BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
James V. Jester	Professor
eRA COMMONS USER NAME JJESTER	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Southern California, L.A., CA	B.S.	1972	Biology
University of Southern California, L.A., CA	Ph.D.	1978	Experimental Pathology
Estelle Doheny Eye Foundation, L.A., CA	Postdoc	1980	Ocular Pathology
National Eye Institute, Bethesda, MD	Postdoc	1982	Exp.Ocular Pathology

A. Positions and Honors.

1974 - 1978 Hugh Edmundson Research Fellow, Dept. of Pathology USC Medical Center, Los Angeles
1981 - 1982 Instructor, Dept. of Ophthalmology & Pathology, USC/Los Angeles County Medical Center, Los Angeles
1982 - 1986 Asst. Prof., Dept. of Ophthalmology & Pathology, USC/Los Angeles County Medical Center, Los Angeles
1986 - 1991 Associate Professor of Ophthalmology & Pathology, Dept. of Ophthalmology/Center for Sight, Georgetown University Medical Center, Washington, DC
1991 - 2004 Professor of Ophthalmology, University of Texas, Southwestern Medical College, Dallas, Texas.
2004 – present Professor of Ophthalmology, University of California, Irvine, Irvine, California.
2007 – present Jack H. Skirball Endowed Chair

Membership on Federal Government Advisory Committees

1989-1991 Ad hoc grant reviewer for NIH VIS A Study Section
1989-1991 Member of Special Study Section -2 for Small Business Innovative Research (SBIR)
1997-1998 Member of the Peer Review Panel on Photorefractive Keratectomy Research for the US Army Medical Research and Materiel Command.
2002-2004 Ad hoc grant reviewer for NIH VIS A Study Section
2004-present Member of NIH/NEI Anterior Eye Diseases Study Panel

Awards

1981 Fight for Sight Research Award.
1986 Research Manpower Award, Research to Prevent Blindness, Inc., New York, NY.
1994 Senior Scientist Award, Research to Prevent Blindness, Inc., New York, NY.
2003 2nd Senior Scientist Award, Research to Prevent Blindness, Inc., New York, NY.

Editorial Boards

2004-present Editorial Board Member, Investigative Ophthalmology & Visual Science.
2002-present Laboratory Science Editor, The Ocular Surface Journal.
2001-present Executive Editor, Cornea and Ocular Surface, Experimental Eye Research.
2002-present Editorial Board Member, Cornea.
2001-present Editorial Board Member, Cutaneous and Ocular Toxicology.

B. Peer-reviewed publications in the past 3 years (Total 197).

1. Yamamoto N, Yamamoto N, Petroll MW, Jester JV, Cavanagh HD. Regulation of Pseudomonas aeruginosa internalization after contact lens wear in vivo and in serum-free culture by ocular surface cells. *Invest Ophthalmol Vis Sci* 2006, 47:3430-3440.
2. Yamamoto N, Yamamoto N, Jester JV, Petroll WM, Cavanagh HD. Prolonged hypoxia induces lipid raft formation and increases Pseudomonas internalization in vivo after contact lens wear and lid closure. *Eye Contact Lens* 2006, 32:114-120.
3. Wong MM, Nigg JT, Zucker RA, Puttler LI, Fitzgerald HE, Jester JM, Glass JM, Adams K. Behavioral control and resiliency in the onset of alcohol and illicit drug use: a prospective study from preschool to adolescence. *Child Dev* 2006, 77:1016-1033.
4. Robertson DM, Ladage PM, Yamamoto N, Jester JV, Petroll WM, Cavanagh HD. Bcl-2 and Bax regulation of corneal homeostasis in genetically altered mice. *Eye Contact Lens* 2006, 32:3-7.
5. Nishibu A, Ward BR, Jester JV, Ploegh HL, Boes M, Takashima A. Behavioral responses of epidermal Langerhans cells in situ to local pathological stimuli. *J Invest Dermatol* 2006, 126:787-796.
6. Morishige N, Petroll WM, Nishida T, Kenney MC, Jester JV. Noninvasive corneal stromal collagen imaging using two-photon-generated second-harmonic signals. *J Cataract Refract Surg* 2006, 32:1784-1791.
7. Morishige N, Jester JV, Naito J, Osorio N, Wahlert A, Jones C, Everett RD, Wechsler SL, Perng GC. Herpes simplex virus type 1 ICP0 localizes in the stromal layer of infected rabbit corneas and resides predominantly in the cytoplasm and/or perinuclear region of rabbit keratocytes. *J Gen Virol* 2006, 87:2817-2825.
8. EMPRIN/CD147 promotes myofibroblasts differentiation by inducing αSMA expression and collagen gel contraction. FASEB J 22:1144-1154, 2007.
9. Robertson DM, Petroll WM, Jester JV, Cavanagh HD: The role of contact lens type, oxygen transmission, care-related solutions in mediating epithelial homeostasis and pseudomonas binding to corneal cells: an overview. Eye Contact Lens 33:394-398, 2007.
10. Svoboda KKH, Petroll WM, Jester JV: Second harmonic signal analysis of while embryonic avian corneas. Microsc Microanal 13:1550-1551, 2007.
11. Ward BR, Jester JV, Nishibu A, Vishwanath M, Shalhevet D, Kumamoto T, Petroll WM, Cavanagh HD, Takashima A. Local thermal injury elicits immediate dynamic behavioural responses by corneal Langerhans cells. *Immunology* 2007, 120:556-572.
12. Robertson DM, Petroll WM, Jester JV, Cavanagh HD. Current concepts: contact lens related Pseudomonas keratitis. *Cont Lens Anterior Eye* 2007, 30:94-107.
13. Nesburn AB, Bettahi I, Dasgupta G, Chentoufi AA, Zhang X, You S, Morishige N, Wahlert AJ, Brown DJ, Jester JV, Wechsler SL, BenMohamed L. Functional Foxp3+ CD4+ CD25(Bright+) "natural" regulatory T cells are abundant in rabbit conjunctiva and suppress virus-specific CD4+ and CD8+ effector T cells during ocular herpes infection. *J Virol* 2007, 81:7647-7661.
14. Mott KR, Osorio Y, Brown DJ, Morishige N, Wahlert A, Jester JV, Ghiasi H. The corneas of naive mice contain both CD4+ and CD8+ T cells. *Mol Vis* 2007, 13:1802-1812.
15. Morishige N, Wahlert AJ, Kenney MC, Brown DJ, Kawamoto K, Chikama T, Nishida T, Jester JV. Second-harmonic imaging microscopy of normal human and keratoconus cornea. *Invest Ophthalmol Vis Sci* 2007, 48:1087-1094.
16. Meij JT, Carlson EC, Wang L, Liu CY, Jester JV, Birk DE, Kao WW. Targeted expression of a lumican transgene rescues corneal deficiencies in lumican-null mice. *Mol Vis*, 13:2012-2018, 2007.
17. Jester JV, Lee YG, Huang J, Houston J, Adams B, Cavanagh HD, Petroll WM. Postnatal corneal transparency, keratocyte cell cycle exit and expression of ALDH1A1. *Invest Ophthalmol Vis Sci*, 48:4061-4069, 2007.
18. Brown DJ, Morishige N, Neekhra A, Minckler DS, Jester JV. Application of second harmonic imaging microscopy to assess structural changes in optic nerve head structure ex vivo. *J Biomed Opt*, 12:024029, 2007.
19. Morishige N, Kesler-Diaz A, Wahlert AJ, Kurtz R, Juhasz T, Sarayba M, Jester JV: Corneal response to femtosecond laser photodisruption in rabbits. Exp Eye Res 86:835-843, 2008.
20. Jester JV: Corneal crystallins and cellular transparency. Sem Cell & Devel Biol 19:82-93, 2008.

8. EMPRIN/CD147 promotes myofibroblasts differentiation by inducing αSMA expression and collagen gel contraction. FASEB J 22:1144-1154, 2007.
9. Robertson DM, Petroll WM, Jester JV, Cavanagh HD: The role of contact lens type, oxygen transmission, care-related solutions in mediating epithelial homeostasis and pseudomonas binding to corneal cells: an overview. Eye Contact Lens 33:394-398, 2007.
10. Svoboda KKH, Petroll WM, Jester JV: Second harmonic signal analysis of while embryonic avian corneas. Microsc Microanal 13:1550-1551, 2007.
11. Ward BR, Jester JV, Nishibu A, Vishwanath M, Shalhevet D, Kumamoto T, Petroll WM, Cavanagh HD, Takashima A. Local thermal injury elicits immediate dynamic behavioural responses by corneal Langerhans cells. *Immunology* 2007, 120:556-572.
12. Robertson DM, Petroll WM, Jester JV, Cavanagh HD. Current concepts: contact lens related Pseudomonas keratitis. *Cont Lens Anterior Eye* 2007, 30:94-107.
13. Nesburn AB, Bettahi I, Dasgupta G, Chentoufi AA, Zhang X, You S, Morishige N, Wahlert AJ, Brown DJ, Jester JV, Wechsler SL, BenMohamed L. Functional Foxp3+ CD4+ CD25(Bright+) "natural" regulatory T cells are abundant in rabbit conjunctiva and suppress virus-specific CD4+ and CD8+ effector T cells during ocular herpes infection. *J Virol* 2007, 81:7647-7661.
14. Mott KR, Osorio Y, Brown DJ, Morishige N, Wahlert A, Jester JV, Ghiasi H. The corneas of naive mice contain both CD4+ and CD8+ T cells. *Mol Vis* 2007, 13:1802-1812.
15. Morishige N, Wahlert AJ, Kenney MC, Brown DJ, Kawamoto K, Chikama T, Nishida T, Jester JV. Second-harmonic imaging microscopy of normal human and keratoconus cornea. *Invest Ophthalmol Vis Sci* 2007, 48:1087-1094.
16. Meij JT, Carlson EC, Wang L, Liu CY, Jester JV, Birk DE, Kao WW. Targeted expression of a lumican transgene rescues corneal deficiencies in lumican-null mice. *Mol Vis*, 13:2012-2018, 2007.
17. Jester JV, Lee YG, Huang J, Houston J, Adams B, Cavanagh HD, Petroll WM. Postnatal corneal transparency, keratocyte cell cycle exit and expression of ALDH1A1. *Invest Ophthalmol Vis Sci*, 48:4061-4069, 2007.
18. Brown DJ, Morishige N, Neekhra A, Minckler DS, Jester JV. Application of second harmonic imaging microscopy to assess structural changes in optic nerve head structure ex vivo. *J Biomed Opt*, 12:024029, 2007.
19. Morishige N, Kesler-Diaz A, Wahlert AJ, Kurtz R, Juhasz T, Sarayba M, Jester JV: Corneal response to femtosecond laser photodisruption in rabbits. Exp Eye Res 86:835-843, 2008.
20. Jester JV: Corneal crystallins and cellular transparency. Sem Cell & Devel Biol 19:82-93, 2008.
21. Huet E, Vallee B, Verrecchia F, Szul D, Yan L, Jester JV, Hoang-Xuan T, Menashi S, Gabison EE: EMPRIN/CD147 promotes myofibroblasts differentiation by inducing αSMA expression and collagen gel contracton. FASEB J 22:1144-1154, 2007
22. Farid M, Morishige N, Lam L, Wahlert A, Steinert RF, Jester JV: Detection of corneal fibrosis following excimer laser surface ablation (PRK) using second harmonic generated (SHG) signals. Invest Ophthalmol Vis Sci, May 2008 (in press).

C. Research Projects Ongoing or Completed During the Last 3 Years

Ongoing Research Support

Title: Role of TGFβ in Corneal Stromal Wound Healing (1 R01 EYO7348)
Principal Investigator: James V. Jester
Agency: NIH **Period:** 12/01/1987 – 03/31/2011
Major Goals: The specific aims of this project is to evaluate the signal transduction cascade involved in TGFb induced myofibroblast differentiation of corneal keratocytes.

Title: Vision Research Infrastructure Development Grant (1 R24 EY016663)
Principal Investigator: Anthony Nesburn
Agency: NIH/NEI **Period**: 6/1/05 – 5/31/10

Major Goals: Support vision research within the Department of Ophthalmology at the University of California Irvine through establishing cell culture and microscopic imaging core facilities.
Role: Director of the Microscopic Imaging Core Facility.

Title: Novel Role of Corneal Crystallins as Modulators of Cell Growth and Transparency (1R03 EY017963)
Principal Investigator: Vasilis Vasiliou
Agency: NIH/NEI **Period**: 9/1/07 – 8/31/12
Major Goals: To understand the role of ALDH3A1 and ALDH1A1 in the cornea and corneal cells including the corneal epithelial cells and keratocytes.
Role: PI of subcontract from the University of Colorado Health Sciences Center.

Title: Pressure Induced Dynamic 3D Changes in Lamina Cribrosa (1 R21 EY017959)
Principal Investigator: Donald Brown
Agency: NIH/NEI **Period**: 7/1/07 – 8/31/09
Major Goals: To study the effects of pressure on the biomechanical properties of the optic nerve head.
Role: Co-Investigator

Title: Corneal HSV-1: Immunopathologic Mechanisms of HSK. (1 R01 EY018171)
Principal Investigator: Steven Wechsler
Agency: NIH/NEI **Period**: 12-01-07 to 11-30-12
Major Goals: To study the immunopathology of recurrent corneal herpes stromal keratitis.
Role: Co-Investigator

Completed Research:

Title: Keratocyte Crystallin Proteins and Corneal Transparency (EY013215)
Principal Investigator: James V. Jester
Agency: NIH/NEI **Period**: 9-1-00 to 8-31-04
Major Goals: Evaluate the expression of ALDH1A1 and TKT in corneal keratocytes and determine their role in establishing corneal transparency.

Title: Cell Differentiation in Corneal Epithelial Repair. (EY06474)
Principal Investigator: James V. Jester
Agency: NIH/NEI **Period**: 5-1-86 to 3-31-89
Major Goals: Evaluate the role of cell differentiation in corneal epithelial wound healing.

Title: A Rabbit Eye Model of Meibomian Gland Dysfunction (EYO4455)
Principal Investigator: James V. Jester
Agency: NIH/NEI **Period**: 9-1-83 to 8-31-86
Major Goals: Identify the cellular mechanism underlying meibomian gland dysfunction following long-term epinephrine treatment in the rabbit eye.