Sydney L. Green, Premed undergrad student (Sept 2018-Dec 2019)
6. Ethan LF Crider, MD, Ophthalmology Resident (May 2017-Dec 2018)
7. Rayne Lim, BA, Graduate PhD student (Apr 2015-Aug 2019)
8. Helena Lam, M4 student (Jan 2018-June 2019)
9. Lindsey McDaniel MD, Ophthalmology Resident (2017-2020)
10. Helena Lam, M4 student (Jan 2018-June 2019)
11. Ratnakar Tripathi PhD, Postdoctoral fellow (Aug 2015-Nov 2018)
12. Suneel Gupta PhD, Postdoctoral fellow (Dec 2013-Nov 2018)
13. Nishant Sinha, Undergrad student (May 2017-July 2019)
14. Michael Fink DVM, Postdoctoral fellow, (Dec 2017-2018)
15. Paul Cover, Undergrad (May 2018-Aug 2018)
16. Murugesan Raju PhD, Postdoctoral fellow (Jan 2018-Nov 2018)
17. Sampann Sinha, Student Intern (Dec 2017-Mar 2018)
18. Maaz Muhammad, Undergrad (Jan 2016-Aug 2018)
19. Cooper Short, Undergrad (Jan 2018-Jun 2018)
20. Jordan M. Jensen, M2 student (May 2017-Mar 2018)
21. Li Feng PhD, Postdoctoral fellow (Dec 2016-Jun 2017)
22. Kaitlin E. Smith, M3 student (Feb 2016-Mar 2018)
23. Emilee Dailey, M3/4 student (Aug 2016-Nov 2017)
24. Matthew Faubion, M2 student (Jan 2016-Aug 2017)
25. Philip Wilson, MD Ophthalmology resident (July 2015-2017)
26. Erica Ballard, MD Ophthalmology resident (July 2015-2017)
27. Todd Marlo, DVM, Veterinary Ophthalmology resident (May 2014-2017)
28. Amanda Cox DVM student (May 2016–Sept 2017)
29. Jinjin Zhang PhD, Postdoctoral fellow (2015–Sept 2016)
30. Brianne Herriott, M3 student (Aug 2016-Dec 2016)
31. Jason Rodier MD, Ophthalmology resident (July 2013-2016)
32. Lisa Leishman MD, Ophthalmology resident (July 2013-June 2016)
33. Kristina Gronkiewicz, DVM, Veterinary Ophthalmology resident (Jan 2013-June 2016)
34. Steven Ebers, Medical student (Dec 2014-June 2016)
35. Shizuka Tomatsu, Medical student (Dec 2015-Jan 2016)
36. Brittney L Marshall, Discovery fellow undergrad (2015-Aug 2016)
37. Daniel Bristow, Undergrad (2015-Aug 2016)
38. Justin Brooke, Undergrad (Aug 2013-Aug 2016)
39. Michael Possin MD, Ophthalmology resident (July 2013-June 2016)
40. Ethan Crider, Medical student (Jul 2014-Dec 2015)
41. Ajay Sharma PhD, Research Assistant Professor (Jul 2012-Jul 2015)
42. Brandie Morgan PhD, Postdoctoral fellow (Oct 2013-Jun 2015)
43. Evan Olson MD, Ophthalmology resident (July 2013-Jul 2015)
44. Jonathan Tovey, MD Ophthalmology resident (July 2012-Jul 2015)
45. Misha Brown, Undergrad (Aug 2013-Nov 2015) Initiative for Maximizing Student Diversity (IMSD)
46. Merryl Terry, M4 (Aug-Dec 2014)
47. Smolik, Trenton J., M4 (Jan 2015-Nov 2015)
48. Huiyi Chen MD, Ophthalmology resident (Aug 2012-May 2014)
49. Jessica Kitchell, Vet Med Student (Aug 2013-Dec 2015)

50. Melanie Kunkel, Vet Med Student (Aug 2013-Dec 2015)
51. Shray Kumar, High School EEE scholar (Nov 2013-Dec 2015)
52. Payal Khengar, Discovery fellow undergraduate MU (Feb 2014-Dec 2014)
53. Brianna Herriott, M1 (Dec 2014-Dec 2014)
54. Nishant R Sinha, High School Student (May 2013-Aug 2014)
55. Kevin Donnelly DVM, Veterinary Ophthalmology resident (May 2012-2014)
56. Audra N Stallard, Discovery fellow MU (May 2011-June 2014)
57. Anmol Sethi, High School EEE scholar (Dec 2013-Aug 2014)
58. Rachel Ann Waller, M3 student (Apr 2013-Nov 2013)
59. Vasu Malhotra, School Student from Florida (Nov 2013-Dec 2013)
60. Craig Eck, M4 student (Jan 2012-Dec 2012)
61. Saad Siddiqui, Undergrad (Aug 2013-Dec 2013)
62. Jennie M Cook, VM3 (Apr 2012-May 2013)
63. Valentina Moshnikova (Jun 2013-Dec 2013)
64. Jason Rodiers, MD Postdoctoral fellow (April 2011-May 2013)
65. Ashish Tandon, PhD Postdoctoral fellow (Nov 2009-May 2013)
66. Jerry KG Leung, graduate student Engineering School (May 2012-2013)
67. Ryan Koch, Discovery fellow (Aug 2012-Apr 2013)
68. Michael K Fink, VM3 (Apr 2011-Jul 2012)
69. Lucas T Lenci, M4 student (Feb 2012-Jun 2013)
70. Chaitasi Naik, Undergrad (Jan 2012-Jun 2013)
71. Michael Waggoner, DO, Ophthalmology resident (Jan 2010-Jun 2013)
72. Dustin McKnight, MD, Ophthalmology resident (Jan 2011-Jun 2013)
73. Ann Bosiack, DVM, Veterinary Medicine Ophthalmology resident (Jan 2010-Jun 2013)
74. Tyler Cebulko, Discovery Fellow (Jul, 2009-May 2012)
75. Madhuri Korampally, graduate student Engineering School (Mar 2010-May 2012)
76. Chetan Soni, MD, Ophthalmology resident (May 2008-June 2012)
77. Caroline Rieger, M1 LSU Medical School (Jun-July, 2012)
78. Yasaman Hemmat, Undergrad student (Jan 2009-Jan 2012)
79. Eric Hansen, Medical student, (June 2008- May 2011)
80. Rangan Gupta, PhD Postdoctoral fellow (Dec 2009-Nov 2011)
81. Jonathan Tovey, MD Postdoctoral fellow (July, 2009-May 2011)
82. David Phillips, Medical student, (June 2009-Dec 2011)
83. Paulo Canola, DVM, Veterinary Medicine fellow (Sept 2010-April 2011)
84. Elizabeth Killion, Medical student (May 2010-May 2011)
85. Benjamin Yarnall, Veterinary Medicine student (May 2010-May 2011)
86. Dylan Buss DVM, Veterinary Medicine Ophthalmology resident (Jan 2009-May 2011)
87. Geetha Davis, MD, Ophthalmology resident (Feb 2009-May 2010)
88. Pam DeSouza, MD, Ophthalmology resident (Feb 2009-May 2010)
89. Jason Newman, Medical student (June 2008-May 2010)
90. Vanessa Lopez, MD, Cornea Fellow (Oct 2009-June 2010)
91. Daniel Bettis, MD, Medical student (Mar 2009-Apr 2010)
92. James Fox, MD, Ophthalmology resident (May 2009-Jan 2010)
93. Runjhun Misra, Medical student (Dec 2008-Apr 2009)
94. Claire Cowden, Summer student (July-Aug 2009)
95. Beau Rieger, Summer student (June-Aug 2009)
96. Rodger Ellis Wilhite, Undergrad student (Jan 2009-June 2010)

97. Allison Janine Zanaboni, MU-undergrad student (Jan 2008-Feb 2009)
98. Chidananda Siddappa, PhD, Postdoctoral fellow (Aug 2008-Sept 2009)
99. Arka Ghosh, PhD graduate student/fellow (08/2008-09/2009)
100. Jeff Wongsakhaluang, M4, University of Chicago, (05/2008-06/2008)
101. Elliot Christopher, Undergrad, MU, (Apr 2007-Dec 2007)
102. Jessica Johnson, Undergrad, MU (02/2007-04/2008)
103. Sheela Raikar, M.D., M4, MU (06/2007-08/2007)
104. Dustin McKnight, Medical student, MU (June 2007-Apr 2010)
105. Maneesh Mehan, MD, Ophthalmology Resident, Mason Eye Institute, MU (Jan 2007-Jun 2008)
106. Manoj Tyagi, PhD Postdoctoral fellow, MU (Jan 2007-Sept 2007)
107. Shyam Chaurasia, PhD, Project Scientist Cole Eye Institute, Cleveland, Ohio (03/2006-11/2006).
108. Chikako Suto, MD, Research Fellow, Cole Eye Institute, Cleveland, Ohio (07/2006-06/2006).
109. Fabricio W. Medeiros, MD, Research Fellow, Cole Eye Institute, Cleveland, Ohio (07/2005-06/2006).
110. Katie Bollinger, MD, PhD, Resident, Cole Eye Institute, Cleveland, Ohio, (08/2005-04/2006).
111. Michael W. Stapleton, MD, Research Fellow, Cole Eye Institute, Cleveland, OH, (07/2005-05/2006).
112. Ajay Sharma, PhD, Research Fellow, Cole Eye Institute, Cleveland, Ohio, (05/2004-08/2005).
113. Marcello V. Netto, MD, Cornea Fellow, Cole Eye Institute, Cleveland, Ohio, (08/2003-05/2004).
114. Diana Penny, Research Technician, University of Washington, Seattle, (08/2002-06/2003).
115. Shanti Kodemala, Research Technician, University of Washington, Seattle, (09/2002-7/2003).
116. Laura Geggel, Summer Student, University of Washington, Seattle (06/2002-08/2002).
117. Marcello V. Netto, MD, Cornea Fellow, University of Washington, Seattle, (07/2002-08/2003).
118. Rosan Choi, MD, Resident Ophthalmology, University of Washington, Seattle (07/2002-06/2003).
119. Jong-Soo Lee, MD, University of Washington, Seattle (08/2001-07/2002).
120. Jong-Wook Hong, MD, Research Fellow, University of Washington, Seattle (09/2000-08/2002).
121. Renato Ambrosio, MD, Cornea Fellow, University of Washington, Seattle (09/2001-10/2002).
122. David Woods, MD, 2001, Medical Student, University of Washington, Seattle, (06/2001-03/2002).
123. Virender Srivastava, PhD graduate student (Title of thesis: Synthesis of Potential Anti-inflammatory Agents" RBS College, Agra University, India (04/1990-10/1993)
124. Raksh Pal Singh, PhD graduate student (Title of thesis: Search for Newer Possible Inflammatory Inhibitors, RBS College, Agra University, India (04/1990-10/1993)
125. More than 80 Masters and 600 undergrad students were taught Organic chemistry courses (not listed)

### **International, National and Institutional Awards to Students**

- 2020 Lynn M. Martin, DVM, PhD graduate student received the Qais Farjo Memorial Travel Award (\$750) to attend and present her research at the ARVO annual meeting, May 3-7, 2020 in Baltimore, MD. Title: "Modulation of autophagy-related genes in healthy, keratoconus and injured corneas."
- 2020 Alexandria Hofmann, BS research intern received the National Eye Institute, NIH Travel Award (\$750) to attend and present her research at the ARVO annual meeting, May 3-7, 2020 in Baltimore, MD. Title: "Effects of matrix-stiffness on human corneal stromal fibroblast differentiation."
- 2020 Sydney L. Green, Undergrad research student received the Knights Templar Eye Foundation Travel Award (\$750) to attend and present her research at the ARVO annual meeting, May 3-7, 2020 in Baltimore, MD. Title: "Smad3-/- mice show resistance for corneal fibrosis after ocular injury."
- 2020 Mikayla M. Fraunfelder, Undergrad research student received the Knights Templar Eye Foundation Travel Award (\$750) to attend and present her research at the ARVO annual meeting, May 3-7, 2020 in Baltimore, MD. Title: "Comparative analysis of generic and brand NSAIDS toxicity in human corneal stromal fibroblasts."

- 2020 Allison Fuchs, DVM, veterinary ophthalmology resident, received ACVO Vision for Animals Foundation grant (\$5,000) for the project entitled A novel multi-modal topical ophthalmic drop to treat corneal fibrosis. (Jan 15)
- 2020 Sabeeh Kamil, MBBS, research fellow, received travel award (\$750) from the NIH/NIAID (National Institute of Allergy and Infectious Diseases) to attend/present research finding at the trans-agency ocular counterACT meeting (Developing Medical countermeasures to treat acute and chronic effects of ocular chemical toxicity) from Feb 24-25, 2020 in Rockville, MD. Title: "Rescue of Limbal Stem Cell Deficiency in The Cornea by A Proprietary Eye Drop in Rabbits Exposed to The Sulphur Mustard Gas"
- 2019 Ratnakar Tripathi PhD, received the People's Choice Award (\$750) from the Truman VA Medical Research Foundation, Missouri at the VA Annual Research Week (Dec 13). Title: "Novel ophthalmic drops (TED) mitigate sulfur mustard-induced corneal damage."
- 2019 Allison Fuchs, DVM, veterinary ophthalmology resident, Phi-zeta pilot grant award (\$1,000) for the project entitle Tolerability and efficacy of TRAM-34 and ascorbic acid in prevention of corneal fibrosis in a rabbit model.
- 2019 Lynn Martin, DVM, PhD graduate student, Phi-zeta grant Award (\$1,000) for the project titled: "Investigating autophagy-related genes in the equine laminitis: A pilot."
- 2019 Praveen Balne, PhD, postdoctoral fellow, Phi-zeta grant Award (\$1,000) for the project entitle Hydrogen sulfide gas induce corneal inflammation via activation of NLR.
- 2019 Rayne Lim, PhD graduate student, received "2<sup>nd</sup> Best Paper Presentation Award" at the 42<sup>nd</sup> Annual CVM Research Day organized by the Phi Zeta Honor Society, Columbia MO (May 10). Title: Retinal microglial cell-derived S100A9 compromises endothelial cell integrity.
- 2019 Sally Heil, Biology Honor undergrad student, received "Overall Best Presentation Award" at the 42<sup>nd</sup> Annual CVM Research Day organized by the Phi Zeta Honor Society, Columbia MO (May 10). Title: "Promise and potential of Emodin phytochemical in corneal fibrosis management"
- 2019 Nishant Sinha, Biology Honor undergrad student, received "2<sup>nd</sup> Best Poster Presentation Award" at the 42<sup>nd</sup> Annual CVM Research Day organized by the Phi Zeta Honor Society, Columbia MO (May 10). Title: "DNA binding transcription factors modulate corneal wound healing"
- 2019 Lynn Martin, PhD graduate student, received John D. Bies International Travel Scholarship to present her poster at an annual ARVO Meeting in Vancouver, British Columbia, Canada (May 1). Title: "Autophagy regulates corneal wound healing."
- 2019 Nishant Sinha, Biology Honor undergrad student, received "Travel Awards" from Office of Undergraduate Research (UGR) to present his poster at an annual ARVO Meeting in Vancouver, British Columbia, Canada. Title: "Topical ophthalmic formulation to counteract sulfur mustard induced corneal damage" (Apr 29)
- 2019 Sally Heil, Biology Honor undergrad student, received "Travel Awards" from Office of Undergraduate Research (UGR) to present her poster at an annual ARVO Meeting in Vancouver, British Columbia, Canada. Title: "A phytochemical, Emodin, attenuates corneal stromal fibroblast differentiation and fibrosis" (Apr 26)
- 2019 Rayne Lim, PhD graduate student, received "John D. Bies International Travel Scholarship" to attend and present her research at an annual ARVO meeting in Vancouver (Apr 19). Title: "Role of DAMPs in the initiation of diabetic retinopathy in a novel ossabaw pig model of prediabetes."
- 2019 Helena Lam M4 student Received Knights Templar Eye Foundation Travel award from the Association for Research in Vision and Ophthalmology (ARVO; April 29-May 3), \$750; Title "KCa3.1 Ion Channel Inhibition Prevents Exuberant Corneal Wound Healing and Ameliorates TGFβ1-induced Corneal Fibrosis".
- 2018 Ratnakar Tripathi, PhD, postdoctoral fellow, received 3<sup>rd</sup> best poster award at the 41<sup>st</sup> Annual CVM Research Day organized by the Phi Zeta Honor Society, Columbia MO (May 25). Title: "Anti-fibrotic effects of decorin in the cornea are due to EGFR degradation via caveolar endocytosis."
- 2018 Hannah Gafen, DVM Student, received 2<sup>nd</sup> best poster award at the 41<sup>st</sup> Annual CVM Research Day by Phi Zeta Honor Society, Columbia MO (May 25). Title: "Is sex a biological variable in corneal wound healing?"

- 2018 Suneel Gupta, PhD. Received national Eye Institute Travel award from the Association for Research in Vision and Ophthalmology (ARVO; April 29-May 3), \$750; Title: "Acrolein exposure to eye causes corneal inflammation, fibrosis, and angiogenesis"
- 2018 Lindsey M. McDaniel MD. Received Knights Templar Eye Foundation Travel award from the Association for Research in Vision and Ophthalmology (ARVO; April 29-May 3), \$750; Title: "Characterization and Role of KCa3.1 Ion Channel in Corneal Wound Healing and Fibrosis"
- 2017 Todd Marlo DVM. Best basic science manuscript award at the 2017 American College of Veterinary Ophthalmologists Annual Meeting (Vet Ophthalmol. 2017 Jul 6. doi: 10.1111/vop.12485).
- 2017 Todd Marlo DVM, Veterinary Ophthalmology resident received Redhage Memorial Scholarship at the Phi Zeta annual research day (May 5)
- 2017 Michael Fink DVM graduate student Phi Zeta 1<sup>st</sup> place Best Research Award to (May 5). Title: "Fasudil for corneal fibrosis treatment"
- 2017 Suneel Gupta PhD, postdoctoral fellow, received MUPA Travel Award from MU graduate school to present his poster at the ARVO meeting in Baltimore, MD (April 30) Title: "Id Genes: key regulator of fibroblast transdifferentiation to myofibroblast in the cornea"
- 2017 Kaitlin Smith M3 student received People's Choice Award at the Missouri Life Science week (April 18). Title: "Can human xylosyltransferase-1 serve as a novel biomarker for corneal fibrosis?."
- 2017 Kaitlin Smith M2 student received outstanding poster award at the Missouri Life Science Week (April 14) Title: "Can human xylosyltransferase-1 serve as a novel biomarker for corneal fibrosis?"
- 2017 Michael Fink graduate student received Mizzou Advantage Travel Grant for presenting paper at the ARVO meeting in Baltimore (Mar 15). Title: "Precision nanomedicine for eliminating corneal fibrosis and restoring vision with HGF-BMP7 gene transfer"
- 2017 Michael Fink graduate student received 1<sup>st</sup> place award, University of Missouri Graduate Professional Council Research and Creative Activities Forum (Mar 11). Title: "Eliminating Corneal Blindness and Restoring Vision Through Precision Nanomedicine and Combination Gene Transfer"
- 2017 Govindaraj Anumanthan PhD research assistant professor received the Knights Templar Eye Foundation Travel Award from ARVO for presenting poster at annual meeting in Baltimore MD (Feb 24). \$750. Title: "Blockade of Kca3.1: A novel therapeutic target to treat TGFβ1 induced fibrosis associated with Glaucoma Filtration Surgery"
- 2017 Michael Fink DVM graduate student received the Knights Templar Eye Foundation Travel Award from ARVO for presenting poster at annual meeting in Baltimore MD (Feb 24). \$750. Title: "Precision nanomedicine for eliminating corneal fibrosis and restoring vision with HGF-BMP7 gene transfer"
- 2016 Todd Marlo DVM Veterinary Ophthalmology resident received Redhage Memorial Scholarship at the Phi Zeta annual research day (May 11) Title: "Smads modulation is a novel strategy for corneal fibrosis treatment"
- 2016 Jessica Kitchell VM3 student received Best poster presentation award at the Phi Zeta Research day (May 6). Title "Molecular Mechanism Mediating Corneal Fibrosis in Canines"
- 2016 Erica Ballard MD Resident received 2<sup>nd</sup> Place Best Paper Award at the 23<sup>rd</sup> Mason Eye Research Annual Research Day (June 10). Title: "A Novel Treatment Approach to Fuchs Endothelial Dystrophy"
- 2016 Rayne Lim PhD graduate student received 3<sup>rd</sup> Place Best Paper award at the Phi Zeta Research day (May 6). Title: "Decorin expression and role in diabetic retinopathy"
- 2016 Lori Gutzmann graduate student received People's Choice Award at the Missouri Life Science week (April 18) Title: "Ex Vivo Quantification of Transforming Growth Factor-β1 in Equine Laminitis"
- 2015 Evan Olson MD ophthalmology resident received 1<sup>st</sup> place Best Paper Award at the 22<sup>nd</sup> Mason Eye Institute Annual Research Day (May 29) Title: "Comfort eye drops and corneal wound healing"

- 2015 Michael Possin MD, ophthalmology resident received 2<sup>nd</sup> place Best Paper Award at the 22<sup>nd</sup> Mason Eye Research Day (May 29) Title: "Rho kinase (ROCK) Inhibitor in Corneal Wound Healing"
- 2015 Mike Fink DVM graduate student received Missouri Foundation for Medical Research Best Poster Award at an annual VA Research day (Sept 5) Title: "Dilute proparacaine: is it a good option for corneal wound healing and re-epithelialization following acute injury?"
- 2015 Suneel Gupta PhD, postdoctoral fellow received People's Choice Award at the Missouri Foundation for Medical Research at an annual VA Research day (Sept 5) Title: "A novel DELTA method for clinical grading of corneal neovascularization in a mouse model"
- 2015 Mike Fink PhD. Graduate student received First place award at the Phi Zeta Day in the Residents and Graduate Students session. Title: "Development of an *ex vivo* model of canine corneal fibrosis"
- 2015 Todd Marlo DVM, veterinary ophthalmology resident received an American College of Veterinary Ophthalmologists Vision for Animals Foundation grant. Title: "Development of an *ex vivo* model of equine corneal fibrosis" \$5000
- 2014 Kristina Gronkiewicz DVM, veterinary ophthalmology resident received an American College of Veterinary Ophthalmologists Vision for Animals Foundation grant for project titled "Ocular Safety and Efficacy of SAHA for the Treatment of Canine Corneal Fibrosis: An *In Vivo* Pilot Study" \$5000
- 2014 Kristina Gronkiewicz DVM, Veterinary Ophthalmology resident received Phi Zeta grant from the Phi Zeta Veterinary Honor Society Columbia, Missouri. Title: "Molecular mechanisms of SAHA in the inhibition of canine corneal fibrosis." \$750 direct cost
- 2013 Mike Fink DVM, PhD graduate student received and comparative medicine resident received Phi Zeta grant from the Phi Zeta Veterinary Honor Society Columbia, Missouri. Title: "Fetal microchimerism in corneal wound healing." \$750 direct cost
- 2014 Jonathan Tovey MD received Best Paper Award (2<sup>nd</sup> place) at 2014 Table Rock Regional Round-up competition organized by the Arkansas, Kansas, Missouri, and Oklahoma ophthalmologists in Ridgedale MO (Sept 19)
- 2014 Kevin Donnelley DVM received Best Basic Sciences Paper Award from the National Phi Zeta Society for his paper published in *Vet Ophthalmol.* 2013 May 30 doi: 10.1111/vop.12060
- 2014 Evan Olson MD received Best Paper Award (1<sup>st</sup> place) at the 21<sup>th</sup> Mason Eye Research Day School of Medicine MU Columbia (May 30)
- 2014 Lisa Leishmann MD received Best Paper Award (2<sup>nd</sup> place), at the 21<sup>th</sup> Mason Eye Research Day School of Medicine MU Columbia (May 30)
- 2014 Brandie Morgan PhD, postdoctoral fellow abstract selected for the "Newest and Most Innovative Research" award by the Association for Research in Vision and Ophthalmology (ARVO) and featured in "Hot Topics" (May 4-8; Abstract # 1913444)
- 2014 Vasu Malhotra received 1<sup>st</sup> place award in Medicine and Health category at the Hernando County Regional Intel Science and Engineering Fair in Florida for his research poster titled "The effect of Curcuma Longa with Cisplatin on a cervical cancer cell line (Feb 5)
- 2014 Vasu Malhotra research poster won "Overall Best in Show" award at the Hernando County Regional Intel Science and Engineering Fair in Florida (Feb 5)
- 2013 Kristina Gronkiewicz DVM, received Phi Zeta Society grant for the project title "Molecular mechanisms of SAHA in the inhibition of canine corneal fibrosis".
- 2013 Michael Fink (VM4) received Morris Foundation grant for the project titled "Pirfenidone for corneal scar and wound healing"
- 2013 Best Basic Science Poster Presentation Award (3<sup>rd</sup> place) to Rachael Waller M3 for poster presented at the University of Missouri School of Medicine Health Research Day (Nov 14). Title: "Cellular and molecular toxicity of hybrid gold nanoparticles to human corneal fibroblasts"
- 2013 Best Overall Poster Award at the Phi Zeta Day (May 3, Mike Fink, VM3). Title: "Pirfenidone: A Potential Topical Agent for the Treatment of Equine Corneal Scarring"
- 2013 Dr. Kevin Donnelly (Veterinary Ophthalmology Resident) received Phi Zeta Award at the 36<sup>th</sup> Annual College of Veterinary Medicine Phi Zeta Research Day for his research findings on PEI-decorin gene therapy for corneal fibrosis



- 2013 Best Basic Science 2013 Manuscript Award by the American College of Veterinary Ophthalmologists (ACVO) to Ann Bosiack DVM, Veterinary Ophthalmology resident for her article published in *Vet Ophthalmology*. Title: "Efficacy and safety of suberoylanilide hydroxamic acid (Vorinostat) in the treatment of canine corneal fibrosis" *Vet Ophthalmol* 2012;15:307-14.
- 2013 Cindy Wheeler Memorial award to Ann Bosiack DVM, Veterinary Ophthalmology resident, for the best 2013 review article published in the *J Vet Sci Technol* 2012 S8:001 titled "Corneal Gene Therapy in Veterinary Medicine: A Review"
- 2013 Best Paper Award (1<sup>st</sup> place 20<sup>th</sup> Mason Eye Research Day (Huiyi Chen, Jun 7-8)
- 2013 Best Paper Award (2<sup>nd</sup> place), 20<sup>th</sup> Mason Eye Research Day (Michael Waggoner, Jun 7-8)
- 2013 Redhage Residency Award at 36<sup>th</sup> Annual Phi Zeta Research Day (Kevin Donnlley; May 3)
- 2013 Best Poster Award at 36<sup>th</sup> Annual Phi Zeta Research Day (Michael Fink; May 3)
- 2012 Best Basic-Science Publication Award by the ACVO for paper titled "Canine corneal fibroblast and myofibroblast transduction with AAV5" *Vet Ophthalmol* 2012;15:p291-98. (Ann Bosiack DVM)
- 2012 Ann Bosiack's paper figure was selected for cover page in *Vet Ophthalmol* journal 2012 Sept issue. Title of paper: Canine corneal fibroblast and myofibroblast transduction with AAV5.
- 2102 Lucas Lenci, M4 received "First Place Basic Science Award" at MU Health Research Day for his poster titled "Nanoparticle-mediated anti-fibrotic gene therapy in the human cornea *in vitro*"
- 2012 Kevin Donnelley, DVM, Veterinary Ophthalmology resident received Phi Zeta Society grant for project title "PEI-decorin nanoparticle based gene therapy for canine corneal blindness"
- 2012 Mike Fink, Veterinary Medical student Phi Zeta Society grant for project title "A novel topical agent for the treatment of equine corneal scarring"
- 2012 Jason Rodier, MD, postdoctoral fellow, Young Investigator Award from the Missouri Foundation for Medical Research at Harry S Truman Veterans Memorial Hospital (HSTVMH) Research Week (April 26; Poster #6, Mentor: Rajiv Mohan). Title: "Fuchs dystrophy: in vitro model development for studying disease pathology"
- 2012 Ashish Tandon, PhD, postdoctoral fellow, People's Choice Best Poster Award from the Missouri Foundation for Medical Research Columbia Missouri at the HSTVMH Research day (April 26; Poster #6, Mentor: Rajiv Mohan). Title: "Peritoneal fibrosis inhibition by decorin gene therapy given via hybrid nanoparticles or adeno-associated virus"
- 2012 Jason Rodier MD, Postdoctoral fellow, abstract 3294 selected for the "Newest and Most Innovative Research Award" by the Association for Research in Vision and Ophthalmology (ARVO) appeared in "Hot Topics and Emerging Trands"
- 2012 Audra Stallard, undergraduate student, Outstanding Discovery Fellow Award (Mentor: Rajiv Mohan) from the Honors College of University of Missouri-Columbia. Title: "Corneal gene therapy"
- 2012 Jason Rodier MD, Postdoctoral fellow, received National Eye Institute NIH Travel Award to present his research at annual ARVO meeting (May-6-10) Ft. Lauderdale, Florida. Title: "Polyethyleneimine (PEI) nanoparticle-mediated soluble TGF $\beta$ RII gene transfer prevents corneal fibrosis"
- 2011 Jason Rodier MD, Postdoctoral fellow, Missouri Foundation Medical Research Young Investigator Award (Mentor: Rajiv Mohan). Title: "Gene therapy for Fuchs dystrophy using AAV5 and gold nanoparticles"
- 2011 Nathan Hesemann MD, 3<sup>rd</sup> year Ophthalmology resident, received 1<sup>st</sup> place Best Paper Award on June 4 at 18<sup>th</sup> annual the Mason Eye Institute Alumni and Research Day, Columbia, Missouri. Title: "SMAD7: An attractive gene therapy target for corneal scarring"
- 2011 Jonathan Tovey, MD, postdoctoral, received Missouri Foundation for Medical Research Young Investigator Award on May 4 at an annual VA Research week of the Harry S. Truman VA Hospital, Columbia, MO. Title: "A new, safe, and effective treatment for corneal blindness"
- 2011 Eric Hansen, 4<sup>th</sup> year medical student, received National Eye Institute Travel Award from NIH to present corneal nanomedicine research project findings at annual ARVO meeting (Apr 30-May-5) Ft. Lauderdale, Florida. Title: "Nitrogen to Phosphate Ratio In Nanoparticle-plasmid transfection reagent modulates gene delivery and toxicity in the cornea"

- 2011 Benjamin Yarnall, professional veterinary medicine student, received 1<sup>st</sup> place award at the 34<sup>th</sup> Annual Phi Zeta Research Day for his project completed under my supervision. Title: "Mitomycin C: A promising agent for the treatment of canine corneal scarring"
- 2011 Ann Bosiack, DVM, 1<sup>st</sup> year veterinary ophthalmology resident, received 2<sup>nd</sup> place award at the 34<sup>th</sup> Annual Phi Zeta Research Day for his project completed under my supervision. Title: "Gene therapy in the canine cornea"
- 2010 Ajay Sharma Ph.D., postdoctoral fellow received Best Poster Award Category-I Basic Science (3<sup>rd</sup> place) for research poster showing gene transfer with gold nanoparticles in the cornea on Nov 11, 2010 at the Research Day, School of Medicine, University of Missouri-Columbia, MO. Title: "Nitrogen to phosphate ratio in GNP2-PEI affects transgene delivery in the human cornea *in vitro*"
- 2010 Dylan Buss DVM, 3<sup>rd</sup> year Veterinary Ophthalmology resident, received Redhage Residency Award from the MU Veterinary Medicine Teaching Hospital
- 2010 Ann Bosiack DVM, 1<sup>st</sup> year Veterinary Ophthalmology resident, received American College of Veterinary Ophthalmologists Vision for Animals Foundation grant. Project title: "Gene therapy in the canine cornea: efficacy and safety of a novel therapeutic strategy"
- 2010 Pam D'Souza MD, 2<sup>nd</sup> year Ophthalmology resident, received Best Scientific Paper Award (1<sup>st</sup> place) on May 22 at 17<sup>th</sup> annual Mason Eye Institute Research Day, Columbia, MO. Title: "Topical NSAIDS effect on corneal fibroblasts in vitro Topical NSAIDS effect on corneal fibroblasts in vitro"
- 2010 Nathan Hesemann MD, 2<sup>nd</sup> year Ophthalmology resident, received Best Scientific Paper Award (2<sup>nd</sup> place) on May 22 at 17<sup>th</sup> annual the Mason Eye Institute Research Day, Columbia, Missouri Title: "Transforming growth factor beta and corneal wound healing"
- 2010 Chetan Soni MD, 1<sup>st</sup> Ophthalmology resident received Research Grant from American Society of Cataract and Refractive Surgery Foundation for continued working on nanoparticle-mediated gene transfer project. Title: "Nanotechnology-mediated gene delivery into corneal endothelium to treat Fuch's dystrophy." Only 8 such awards are given worldwide each year
- 2010 Jonathan Tovey, MD, postdoctoral fellow, received "Newest and Most Innovative Research Award" by the ARVO and appeared in "Hot Topics and Emerging Trands" (Abstract #434; May 2)
- 2010 Ajay Sharma, Ph. D, postdoctoral, received Missouri Foundation for Medical Research Young Investigator Award on April 29 at an annual VA Research week of the Harry S. Truman VA Hospital, Columbia, MO. Title: "Eyeing ACE inhibitors: modulation of corneal angiogenesis by Enalapril"
- 2010 Jonathan Tovey, MD, postdoctoral fellow, received ARVO Travel Award from ARVO to present research corneal nanotechnology research findings at annual meeting (May 2-6) Ft. Lauderdale, Florida Title: "Does gold nanoparticle-mediated non-viral gene delivery in the cornea depend on disease condition?"
- 2010 Vanessa Lopez, Cornea fellow received National Eye Institute Travel Award from NIH to present corneal scarring research project findings at annual ARVO meeting (May 2-6) Ft. Lauderdale, Florida Title: "Vorinostat effectively reduces TGF $\beta$ -mediated myofibroblast formation in the cornea"
- 2010 David Phillips, Yr-2 medical student received National Eye Institute Travel Award from NIH to present cornea gene transfer research findings at annual ARVO meeting (May 2-6) Ft. Lauderdale, Florida Title: "Gold nanoparticles: a potent vector for non-viral corneal endothelial gene therapy"
- 2010 Ajay Sharma, Ph.D., postdoctoral, received MU Postdoctoral Association Travel Award to present AAV-driven corneal endothelial gene therapy research findings at ARVO annual meeting (May 2-6) Ft. Lauderdale, Florida Title: "Remarkably high and selective transgene delivery into mouse corneal endothelium in vivo with tyrosine-mutant AAV8"
- 2009 David Phillips, Yr-2 medical student received Best Poster Award Category-I Basic Science (1<sup>st</sup> place) for research poster on Nov 12 at the MU School of Medicine Health Research Day, University of Missouri-Columbia, MO. Title: "Gold nanoparticles (GNP) and adeno-associated virus (AAV) mediated gene delivery in human corneal endothelial cells"

- 2009 Jonathan Tovey, MD, postdoctoral fellow received Best Poster Award Category-II Basic Science (2<sup>nd</sup> place) for research poster showing AAV-driven corneal endothelial gene therapy findings on Nov 12, 2009 at the Research Day, School of Medicine, University of Missouri-Columbia, MO. Title: "Next generation tyrosine-mutant AAV8 shows high mouse corneal endothelial transduction *in vivo*"
- 2009 Daniel Bettis, MD, Medical student Yr-4 received Best Poster Award Category-I Basic Science (3<sup>rd</sup> place) for research poster showing findings of corneal angiogenesis research on Nov 12, 2009 at the Research Day, School of Medicine, University of Missouri-Columbia, Missouri. Title: "Angiotensin converting enzyme modulates corneal angiogenesis *in vivo*"
- 2009 Dylan Buss, DVM, received MU Postdoctoral Association Travel Award to present research finding of AAV-driven corneal gene therapy for horse eyes at the American College of Veterinary Ophthalmologists Annual meeting in Chicago Nov 4-7, 2009). Title: "Gene delivery in the equine cornea: a novel therapeutic strategy"
- 2009 Dylan Buss, DVM, received American College of Veterinary Ophthalmologists Vision for Animals Foundation Research Grant for his project he is working in my lab under my supervision. Title: "Mitomycin C a potent inhibitor of fibrosis in the equine cornea." Role: Co-I/Supervisor (PI Dr. Dylan Buss, fellow in lab); \$5000
- 2009 Ajay Sharma, Ph. D., received Santen Travel grant from ARVO for presenting poster showing potential of nanotechnology for corneal gene therapy on May 04, 2009, Ft. Lauderdale, Florida. Title: "Gold nanoparticles as potential vectors for gene transfer in the cornea"
- 2009 Dylan Buss, DVM, received Best poster award (2<sup>nd</sup> place) at the MU College of Veterinary Medicine Phi Zeta Research Day University of Missouri-Columbia, MO. Title: "AAV-mediated equine corneal gene therapy"
- 2009 Dylan Buss, DVM, received 32<sup>nd</sup> Phi Zeta Society Grant. Title: "Equine corneal fibroblasts: A novel in-vitro model for the investigation of corneal fibrosis secondary to ulceration." Role: Co-I/Mentor (PI Dr. Dylan Buss, fellow in lab); \$750
- 2009 Dylan Buss, DVM, received Clinician Scientist Grant Award from the MU College of Veterinary Medicine, University of Missouri-Columbia. Title: "Equine corneal fibroblasts: A novel in-vitro model for the investigation of corneal fibrosis secondary to ulceration"; \$8,100
- 2008 Maneesh Mehan, MD, received Best Research Award (2<sup>nd</sup> place) for the research data collected in my lab under my guidance regarding developing new treatments for corneal scarring on June 9 at 15<sup>th</sup> Annual Mason Eye Institute Resident Research Day, University of Missouri-Columbia. Title: "Trichostatin A inhibits myofibroblast formation and haze in the cornea"
- 2007 Maneesh Mehan, MD, received Best Research Award (1<sup>st</sup> place) for the research data collected in my lab under my guidance showing potential for treating corneal scarring on June 7 at Annual Mason Eye Institute Resident Research Day, University of Missouri-Columbia. Title: "Decorin gene transfer inhibits haze in human cornea *in vitro*"
- 2005 Fabricio W. Medeiros, American Academy of Ophthalmology Best Show Award (colleague)
- 2004 Marcello Netto, American Academy of Ophthalmology Best Show Award (colleague)
- 2003 Marcello Netto, American Academy of Ophthalmology Best Show Award (colleague)
- 2000 Mike Stapleton, American Academy of Ophthalmology Best Show Award (colleague)
- 1999 Renato Ambrosiso, American Academy of Ophthalmology Best Show Award (colleague)