

Ajay Sharma

Assistant Professor of Pharmacology
Chapman University School of Pharmacy
Chapman University,
Irvine, CA
Email: sharma@chapman.edu

Education and Postdoctoral Training

2008-2011	Postdoctoral Fellow Mason Eye Institute, School of Medicine, University of Missouri, Columbia, MO
2004-2005	Postdoctoral Fellow Cole Eye Institute, Cleveland Clinic, Cleveland, OH
2002-2004	Postdoctoral Fellow, School of Medicine, University of Washington, Seattle, WA
1997-2002	Ph.D. Department of Pharmaceutical Sciences and Drug Research, Punjabi University, Patiala, India
1992-1995	Master's in Pharmacy (Pharmacology) University Institute of Pharmaceutical Science, Panjab University, Chandigarh, India
1988-1992	Bachelor's in Pharmacy University Institute of Pharmaceutical Science, Panjab University, Chandigarh, India

Appointments and Positions

2015-Present	Assistant Professor (Tenure-track) Chapman University School of Pharmacy, Chapman University, Irvine, CA
2013-2015	Research Assistant Professor Division of Ophthalmology, Department of Veterinary Medicine & Surgery, College of Veterinary Medicine, University of Missouri, Columbia, MO
2011-2013	Research Assistant Professor, Mason Eye Institute, School of Medicine, University of Missouri, Columbia, MO
2005-2007	Principal Scientist, Department of Pharmacology and Toxicology, Zydus Research Center, Cadila Healthcare, Ahmedabad, India
1995-2002	Lecturer in Pharmacology, Department of Pharmaceutical Sciences and Drug Research, Punjabi University, Patiala, India

Honors and Awards

2010	Excellence Award, Health Sciences Research Day School of Medicine, University of Missouri, Columbia, MO
2010	Young Investigator Award, Missouri Foundation for Medical Research, Harry S Truman VA Hospital, Columbia, MO

2010	University of Missouri Postdoctoral Travel Grant Award
2009	Santen Pharmaceuticals Travel Award ARVO (Association for Research in Vision and Ophthalmology)
2005	Best publication Award, Indian Drug Manufacturer's Association
2001	Uvnas Award, Indian Pharmacological Society
2001	P. P. Suryakumari Award, Indian Pharmacological Society

Teaching

Courses taught at Chapman University School of Pharmacy, Chapman University, Irvine, CA:

2016-Present Fall every year: Endocrine diseases: 4 credits (56 contact hours) course taught to Pharm D students (class size ≈90)
Role: Course co-coordinator and responsible for teaching physiology of endocrine system, the pathophysiology of endocrine disorders and medicinal chemistry, pharmacology and pharmacokinetics of drugs used in their treatment

2016-Present Fall every year: Pharmacogenomics: 2 credit (28 contact hours) course taught to Pharm D students (class size ≈90)
Role: Course co-coordinator and responsible for teaching how genetic polymorphism in drug-metabolizing enzymes and variations in pharmacodynamic target proteins of patients can affect their individual therapeutic response and adverse reactions to drugs.

2015-Present Spring every year: Ocular diseases: 1 credit course (14 contact hours) taught to Pharm D students (class size ≈30)
Role: This is an elective course that I offer. I am the course coordinator and responsible for teaching pathophysiology and pharmacological basis of treating ocular diseases.

2015-Present Fall every year: Biologicals 3 lectures (2 hours each taught to MSPS students (class size 5-10)

Courses taught at Department of Pharmaceutical Sciences and Drug Research, Patiala, India:

1995-2002 (Every year) Pharmacology of drugs affecting central nervous system taught to bachelor's in pharmacy 2nd year students (20 contact hours Class size 30)

1995-2002 (Every year) Pharmacology of hormones and drugs affecting endocrine system taught to bachelor's in pharmacy 3rd year students (14 contact hours Class size 30)

1995-2002 (Every year) Pharmacology of antimicrobials taught to bachelor's in pharmacy 4th year students (24 contact hours Class size 30)

1995-2002(Every year) Pharmacometrics taught to master's in pharmacy 1st year students (24 contact hours Class size 10)

I was responsible for preparing the syllabi and development of teaching material for these courses. My teaching style includes the use of case studies, active learning strategies and multimedia. I use Panopto, glass-door studio recording and pre-class reading material to flip my classroom.

4. Ross C, Syed B, *Pak J*, Jhanji V, Yamaki J, **Sharma A**. Stability Evaluation of Extemporaneously Compounded Vancomycin Ophthalmic Drops: Effect of Solvents and Storage Conditions. *Pharmaceutics* 2021; 13: 289. (IF 4.42; Q1 Pharmacology & Pharmacy)
5. *Alfuraih S*, Barbarino A, Ross C, *Shamloo K*, Jhanji V, Miao Z, **Sharma A**. Effect of high glucose on ocular surface epithelial cell barrier and tight junction proteins. *Invest Ophthalmol Vis Sci.* 2020; 61: 3. (IF 3.47; Q1 Ophthalmology)
6. *Shamloo K*, Barbarino A, *Alfuraih S*, **Sharma A**. Graft Versus Host Disease-Associated Dry Eye: Role of Ocular Surface Mucins and the Effect of Rebamipide, a Mucin Secretagogue. *Invest Ophthalmol Vis Sci.* 2019; 60: 4511-9. (IF 3.47; Q1 Ophthalmology)
7. *Taniguchi J*, **Sharma A**. Fluorometholone modulates gene expression of ocular surface mucins” that I submitted to *Acta Ophthalmologica* 2019; 97: e1082–e1088. (IF 3.36; Q1 Ophthalmology)
8. *Dea L*, Lewis J, **Sharma A**. The Pharmacist’s Role in Managing Microbial Keratitis. *U.S. Pharmacist* July 2018: 27-30.
9. Nabiee R, Dubois B, Green L, **Sharma A**, Wong SF, Montazeri Aliabadi H. In vitro and ex-vivo evaluation of topical formulations designed to minimize transdermal absorption of Vitamin K1. *PLoS One.* 2018; 13: e0204531. (IF 2.74; Q2 Multidisciplinary)
10. **Sharma A**, *Taniguchi J*. Emerging strategies for antimicrobial drug delivery to the ocular surface: Implications for keratitis. *Ocul Surf.* 2017;15: 670-9. (IF 12.34; Q1 Ophthalmology)
11. Anumanthan G, **Sharma A** (equal first author), Waggoner M, Hamm CW, Gupta S, Hesemann NP, Mohan RR. Efficacy and Safety Comparison Between SAHA and Mitomycin C in Reducing the Risk of Corneal Haze After PRK Treatment In Vivo. *Journal of Refractive Surgery* 2017; 33 :834-9. (IF 2.71; Q1 Ophthalmology)
12. **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: 3381-9. (IF 3.47; Q1 Ophthalmology)

Scholarly work prior to joining Chapman University

13. 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. (IF 1.96; Q3 Pharmacology & Pharmacy)
14. 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. (IF 3.01; Q1 Ophthalmology)
15. Gupta S, Fink MK, Ghosh A, Tripathi R, Sinha PR, **Sharma A**, Hesemann NP, Chaurasia SS, Giuliano EA, Mohan RR. Novel Combination BMP7 and HGF Gene Therapy Instigates Selective Myofibroblast Apoptosis and Reduces Corneal Haze In Vivo. *Invest Ophthalmol Vis Sci.* 2018; 59: 1045-57. (IF 3.47; Q1 Ophthalmology)
16. Marlo TL, Giuliano EA, Tripathi R, **Sharma A**, Mohan RR. Altering equine corneal fibroblast differentiation through Smad gene transfer. *Vet Ophthalmol.* 2018;21: 132-9. (IF 1.10; Q2 Veterinary Sciences)
17. 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. (IF 2.74; Q2 Multidisciplinary Sciences)
18. Marlo TL, Giuliano EA, **Sharma A**, Mohan RR. Development of a novel ex vivo equine corneal model. *Vet Ophthalmol.* 2017; 20: 288-93. (IF 1.10; Q2 Veterinary Sciences)
19. 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; 20: 123-30. (IF 1.10; Q2 Veterinary Sciences)

20. Gronkiewicz KM, Giuliano EA, **Sharma A**, Mohan RR. Molecular mechanisms of suberoylanilide hydroxamic acid in the inhibition of TGF- β 1-mediated canine corneal fibrosis. *Vet Ophthalmol*. 2016; 19: 480-7. (IF 1.10; Q2 Veterinary Sciences)
21. Gronkiewicz KM, Giuliano EA, Kuroki K, Bunyak F, **Sharma A**, Teixeira LB, Hamm CW, Mohan RR. Development of a novel in vivo corneal fibrosis model in the dog. *Exp Eye Res*. 2016; 143: 75-88. (IF 3.01; Q1 Ophthalmology)
22. Mohan RR, Morgan BR, Anumanthan G, **Sharma A**, Chaurasia SS, Rieger FG. Characterization of Inhibitor of differentiation (Id) proteins in human cornea. *Exp Eye Res*. 2016; 146: 145-53. (IF 3.01; Q1 Ophthalmology)
23. **Sharma A**, Sinha NR, Siddiqui S, Mohan RR. Role of 5'TG3'-interacting factors (TGIFs) in Vorinostat (HDAC inhibitor)-mediated Corneal Fibrosis Inhibition. *Mol Vis*. 2015; 21: 974-84. (IF 2.20; Q2 Ophthalmology)
24. Donnelly KS, Giuliano EA, **Sharma A**, Mohan RR. Suberoylanilide hydroxamic acid (vorinostat): its role on equine corneal fibrosis and matrix metalloproteinase activity. *Vet Ophthalmol*. 2014; 17 Suppl 1:61-8. (IF 1.10; Q2 Veterinary Sciences)
25. Donnelly KS, Giuliano EA, **Sharma A**, Tandon A, Rodier JT, Mohan RR. Decorin-PEI nanoconstruct attenuates equine corneal fibroblast differentiation. *Vet Ophthalmol* 2014; 17: 162-9. (IF 1.10; Q2 Veterinary Sciences)
26. Mohan RR, Rodier JT, **Sharma A**. Corneal gene therapy: basic science and translational perspective. *Ocul Surf* 2013; 11: 150-64. (IF 12.34; Q1 Ophthalmology)
27. Tandon A, **Sharma A**, Rodier JT, Klibanov AM, Rieger FG, Mohan RR. BMP7 gene transfer via gold nanoparticles into stroma inhibits corneal fibrosis in vivo. *PLoS One* 2013; 8: e66434. (IF 2.74; Q2 Multidisciplinary Sciences)
28. **Sharma A**, Rodier JT, Tandon A, Klibanov AM, Mohan RR. Polyethyleneimine nanoparticles-mediated soluble transforming growth factor- β type II receptor gene therapy: An efficient approach to attenuate corneal fibrosis. *Mol Vis* 2012; 18: 2598-607. (IF 2.20; Q2 Ophthalmology)
29. Tandon A, Tovey JCK, Waggoner MR, **Sharma A**, Cowden JW, Gibson DJ, Liu Y, Schultz GS, Mohan RR. Vorinostat: A potent agent to treat laser-induced corneal haze. *J Refract Surg* 2012; 28: 285-90. (IF 2.71; Q2 Ophthalmology)
30. Mohan RR, Tovey JC, **Sharma A**, Tandon A. Gene therapy in the Cornea: 2005-present. *Prog Retin Eye Res* 2012; 31: 43-64. (IF 14.86; Q1 Ophthalmology)
31. Mohan RR, Tovey JC, **Sharma A**, Schultz GS, Cowden JW, Tandon A. Targeted decorin gene therapy delivered with adeno-associated virus effectively retards corneal neovascularization in vivo. *PLoS One* 2011; 6: e26432. (IF 2.74; Q2 Multidisciplinary Sciences)
32. **Sharma A**, Tandon A, Tovey JC, Gupta R, Robertson JD, Fortune JA, Klibanov AM, Cowden JW, Rieger FG, Mohan RR. Polyethylenimine-conjugated gold nanoparticles: Gene transfer potential and low toxicity in the cornea. *Nanomedicine* 2011; 7: 505-13. (IF 4.30; Q1 Biotechnology and Applied Microbiology)
33. Mohan RR, Tandon A, **Sharma A**, Cowden JW, Tovey JC. Significant inhibition of corneal scarring in vivo with tissue selective, targeted AAV5 decorin gene therapy. *Invest Ophthalmol Vis Sci* 2011; 52: 4833-41. (IF 3.47; Q1 Ophthalmology)
34. Mohan RR, Sinha S, Tandon A, Gupta R, Tovey JC, **Sharma A**. Efficacious and safe tissue-selective controlled gene therapy approaches for the cornea. *PLoS One* 2011; 6: e18771. (IF 2.74; Q2 Multidisciplinary Sciences)
35. Mohan RR, Tovey JC, Gupta R, **Sharma A**, Tandon A. Decorin biology, expression, function and therapy in the cornea. *Curr Mol Med* 2011; 11: 110-28. (IF 1.60; Q1 Medicine, Research and Experimental)

36. Mohan RR, **Sharma A**, Cebulko TC, Tandon A. Vector delivery technique affects gene transfer in the cornea in vivo. *Mol Vis* 2010; 16: 2494-501. (IF 2.20; Q2 Ophthalmology)
37. **Sharma A**, Tovey JC, Ghosh A, Mohan RR. AAV serotype influences gene transfer in corneal stroma in vivo. *Exp Eye Res* 2010; 91: 440-8. (IF 3.01; Q1 Ophthalmology)
38. **Sharma A**, Bettis DI, Cowden JW, Mohan RR. Localization of angiotensin converting enzyme in rabbit cornea and its role in controlling corneal angiogenesis in vivo. *Mol Vis* 2010; 16: 720-8. (IF 2.20; Q2 Ophthalmology)
39. Tandon A, Tovey JC, **Sharma A**, Gupta R, Mohan RR. Role of transforming growth factor Beta in corneal function, biology and pathology. *Curr Mol Med* 2010; 10: 565-78. (IF 1.60; Q1 Medicine, Research and Experimental)
40. **Sharma A**, Ghosh A, Hansen ET, Newman JM, Mohan RR. Transduction efficiency of AAV 2/6, 2/8 and 2/9 vectors for delivering genes in human corneal fibroblasts. *Brain Res Bull* 2010; 81: 273-8. (IF 3.37; Q3 Neurosciences)
41. Buss DG, Giuliano E, **Sharma A**, Mohan RR. Isolation and cultivation of equine keratocytes, fibroblasts and myofibroblasts. *Vet Ophthalmol* 2010; 13: 37-42. (IF 1.10; Q2 Veterinary Sciences)
42. Buss DG, Giuliano E, **Sharma A**, Mohan RR. Gene delivery in the equine cornea: a novel therapeutic strategy. *Vet Ophthalmol* 2010; 13: 301-6. (IF 1.10; Q2 Veterinary Sciences)
43. Buss DG, **Sharma A**, Giuliano EA, Mohan RR. Efficacy and safety of mitomycin C as an agent to treat corneal scarring in horses using an in vitro model. *Vet Ophthalmol* 2010; 13: 211-8. (IF 1.10; Q2 Veterinary Sciences)
44. **Sharma A**, Meehan M, Sinha S, Coden JW, Mohan RR. Trichostatin A inhibits corneal haze in vitro and in vivo. *Invest Ophthalmol Vis Sci* 2009; 50: 2695-701. (IF 3.47; Q1 Ophthalmology)
45. Soni H, **Sharma A** (equal first author), Bhatt S, Jain MR, Patel PR. Antithrombotic effects due to pharmacological modulation of thrombin-activatable fibrinolysis inhibitor in rats. *Pharmacology* 2008; 82: 304-9. (IF 1.63; Q3 Pharmacology and Pharmacy)
46. Vij N, **Sharma A**, Thakkar M, Sinha S, Mohan RR. PDGF-driven proliferation, migration, and IL8 chemokine secretion in human corneal fibroblasts involve JAK2-STAT3 signaling pathway. *Mol Vis* 2008; 14: 1020-7. (IF 2.20; Q2 Ophthalmology)
47. Jain MR, Shetty S, Chakrabarti G, Pandya V, **Sharma A**, Parmar B, Srivastava S, Raviya M, Soni H, Patel PR. In vitro PAI-1 inhibitory activity of oxalamide derivatives. *Eur J Med Chem* 2008; 43: 880-4. (IF 5.57; Q2 Medicinal Chemistry)
48. Netto MV, Mohan RR, Sinha S, **Sharma A**, Dupps W Jr, Wilson SE. Stromal haze, myofibroblasts, and surface irregularity after PRK. *Exp Eye Res* 2006; 82: 788-97. (IF 3.01; Q1 Ophthalmology)
49. Netto MV, Mohan RR, Sinha S, **Sharma A**, Gupta PC, Wilson SE. Effect of prophylactic and therapeutic mitomycin C on corneal apoptosis, cellular proliferation, haze, and long-term keratocyte density in rabbits. *J Refract Surg* 2006; 22: 562-74. (IF 2.71; Q2 Ophthalmology)
50. Mohan RR, **Sharma A**, Netto MV, Sinha S, Wilson SE. Gene therapy in the cornea. *Prog Retin Eye Res* 2005; 24: 537-59. (IF 14.86; Q1 Ophthalmology)
51. **Sharma A**, Prakash P, Singh M. Autoimmune perspective of insulin-dependent diabetes mellitus: cytokines as therapeutic targets. *Drug Future* 2003; 28: 31-42. (IF 0.07; Q4 Pharmacology and Pharmacy)
52. Gupta R, Singh M, Sharma A. Neuroprotective effect of antioxidants on ischaemia and reperfusion-induced cerebral injury. *Pharmacol Res* 2003; 48: 209-15. (IF 5.89; Q3 Pharmacology and Pharmacy)
53. Saraf MK, Kishore K, Thomas KM, **Sharma A**, Singh M. Role of platelet activating factor in triazolobenzodiazepines-induced retrograde amnesia. *Behav Brain Res* 2003; 142: 31-40. (IF 2.98; Q2 Neurosciences)

54. Sharma R, Singh M, **Sharma A**. Polymerase chain reaction: An emerging tool for research in Pharmacology. *Ind J Pharmacol* 2002; 34: 229-36.
55. **Sharma A**. Frontiers in cardiovascular health. *Drug News & Perspectives* 2001; 14: 500-07.
56. **Sharma A**, Singh M. Protein kinase C activation and cardioprotective effect of preconditioning with oxidative stress in isolated rat heart. *Mol Cell Biochem* 2001; 219: 1-6. (IF 2.79; Q3 Biochemistry and molecular biology)
57. **Sharma A**. Anorexia Nervosa and Bulimia Nervosa: An appraisal. *Drug Today* 2001; 37: 229-36. (IF 1.5; Q4 Pharmacology and Pharmacy)
58. **Sharma A**, Singh M. Possible mechanism of cardioprotective effect of angiotensin preconditioning in isolated rat heart. *Eur J Pharmacol* 2000; 406: 85-92. (IF 3.26; Q1 Pharmacology and Pharmacy)
59. **Sharma A**, Singh M. Effect of ethylisopropyl amiloride, a Na⁺-H⁺ exchange inhibitor, on cardioprotective effect of ischaemic and angiotensin preconditioning. *Mol Cell Biochem* 2000; 214: 31-8. (IF 2.79; Q3 Biochemistry and Molecular Biology)
60. **Sharma A**, Singh M. Na⁺-H⁺ exchanger: An emerging therapeutic target in cardiovascular disorders. *Drug Today* 2000; 36: 793-802. (IF 1.5; Q4 Pharmacology and Pharmacy)
61. **Sharma A**, Singh M. Possible mechanism of cardioprotective effect of ischaemic preconditioning in isolated rat heart. *Pharmacol Res* 2000; 41: 635-40. (IF 5.89; Q3 Pharmacology and Pharmacy)
62. Singh D, **Sharma A**, Singh M. Effect of actinomycin D and cycloheximide on ischemic preconditioning-induced delayed cardioprotective effect in rats. *Ind J Exp Biol* 2000; 38: 982-7. (IF 0.78; Q4 Biology)
63. Grover VP, **Sharma A**, Singh M. Role of nitric oxide in diabetes-induced attenuation of antinociceptive effect of morphine in mice. *Eur J Pharmacol* 2000; 399: 161-4. (IF 3.26; Q1 Pharmacology and Pharmacy)
64. Sood V, **Sharma A**, Singh M. The role of KATP channels in reduced antinociceptive effect of morphine in streptozotocin-induced diabetes. *Ind J Exp Biol* 2000; 38: 447-51. (IF 0.78; Q4 Biology)
65. **Sharma A**, Singh M. Role of angiotensin in cardioprotective effect of ischaemic preconditioning. *J Cardiovasc Pharmacol* 1999; 33: 772-8. (IF 2.59; Q3)
66. Sood V, **Sharma A**, Singh M. Differential analgesic effect of pharmacological modulation of adrenergic and serotonergic system in diabetic mice. *Pharmacol Rev Comm* 1999; 10: 212-9.
67. Krishan P, **Sharma A**, Singh M. Effect of angiotensin converting enzyme inhibitor on ischaemia-reperfusion induced renal injury in rat. *Pharmacol Res* 1998; 37: 23-9. (IF 5.89; Q3 Pharmacology and Pharmacy)
68. Singh N, **Sharma A**, Singh M. Possible mechanism of alprazolam-induced amnesia in mice. *Pharmacology* 1998; 56: 46-50. (IF 1.63; Q3 Pharmacology and Pharmacy)
69. **Sharma A**, Singh M. The possible role of adrenergic component in ischaemic preconditioning. *Methods Find Exp Clin Pharmacol* 1997; 19: 493-9. (IF 0.77; Q4 Pharmacology and Pharmacy)
70. Kaur H, Parikh V, **Sharma A**, Singh M. Effect of amiloride a Na⁺/ H⁺ exchange inhibitor on cardioprotective effect of ischaemic preconditioning: possible involvement of resident cardiac mast cells. *Pharmacol Res* 1997; 36: 95-102. (IF 5.89; Q3 Pharmacology and Pharmacy)
71. Singh M, Parikh V, **Sharma A**. Fundamentals and future prospects of gene therapy. *Drug Future* 1997; 22: 995-1003. (IF 0.07; Q4 Pharmacology and Pharmacy)
72. Singh N, **Sharma A**, Singh M. Effect of BN-50730 (PAF receptor antagonist) and physostigmine (AChE inhibitor) on learning and memory in mice. *Methods Find Exp Clin Pharmacol* 1997; 19: 585-8. (IF 0.77; Q4 Pharmacology and Pharmacy)
73. **Sharma A**, Parikh V, Singh M. Pharmacological basis of drug therapy of Alzheimer's disease. *Ind J Exp Biol* 1997; 35: 1146-55. (IF 0.78; Q4 Biology)

Link to my publications:

<https://www.ncbi.nlm.nih.gov/sites/myncbi/10lhlyvHBNEAz/bibliography/54137193/public/?sort=date&direction=descending>

Book Chapters

1. Weng J, Kreger J, **Sharma A**. Epigenetics of disorders affecting the anterior segment of eye. In: Chandra Boosani, Ritobrata Goswami eds. Epigenetics in Organ Specific Disorders Vol 31, Elsevier 2021 (In press)
2. Tandon A, Tovey JCK, **Sharma A**, Mohan RR. Gene therapy for corneal diseases. In: William L Thomson ed. Advances in Eye Research Vol 1, Nova science Inc., 2012 pp 47-63.
3. **Sharma A**, Ghosh A, Siddapa C, Mohan RR. Ocular Surface: Gene Therapy. In: Joseph Besharse, Reza Dana, Darlene A. Dartt eds. Encyclopedia of the Eye, Elsevier, 2010 pp185-194.
4. Singh M, **Sharma A**. Mechanism of cardioprotective effect of remote aortic preconditioning. In: Dhalla NS, Rupp H, Angel A, Pierce GN eds. Pathophysiology of Cardiovascular Disease. Kluwer Academic Publishers, Boston, 2004 pp 277-286.

National/International Meeting Presentations

ARVO: Association for Research in Vision and Ophthalmology *italicized* names are my students

Presentation from scholarly work carried out at Chapman University

1. *Mistry P, Shamloo K, Ross C, Sharma A*. Comparative analysis of hyperosmotic stress-mediated modulation of cytokine gene expression in human conjunctival and corneal epithelial cells. ARVO Annual Meeting Baltimore 2020 (Accepted by not presented due to COVID)
2. *Jacob B, Alfuraih S, Ross C, Kiumars S, Sharma A*. Type I diabetes mellitus adversely impacts ocular surface glycocalyx and mucins. ARVO Annual Meeting Baltimore 2020 (Accepted by not presented due to COVID)
3. *Kiumars S, Alfuraih S, Barbarino A, Ross C, Sharma A*. Effect of high glucose on the tight junction proteins of corneal and conjunctival epithelial cells. ARVO Annual Meeting Baltimore 2020 (Accepted by not presented due to COVID)
4. *Alfuraih S, Barbarino A, Shamloo K, Sharma A*. Effect of high glucose on ocular surface tight junction proteins and barrier function. 1st International Conference on Eye Diseases Fort Lauderdale 2019
5. *Shamloo K, Barbarino A, Alfuraih S, Sharma A*. Role of mucins in the pathogenesis of dry eye associated with graft versus host disease (GVHD). Invest. Ophthalmol. Vis. Sci. 2019; 60(9):4165. ARVO Annual Meeting Vancouver 2019
6. *Barbarino A, Alfuraih S, Shamloo K, Sharma A*. Effect of high glucose on corneal epithelial cellular and barrier functions. Invest. Ophthalmol. Vis. Sci. 2019; 60(9):905. ARVO Annual Meeting Vancouver 2019
7. **Sharma A**, *Pak J, Syed B, Yamaki J*. Evaluation of stability of extemporaneously compounded vancomycin ophthalmic solutions. Invest. Ophthalmol. Vis. Sci. 2019; 60(9):2095. ARVO Annual Meeting Vancouver 2019
8. *Kathuria A, Sharma A*. A review of the artificial tears marketed in the US for their preservative composition, label information and cost per application. Invest. Ophthalmol. Vis. Sci. 2019; 60(9):6758. ARVO Annual Meeting Vancouver 2019
9. *Shamloo K, Barbarino A, Alfuraih S, Sharma A*. Role of mucins in the pathogenesis of dry eye associated with graft versus host disease (GVHD). Invest. Ophthalmol. Vis. Sci. 2019; 60(9):4165. ARVO Annual Meeting Vancouver 2019

10. *Weng J, Barbarino A, Sharma A.* Effect of diabetes mellitus on corneal crystallins. Invest. Ophthalmol. Vis. Sci. 2018; 59(9):3301. ARVO Annual Meeting Honolulu 2018
11. **Sharma A**, Barbarino A, *Taniguchi J.* Effect of duration and severity of hyperglycemia on tear secretion and osmolarity in Type I and Type II diabetes mellitus. Invest. Ophthalmol. Vis. Sci. 2018; 59(9):3815. ARVO Annual Meeting Honolulu 2018
12. *Mistry P, Barbarino A, Sharma A.* Modulation of ocular epithelial cell mucins expression by proinflammatory cytokines. Invest. Ophthalmol. Vis. Sci. 2018; 59(9):3830. ARVO Annual Meeting Honolulu 2018
13. *Taniguchi J, Farid M, Garg S, Sharma. A.* Modulation of corneal and conjunctival epithelial cell mucins by glucocorticoid receptor activation: A novel mechanism for the ameliorative effect of corticosteroids. Invest. Ophthalmol. Vis. Sci. 2017; 58(8):455. ARVO Annual Meeting Baltimore 2017
14. **Sharma A**, *Sun S, Taniguchi J, Garg S, Farid M.* Effect of proinflammatory cytokines on expression of corneal and conjunctival epithelial mucins: Possible implications for GVHD associated dry eye. Invest. Ophthalmol. Vis. Sci. 2017; 58(8):497. ARVO Annual Meeting Baltimore 2017
15. **Sharma A**, *Shamloo K, Barbarino A, Mistry P.* Pharmacologic Modulation of Ocular Mucins for the Treatment of GVHD Dry Eye. AACP Annual Meeting Boston 2018
16. **Sharma, A.** Roundtable: A systematic, integrative and quantitative continual quality improvement of curriculum: A hand-on approach. AACP Annual meeting Nashville 2017
17. **Sharma, A, Taniguchi J.** Poster: Modulation of ocular mucins by glucocorticoid receptor activation. AACP Annual meeting Nashville 2017
18. **Sharma A.,** Mercado P., Wong S. Poster: A novel approach to conduct a systematic, integrative and quantitative continual quality improvement of curriculum. AACP Annual meeting Nashville 2017

Presentation from scholarly work prior to joining Chapman University

19. Gronkiewicz K, Giuliano E, Hamm C, Kuroki K, Kitchell J, Kunkel M, **Sharma A**, Mohan R. Development of a novel in vivo canine corneal fibrosis model and therapeutic potential of Suberanilohydroxamic Acid (SAHA) for corneal scarring in vivo. Invest. Ophthalmol. Vis. Sci. 2015; 56(7):1936. ARVO Annual Meeting Denver 2015
20. **Sharma A**, Reyes M, Chen H, Sinha N, Mohan R. Decorin-PEI nanoparticles promote bleb survival by reducing fibrosis in rabbit glaucoma trabeculectomy model. Invest. Ophthalmol. Vis. Sci. 2015; 56(7):2732. ARVO Annual Meeting Denver 2015
21. Gupta S, **Sharma A**, Brown C, Giuliano E, Sinha P, Mohan R. Acrolein exposure severely damages cornea, eyelids, conjunctiva and causes vision loss in rabbits in vivo. Invest. Ophthalmol. Vis. Sci. 2015; 56(7):3046. ARVO Annual Meeting Denver 2015
22. Mohan R, **Sharma A**, Giuliano E, Sinha P, Rodier J, Schultz G, Tovey J. Localized AAV-PEDF gene transfer reduces corneal neovascularization significantly in rabbits in vivo via selective apoptosis. Invest. Ophthalmol. Vis. Sci. 2015; 56(7):4509. ARVO Annual Meeting Denver 2015
23. Morgan B, **Sharma A**, Waller R, Sinha N, Sinha P, Stallard A, Siddiqui S, Mohan R. Hybrid Gold nanoparticles: cellular and molecular toxicity to human corneal fibroblasts. Invest. Ophthalmol. Vis. Sci. 2014; 55(13):1451. ARVO Annual Meeting Orlando 2014
24. Mohan RR, Tandon A, Fink MK, **Sharma A**, Sinha NR, Sinha PR, Rodier JT. Pirfenidone potential for treating corneal fibrosis. Invest. Ophthalmol. Vis. Sci. 2014; 55(13):5146. ARVO Annual Meeting Orlando 2014
25. Tovey J, Gronkiewicz K, Giuliano E, Siddiqui S, **Sharma A**, Brooke J, Mohan R. Role of cellular kinases and Smads in the modulation of SAHA-mediated corneal fibrosis inhibition. Invest. Ophthalmol. Vis. Sci. 2014; 55(13):5147. ARVO Annual Meeting Orlando 2014

26. **Sharma A**, Leishman L, Schultz G, Mohan R. Targeted Smad7 gene transfer into stroma attenuates corneal scarring. Invest. Ophthalmol. Vis. Sci. 2014; 55(13):5153. ARVO Annual Meeting Orlando 2014
27. Naik C, Rodier J, **Sharma A**, Stallard A, Tandon A, Klibanov A, Mohan R. Nanoparticle polyethylenimine-BMP-7 transfection dose, anti-fibrotic efficacy and toxicity for the rabbit cornea. Invest. Ophthalmol. Vis. Sci. 2013; 54(15):4701. ARVO Annual Meeting Seattle 2013
28. Mohan R, **Sharma A**, Rodier J, Tandon A, Birk D. shRNA gene-silencing therapy for congenital stromal corneal dystrophy. Invest. Ophthalmol. Vis. Sci. 2013; 54(15):4742. ARVO Annual Meeting Seattle 2013
29. **Sharma A**, Brubaker J, Reyes M, Rodier J, Tandon A, Mohan R. Attenuation of glaucoma filtration surgery-induced scarring by an FDA-approved histone deacetylase inhibitor, suberoylanilide hydroxamic acid (SAHA). Invest. Ophthalmol. Vis. Sci. 2013; 54(15):4481. ARVO Annual Meeting Seattle 2013
30. Tandon A, **Sharma A**, Rodier J, Mohan R. Molecular mechanism of corneal neovascularization inhibition by decorin therapy. Invest. Ophthalmol. Vis. Sci. 2013; 54(15):2082. ARVO Annual Meeting Seattle 2013
31. Rodier J, **Sharma A**, Tandon A, Stallard A, Mohan R. RNAi gene silencing of TGF-beta signaling: a powerful approach to control corneal fibrosis. Invest. Ophthalmol. Vis. Sci. 2013; 54(15):5241. ARVO Annual Meeting Seattle 2013
32. Rodier J, **Sharma A**, Tandon A, Klibanov A, Mohan R. Polyethyleneimine (PEI) nanoparticle mediated soluble TGFβRII gene transfer prevents corneal fibrosis. Invest. Ophthalmol. Vis. Sci. 2012; 53(14):294. ARVO Annual Meeting Fort Lauderdale 2012
33. Tandon A, **Sharma A**, Tovey J, Rodier J, Stallard A, Lucero J, Klibanov A, Cowden J, Mohan R. Bone morphogenetic protein-7 (BMP7) gene therapy inhibits fibrosis by up-regulating smad1/5/8 in rabbit cornea in vivo. Invest. Ophthalmol. Vis. Sci. 2012; 53(14):1086. ARVO Annual Meeting Fort Lauderdale 2012
34. Mohan R, **Sharma A**, Tandon A, Rodier J. Decorin down-regulates EGFR and inhibits migration in human corneal fibroblasts. Invest. Ophthalmol. Vis. Sci. 2012; 53(14):2212. ARVO Annual Meeting Fort Lauderdale 2012
35. Mohan R, **Sharma A**, Tandon A, Tovey J, Cowden J, Schultz G, Hamm C. Tissue-selective controlled decorin gene therapy with aav5 significantly inhibits scarring in rabbit cornea in vivo. Invest. Ophthalmol. Vis. Sci. 2011; 52(14):3045. ARVO Annual Meeting Fort Lauderdale 2011
36. Hansen E, **Sharma A**, Tandon A, Gupta R, Fortune J, Klibanov A, Tovey J, Hemmat Y, Mohan R. Nitrogen to phosphate ratio in nanoparticle-plasmid transfection reagent modulates gene delivery and toxicity in the cornea. Invest. Ophthalmol. Vis. Sci. 2011; 52(14):483. ARVO Annual Meeting Fort Lauderdale 2011
37. Tandon A, Gupta R, **Sharma A**, Hemmat Y, Mohan R. Inhibition of PRK-induced corneal haze by trichostatin-a involves epigenetic modification. Invest. Ophthalmol. Vis. Sci. 2011; 52(14):1988. ARVO Annual Meeting Fort Lauderdale 2011
38. **Sharma A**, Phillips D, Mohan R. A possible molecular mechanism for trichostatin-a-mediated inhibition of corneal fibrosis. Invest. Ophthalmol. Vis. Sci. 2011; 52(14):2034. ARVO Annual Meeting Fort Lauderdale 2011
39. Lopez V, Tovey J, Waggoner M, Cowden J, **Sharma A**, Mohan R. vorinostat effectively reduces TGFβ-mediated myofibroblast formation in the cornea. Invest. Ophthalmol. Vis. Sci. 2010; 51(13):367. ARVO Annual Meeting Fort Lauderdale 2010
40. Phillips D, **Sharma A**, Tovey, Ghosh A, Klibanov A, Cowden J, Mohan R. Gold nanoparticles: A potent vector for non-viral corneal endothelial gene therapy. Invest. Ophthalmol. Vis. Sci. 2010; 51(13):433. ARVO Annual Meeting Fort Lauderdale 2010

41. Tovey J, **Sharma A**, Cowden J, Robertson D, Fortune J, Kleibanov A, Mohan R. Does gold nanoparticle-mediated non-viral gene delivery in the cornea depend on disease condition. Invest. Ophthalmol. Vis. Sci. 2010; 51(13):434. ARVO Annual Meeting Fort Lauderdale 2010
42. **Sharma A**, Hansen E, Newman J, Sinha S, Cowden J, Klibanov A, Robertson D, Katti K, Kannan R, Mohan R. Gold nanoparticles as potential vectors for gene transfer in the cornea. Invest. Ophthalmol. Vis. Sci. 2009; 50(13):2415. ARVO Annual Meeting Fort Lauderdale 2009
43. Mohan R, **Sharma A**, Siddappa C, Sinha S, Cowden J. Decorin, TGF β 1 and TGF β 2 levels and localization in the normal and PRK-treated rabbit corneas. Invest. Ophthalmol. Vis. Sci. 2009; 50(13):5699. ARVO Annual Meeting Fort Lauderdale 2009
44. **Sharma A**, Mohan RR, Sinha S, Wilson SE. Corneal fibroblasts support osteoclast-like cell differentiation of macrophages. Invest. Ophthalmol. Vis. Sci. 2005; 46(13):2605. ARVO Annual Meeting Fort Lauderdale 2005

Mentoring

1. Major Advisor: PhD in Pharmaceutical Sciences thesis research
Judy Weng (2020-ongoing) Kiumars Shamloo (2017-2021), Co-advisor Nouf Alwadei (2018-present)
2. Committee Member: PhD in Pharmaceutical Sciences
Feryl Alam (2018-Present), Neda Almomari (2018-present), Qamar Alshammari (2018-present)
Rameena Nabi (2017-2020), Paul Park (2017-2020), Emira Bousoik (2017-2020)
Maha Jamal (2018-2020), Marwa Quadri (2017-2020),
3. Major Advisor: Master's in Pharmaceutical Sciences thesis research
Jonathan Taniguchi (2015-2017), Soheila Navidnia (2016-2017), Saleh Alfuraih (2018-2020)
4. Major Advisor: Capstone research
Jacob Baker (2019-2020), Priya Mistry (2019-2020), Avani Kathuria (2018-2019), George Zikry (2017-2018), Jenny Lee (2021-present), Rachel Lee (2021-present)
5. Mentor: Undergraduate students' research projects
Jenny Lee (2019-2020), Rachel Lee (2019-2020), Amulya Madhav (2019-2020), Joanna Pak (2018), Sally Sun (2017), Judy Weng (2017-2018)
6. Mentor: Advanced pharmacy practice research rotation
Judy Weng (2020), Jessica David (2021)

Academic Service

2015-16	Member, Graduate Program Research Committee, Chapman University School of Pharmacy
2016-17	Chair, Graduate Program Research Committee, Chapman University School of Pharmacy
2017-18	Members, Admission Committee, Chapman University School of Pharmacy
2017-18	Member, Exam Item Review Committee, Chapman University School of Pharmacy
2019-21	Chair, Exam Item Review Committee, Chapman University School of Pharmacy
2020-21	Member, Science Committee Chapman University School of Pharmacy

Professional Service

1. Associate Editor
Frontiers in Pharmacology (Experimental Pharmacology and Drug Discovery section) 2015-present
2. Grant Reviewer
Ad-hoc reviewer for the following grant review panels:
2018- 2019: Ocular Surface, Cornea, Anterior Segment Glaucoma & Refractive Error (ZRG1 BDCN-J (81) Study Section
Center for Scientific Review, National Institutes of Health
2021-present: Pathophysiology of Eye Disease 1 (PED1) Study Section
Center for Scientific Review, National Institutes of Health
2020: Netherlands Organization for Health Research and Development
2020: French Research National Agency, France
2019: Medical Research Council, UK
3. Scientific Session Moderator
2020 ARVO annual meeting Baltimore
Session: Conjunctiva cell biology, diseases, and surgery
2014 ARVO annual meeting Orlando
Session: Nanomedicine, Nanopharmaceuticals, Tissue Bioengineering, Regenerative Medicine and Nanodiagnostics
2011 ARVO annual meeting Fort Lauderdale
Session: Nanomedicine, Nanopharmaceuticals, Tissue Bioengineering, Regenerative Medicine and Nanodiagnostics,
4. Journal Reviewer
Investigative Ophthalmology & Visual Science
Journal of Ocular Pharmacology and Therapeutics
The Ocular Surface
Translational Vision Science and Technology
International Journal of Ophthalmology & Vision Research
International Journal of Pharmaceutics
Journal of Pharmacy & Pharmaceutical Sciences
Naunyn-Schmiedeberg's Archives of Pharmacology
Frontiers in Endocrinology
American Journal of Tropical Medicine & Hygiene
Journal of Cellular and Molecular Medicine
Frontiers in Immunology
Pharmacology Biochemistry and Behavior
Vascular Pharmacology
Molecular and Cellular Biochemistry
Brain Research
Journal of Refractive Surgery
Experimental Eye Research
Clinical Optometry
Ophthalmic Research
Veterinary Ophthalmology
Toxicology Letters
Brain Research Bulletin
Frontiers in Pharmacology
Journal of Cellular Physiology
Drugs of Today
Scientific Reports
Life Sciences
Physiology & Behavior
Journal of Pharmaceutics
Neurological Sciences
Neurotoxicity Research

Professional Memberships

- 2009-present: Association for Research in Vision and Ophthalmology (ARVO)
Life member: American Association for Veterinary Pharmacology and Therapeutics