

CURRICULUM VITAE

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4. **CITIZENSHIP:** USA, Naturalized in 02/88
5. **HIGHER EDUCATION, INSTITUTION:**
- National Taiwan University, Taiwan; BS, Pre-Med; 1973.
Medical School, National Taiwan University, Taiwan; M.D., 1977.
Experimental Pathology; Department of Pathology, University of California, San Francisco Medical Center, San Francisco, California; Ph.D.; 1981.

6. **CERTIFICATION, LICENSURE:**

Education Commission for Foreign Medical Graduate (ECFMG) No. 291-691-4, May 1980
Federal License Exam (FLEX) No. 01546, December 1980
Board Certification by American Board of Ophthalmology, October 1985
Massachusetts Medical License No. 52199 (Inactive)
Florida Medical License ME 0049674 (Active)
DEA BT2131427
Impression Cytology Laboratory of the Ocular Surface Center: State of Florida (No. 800017632) and CLIA (Clinical Laboratory Improvement Amendment 1998) (No. 10D1004176) effective 9/20/2002
NIH Human Participant Protections Education for Research Teams course – 02/26/04
CITI Course in The Protection of Human Research Subjects – Baptist Health South Florida – 03/17/05

EXPERIENCE

ACADEMIC:

- a) National Taiwan University Hospital, Taiwan; Internship; 1977-78

- b) Department of Ophthalmology, Wilmer Institute, The Johns Hopkins Hospital, Baltimore, Maryland; Ophthalmology Residency, 1981-84.
- c) Cornea Service, Department of Ophthalmology, Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, Massachusetts; Cornea/External Disease Fellowship; 1984-86.
- d) Eye Research Institute of Retina Foundation, Boston, Massachusetts; Staff Associate, 1984-85.
- e) Eye Research Institute of Retina Foundation, Boston, Massachusetts; Assistant Scientist, 1985-86.
- f) Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami, Miami, Florida; Assistant Professor; 1986-1992.
- g) Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami, Miami, Florida; Associate Professor (Tenured); 1992-1998.
- h) Department of Cell Biology & Anatomy, University of Miami, Miami, Florida, Associate Professor (joint appointment); 1995-2001.
- i) Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami, Miami, Florida; Professor (Tenured), Charlotte Breyer Rodgers Chair in Ophthalmology; 1998-2001.
- j) Adjunct Investigator, Division of Medical Engineering, National Health Research Institute (NHRI), Taipei, Taiwan; 2000-present
- k) Ad Hoc Member, VISA Study Section, NIH, NEI, 2002
- l) Ad Hoc Member, Molecular, Cellular and Developmental Neurosciences, NIH, February, 2003
- m) Visiting Professor, Department of Ophthalmology, Tokyo Dental College, Japan, April 2003 – present
- n) Ad Hoc Member, RO3 Study Section, March 2004.
- o) Member of expert panel for Interagency Coordinating Committee on Validation of Alternative Methods (ICCVAM), August 2004- January 2005.
- p) Ad Hoc Member, AED Study Section, June 2005.
- q) Ad Hoc Member, AED Study Section, February 2006.

NON-ACADEMIC:

- a) International Ocular Surface Society, President; 2000-2004
- b) Ocular Surface Center, Director; 2002-present
- c) Ocular Surface Research & Education Foundation, Medical and Research Directors; 2001-present
- d) Bio-Tissue, Inc., Medical Director and Consultant, 2001-present
- e) TissueTech, Inc., Director of Research and Development, 2002-present
- f) MedNet, Inc., Board Director, 2003-2004

RESEARCH:

- 1978-81 Research conducted for Ph.D. thesis in the Department of Experimental Pathology, University of California at San Francisco, under the instruction of Dr. Robert Stern and Dr. Denis Gospodarowicz, on the study of collagen biochemistry and endothelial cell biology affected by fibroblast growth factor and extracellular matrix.
- 1981-82 Research conducted at the Wilmer Institute, and the Department of Dermatology, the Johns Hopkins Hospital, under the supervision of Dr. Tung-Tien Sun, on the study of the functional role of different keratin antigens in epithelial differentiation, in embryonic development of skin and cornea, and in abnormal keratinization secondary to vitamin A deficiency using a monoclonal antibody approach.
- 1982-84 Research conducted in the laboratory of Eye Pathology, the Wilmer Institute, under the supervision of Dr. W. Richard Green and Dr. A. Edward Maumenee, on the study of conjunctival goblet cell biology, including the role of retinoids in modulating conjunctival transdifferentiation, development of a modified impression cytology technique for clinical studies of squamous metaplasia, and the study of clinical efficacy of topical retinoids in treating various ocular surface disorders.
- 1984-86 Conducting research in the laboratory of Dr. Ilene K. Gipson on the action mechanism of various retinoids in the modulation of conjunctival goblet cell differentiation, and on the development of monoclonal antibodies against conjunctival mucins. Supervising research on conjunctival goblet-cell density and distribution in rats in relation to the aging process and vitamin A deficiency. Applying the impression cytology technique in clinical and basic research of various ocular surface disorders, including dry-eye syndrome, blepharitis, vitamin A deficiency, alkaline burns, and etc. Evaluating the clinical efficacy of topical retinoids in the treatment of various ocular surface disorders. Organizing the multi-center clinical trial of topical tretinoin for severe dry eye disorders.
- 1986-01 Supervising researches in the areas of cell biology, tissue culture, biochemistry and molecular biology. Specific research areas include the establishment of various epithelial cell cultures, modulating factors of goblet cell differentiation, molecular mechanism for the tear film stability in the interface between mucin and ocular surface membrane proteins, modulation of epithelial differentiation by retinoids, development of limbal epithelium transplantation for chemical burn, and exploration of stem-cell regulation for corneal and conjunctival epithelia, studies of mechanism of photothrombosis and why rose bengal does not stain normal ocular surface epithelia but stains abnormal squamous metaplastic epithelia, development of monoclonal antibodies to cornea-specific keratin K12 and mucosal epithelial membrane-associated mucin, studies of cytokine network between ocular surface epithelium and fibroblasts, studies the pathogenesis of corneal diseases characterized by limbal stem cell deficiency including chemical injuries, studies of surgical procedures of limbal stem cell transplantation and amniotic membrane

transplantation for ocular surface reconstruction, regulatory mechanism of limbal stem cell functions, development of new lipid replacement therapy for lipid tear deficiency, and exploration of cytokine network responsible for corneal scarring. Initiating a tissue matrix therapy program using amniotic membrane transplantation for ocular surface reconstruction. Exploring the mechanism by which fibrovascular growth with corneal invasion occurs in pterygium. Exploring and perfecting the new strategy of ocular surface reconstruction using ex vivo expansion of epithelial stem cells on amniotic membrane cultures. Developing a research program of tissue engineering to promote epithelial tissue healing and ocular surface reconstruction.

- 2002- Establishing R & D department for TissueTech, Inc. with respect to tissue engineering of sutureless AmnioLens, and transplantation of ex vivo expanded limbal epithelial stem cells. Establishing the first Impression Cytology Laboratory of the Ocular Surface Center in USA that was certified by the State of Florida (No. 800017632) and CLIA (Clinical Laboratory Improvement Amendment 1998) (No. 10D1004176) for diagnosing ocular surface failure in patients suffering from difficult ocular surface diseases effective since September 20, 2002. Obtaining the first IND approval from FDA for Phase I clinical trial of transplanting ex vivo expanded limbal epithelial stem cells for total limbal stem cell deficiency. Development and obtaining of FDA approval of sutureless ProKera in December 2003. Initiate collaborative research on ex vivo expansion of retinal pigment epithelial cells on amniotic membrane for transplantation. Obtain NIH grant support for launching FDA phase I clinical trial of transplanting ex vivo expanded limbal epithelial stem cells for total limbal deficiency in 2004. Initiating in vitro and in vivo studies of eradicating ocular demodex by tea tree oil in 2005. Begin to investigate how limbal epithelial stem cells may be regulated by their stromal niche in 2005.

PUBLICATIONS

BOOKS AND MONOGRAPHS PUBLISHED:

- 1) Stern R, Tseng SCG. The fibrosis of alcoholic liver disease. In Bruke PD Chalmers TC, Eds. *Frontiers in Liver Disease*. New York: Thieme and Stratton, 1981:144-155.
- 2) Tseng SCG. The Role of collagen in Cell-Matrix Interactions: Modulation of Collagen Synthesis and Deposition in Cultured Endothelial Cells by Fibroblast Growth Factor and by the Extracellular Matrix, Ph.D. thesis. *Dissertation Abstract International*, Ann Arbor, Mich., 1982.

- 3) Tseng SCG. Cytological evidence of the effect of topical retinoids on dry-eye disorders. In The Preocular Tear Film in Health, Disease, and Contact Lens Wear. Ed. Holly FJ, Lubbock, TX, pp. 253-270, 1986.
- 4) Tseng SCG. Modulation of conjunctival goblet cell differentiation by vitamin A: A possible mechanism for mucin deficiency. In Preocular Tear Film in Health Disease, and Contact Lens Wear, Ed. Holly FJ, Lubbock, TX, pp. 876-885, 1986.
- 5) Huang AJW, Tseng SCG, Kenyon KR. Treatment of ocular surface disease. In Corneal Surgery, Theory, Technique and Tissue, Ed. Brightbill F., C.V. Mosby, pp. 593-602, 1986.
- 6) Tseng SCG. Application of Corneal Impression Cytology to Study Conjunctival Transdifferentiation Defect. In the Proceedings of the First International Symposium on Ophthalmic Cytology, Ed. Orsoni JA, Centro Grafico Editoriale, Univesita Degli Studi Parma, Parma, Italy, pp. 65-76, 1988.
- 7) Tseng SCG. Limbal transplantation for ocular surface reconstruction: A review. In the Proceedings of the XXVIth International Congress of Ophthalmology. Singapore, 1990. Elsevier, the Netherlands.
- 8) Tseng SCG, Chen JJY, Huang AJW, Kruse FE, Maskin SL, Tsai RJF. Classification of conjunctival surgeries for corneal disease based on stem cell concept. Ophthalmol Clin of North America. Saunders. PA. 3:595-610, 1990.
- 9) Tseng SCG. Ocular surface evaluation in dry eye conditions. International Ophthalmic Clinic, 34:57-69, 1994.
- 10) Tseng SCG. Conjunctival grafting for corneal diseases. Chapter 34, Corneal Surgery Section. Duane's Clinical Ophthalmology, 1-11, 1994.
- 11) Tseng SCG. Ocular surface changes in Sjogren's syndrome. Proceedings of the Fourth International Symposium on Sjogren's Syndrome, Kugler Publications, 21-26, 1994.
- 12) Tseng SCG. Regulation of limbal epithelial stem cells. Proceedings of the Santen International Symposium on Corneal Healing Responses to Injuries and Refractive Surgeries Ed. T. Nishida, Kugler Publications, the Hague, Netherlands, 59-77, 1998.
- 13) Kim JC, Tseng SCG. Botulinum toxin treatment for filamentary keratitis associated with corneal occlusion by lids. Advances in Cornea Research: Selected Transactions of the World Cornea Congress Ed. J. Lass, Chapter 11, 105-115, 1997.

- 14) Tseng SCG, Sun-T-T. Stem cells: ocular surface maintenance. Corneal Surgery: Theory, Techniques and Tissue Chapter 2, 3rd edition. Ed. F. S. Brightbill, Mosby—New York, Chapter 2, pp 9-18, 1999.
- 15) Tseng SCG. The University of Miami Bascom Palmer Eye Institute Atlas of Ophthalmology. Section Editor, Ocular Surface and Tear Disorders. Ed. Richard K. Parrish, II. Butterworth Heinemann, pp. 115-173, 1999.
- 16) Tseng SCG, Lee SB, Li DQ. Limbal stem cell deficiency in pathogenesis of pterygium. In Pterygium Ed. H. R. Taylor, Chapter 4, pp 41-55, 2000.
- 17) Tseng SCG. Amniotic membrane transplantation for ocular surface reconstruction. Chinese book chapter, 2000.
- 18) Tseng SCG. An integrated view and new perspectives of ocular surface and tear disorders. Chinese book chapter, 2000.
- 19) Pires RTF, Tseng SCG. Case 9, Keratoconjunctivitis Sicca- Dry eye. In Ophthalmology Review: A Case Study Approach, Ed. K. Singh, W. Smiddy, and A. G. Lee, Thieme Medical Publishers, New York, NY, pp 31-35, 2001.
- 20) Anderson DF, Tseng SCG. Dry eye. In Cornea and External Diseases: The Essentials Ed. O'Brien T and McDonnell P, Thieme, New York, in press, 2000.
- 21) Solomon A, Tseng SCG. Amniotic membrane transplantation in pterygium surgery. In Pterygium Surgery, Ed. L. Buratto, R. L. Phillips, G. Carito, Part B. Chapter3, pp 143-155, 2000. Slack.
- 22) Solomon A, Touhami A, Sandoval H. Neurotrophic keratopathy – basic concepts and therapeutic strategies. Comprehensive Ophthalmology Update, in press, 2000.
- 23) Tsubota K, Tseng SCG. Anatomy and Physiology of Ocular Surface. In “Ocular Surface Diseases: Medical and Surgical Management” Ed. Holland EJ and Mannis MJ. Springer, pp 3-15, 2001.
- 24) Schwartz GS, Tsubota K, Tseng SCG, Mannis MJ, Holland EJ. Keratolimbal allografts. In “Ocular Surface Diseases: Medical and Surgical Management” Ed. Holland EJ and Mannis MJ. Springer, pp 208-222, 2001.
- 25) Tseng SCG, Tsubota K. Amniotic Membrane Transplantation for Ocular Surface Reconstruction. In “Ocular Surface Diseases: Medical and Surgical Management” Ed. Holland EJ and Mannis MJ, Springer, pp 226-231, 2001.

- 26) Tseng SCG. Amniotic membrane transplantation for ocular surface reconstruction. In "Molecular and Cellular Biology of The Ocular Surface" Bioscience Reports, Plenum Publishing Co., New York, NY. 21:481-489, 2002.
- 27) Trevor GB, Tseng SCG. Amniotic membrane Transplantation. In "Corneal Transplantation" Ed. Vajpayee RB, Sharma N, Tabin GC, and Taylor HR. pp 252-261, 2002.
- 28) Tseng SCG, Meller D, Anderson DF, Touhami A, Pires RTF, Grueterich M, Soloman A, Espana E, Sandoval H, Ti S-E, Goto, E. Ex vivo preservation and expansion of human limbal epithelial stem cells on amniotic membrane for treating corneal diseases with total limbal stem cell deficiency. In Proceedings for Third International Conference on the Lacrimal Gland, Tear Film and Dry Eye Syndromes: Basic Science and Clinical Relevance, in press, 2002.
- 29) Espana EM, Yee SB, Yee RW, Tseng SCG. Cleavage of corneal basement membrane components by ethanol exposure like LASEK. In "LASEK" Yee RW, submitted, 2003.
- 30) Wolosin JM, Tseng SCG, Budak MT, Akinci, MA, Espana EM, Hughes BA, Alpdogan OS. The limbo-corneal epithelium and its stem cells; principles and applications. Submitted, 2003.
- 31) Espana EM, Di Pascuale M, Grueterich M, Tseng SCG. Corneal epithelium replenishment by ex vivo stem cell expansion. Spanish Ophthalmology Society Book, in press, 2004.
- 32) Di Pascuale M, Espana EM, Tseng SCG. Amniotic membrane transplantation for ocular surface reconstruction. Spanish Ophthalmology Society Book, in press, 2004.
- 33) Di Pascuale M, Elizondo A, Espana EM, Raju VK, Tseng SCG. Management of acute chemical burn. Chapter 11, Volume 3, HIGHLIGHTS COLLECTION, pp 1-9, 2005.
- 34) Tseng SCG, Li W, Matsumoto Y, Hayashida Y, Casas V. Amniotic membrane surgery. In Albert and Jakobiec's Principles and Practice of Ophthalmology 3rd Edition. In press.

JURIED OR REFEREED JOURNAL ARTICLES:

- 1) Tseng SCG, Stern R, Nitecki DE. A new rapid method for quantitating radioactive proline, 4-hydroxyproline, and 3-hydroxyproline. Anal Biochem 102:291-299, 1980.
- 2) Tseng SCG, Savion N, Gospodarowicz D, Stern R. Fibroblast growth factor maintains the phenotypic expression of collagen synthesis in cultured bovine corneal endothelial cells. J Biol Chem 156:3361-3365, 1981.

- 3) Aggler J, Kapp LN, Tseng SCG, Werb Z. Regulation of protein secretion in Chinese hamster ovary cells by cell cycle position and cell density. *Exp Cell Res* 139:274-283, 1982.
- 4) Tseng SCG, Jarvinen MI, Nelson WG, Huang J-W, Woodcock-Mitchell J, Sun T-T. Correlation of specific keratin antigens with different types of epithelial differentiation: Monoclonal antibody studies. *Cell* 30:361-372, 1982.
- 5) Tseng SCG, Lee PC, Ells PF, Bissell DM, Smuckler EA, Stern R. Collagen production by rat hepatocytes and sinusoidal cells in primary monolayer culture. *Hepatology* 2:13-18, 1982.
- 6) Tseng SCG, Smuckler D, Stern R. Comparison of collagen types in adult and fetal bovine corneas. *J Biol Chem* 257:2627-2630, 1982.
- 7) Sun T-T, Eichner R, Nelson WG, Tseng SCG, Weiss RA, Jarvinen M, Woodcock-Mitchell J. Keratin classes: Molecular markers for different types of epithelial differentiation. *J Invest Dermatol* 81:1095-1155, 1983.
- 8) Tseng SCG, Smuckler EA, Stern R. Types of collagen synthesized by normal rat liver hepatocytes in primary culture. *Hepatology* 3:955-963, 1983.
- 9) Tseng SCG, Stern R, Savion N, Gospodarowicz D. Modulation of collagen synthesis by a growth factor and by the extracellular matrix: Comparison of cellular response to two different stimuli. *J Cell Biol* 97:803-809, 1983.
- 10) Hirst LW, Auer C, Cohn J, Tseng SCG, Khodadoust AA. Specular microscopy of hard lens wearers. *Ophthalmology* 91:1147-1153, 1984.
- 11) Tseng SCG, Hatchell D, Tierney N, Huang AJW, Sun T-T. Expression of specific keratin markers by rabbit corneal, conjunctival, and esophageal epithelia during vitamin A deficiency. *J Cell Biol* 99:2279-2286, 1984.
- 12) Tseng SCG, Hirst LW, Farazdaghi M, Green WR. Goblet cell density and vascularization during conjunctival transdifferentiation. *Invest Ophthalmol Vis Sci* 25:1168-1176, 1984.
- 13) Tseng SCG, Hirst LW, Maumenee AE, Kenyon KR, Sun T-T, Green WR. Possible mechanisms for the loss of goblet cells in mucin-deficient disorders. *Ophthalmology* 91:545-552, 1984.
- 14) Hall J, Tseng SCG, Timpl R, Hendrix MJC, Stern R. Collagen types in fibrosarcoma: Absence of type III collagen in reticulin. *Human Pathol* 16:439-446, 1985.

- 15) Tseng SCG, Maumenee AE, Stark WJ, Maumenee IH, Jensen Ad, Green WR, Kenyon KR. Topical retinoid treatment for various dry-eye disorders. *Ophthalmology* 92:717-727, 1985.
- 16) Tseng SCG. Staging of conjunctival squamous metaplasia by impression cytology. *Ophthalmology* 92:728-733, 1985.
- 17) Sun T-T, Tseng SCG, Huang AJW, Cooper D, Schermer A, Lynch MH, Weiss R, Eichner R. Monoclonal antibody studies of mammalian epithelial keratins: A review. *Ann NY Acad Sci* 455:307-309, 1985.
- 18) Tseng SCG. Topical retinoid treatment for dry eye disorders. *Trans Ophthalmol Soc UK* 104:489-495, 1985.
- 19) Wittpenn JR, Tseng SCG, Sommer A. Detection of early xerophthalmia by impression cytology. *Arch Ophthalmol* 104:237-239, 1986.
- 20) Tseng SCG. Topical tretinoin treatment for severe dry-eye disorders. *J Am Acad Dermatol* 15:860-866, 1986.
- 21) Tseng SCG. Topical tretinoin treatment for dry-eye disorders. *Int Ophthalmol Clin* 27:47-53, 1987.
- 22) Tseng SCG, Hirst LW, Farazdaghi M, Green WR. Inhibition of conjunctival transdifferentiation by topical retinoids. *Invest Ophthalmol Vis Sci* 28:538-542, 1987.
- 23) Tseng SCG, Farazdaghi M, Rider AA. Conjunctival transdifferentiation induced by systemic vitamin A deficiency. *Invest Ophthalmol Vis Sci* 28:1497-1504, 1987.
- 24) Tseng SCG, Huang AJW, Sutter D. Purification and characterization of rabbit ocular mucin. *Invest Ophthalmol Vis Sci* 28:1473-1482, 1987.
- 25) Huang AJW, Tseng SCG. Development of monoclonal antibodies to rabbit ocular mucin. *Invest Ophthalmol Vis Sci* 28:1483-1491, 1987.
- 26) Huang AJW, Watson BD, Hernandez E, Tseng SCG. Photothrombosis of corneal neovascularization by intravenous rose bengal and argon laser irradiation. *Arch Ophthalmol* 106:680-687, 1988.
- 27) Huang AJW, Watson BD, Hernandez E, Tseng SCG. Induction of conjunctival transdifferentiation by photothrombotic occlusion of corneal neovascularization. *Ophthalmology* 95:228-235, 1988.

- 28) Huang AJW, Tseng SCG, Kenyon KR. Morphogenesis of rat conjunctival goblet cells. *Invest Ophthalmol Vis Sci* 29:969-975, 1988.
- 29) Tseng SCG, Farazdaghi M. Reversal of conjunctival transdifferentiation by retinoids. *Cornea* 7:273-299, 1988.
- 30) Tsai RJF, Tseng SCG. Substrate modulation of cultured rabbit conjunctival epithelial cells. *Invest Ophthalmol Vis Sci* 29:1565-1576, 1988.
- 31) Huang AJW, Tseng SCG, Kenyon KR. Pharmacological therapy for ocular surface diseases. *Int Ophthalmol Clin* 2:189-197, 1989.
- 32) Tseng SCG. Concept and application of limbal stem cells. *Eye* 3:141-157, 1989.
- 33) Huang AJW, Tseng SCG, Kenyon KR. Paracellular permeability of corneal and conjunctival epithelia. *Invest Ophthalmol Vis Sci* 30:684-689, 1989.
- 34) Kenyon KR, Tseng SCG. Limbal autograft transplantation for ocular surface disorders. *Ophthalmology* 96:709-723, 1989.
- 35) Huang AJW, Belldegrun R, Hanninen L, Kenyon KR, Tseng SCG, Refojo MF. Effects of hypertonic solutions on conjunctival epithelium and mucin-like glycoprotein discharge. *Cornea* 8:15-20, 1989.
- 36) Corrent G, Roussel TJ, Tseng SCG, Watson BD. Promotion of graft survival by photothrombotic occlusion of corneal neovascularization. *Arch Ophthalmol* 107:1501-1506, 1989.
- 37) Huang AJW, Tseng SCG, Kenyon KR. Alteration of epithelial paracellular permeability during corneal epithelial wound healing. *Invest Ophthalmol Vis Sci* 31:429-435, 1990.
- 38) Pflugfelder SC, Tseng SCG, Pepose JS, Fletcher MA, Klimas N, Feuer W. Epstein-Barr virus infection and immunological dysfunction in patients with aqueous tear deficiency. *Ophthalmology* 97:313-323, 1990.
- 39) Tsai RJF, Sun T-T, Tseng SCG. Comparison of limbal and conjunctival autograft transplantation for corneal surface reconstruction in rabbits. *Ophthalmology* 97:446-455, 1990.
- 40) Chen JJY, Tseng SCG. Corneal epithelial wound healing in partial limbal deficiency. *Invest Ophthalmol Vis Sci* 31: 1301-1314, 1990.
- 41) Pflugfelder SC, Huang AJW, Schuchovski PT, Pereira IC, Tseng SCG. Conjunctival cytological features of primary Sjogren syndrome. *Ophthalmology* 97:985-991, 1990.

- 42) Kruse FE, Chen JJY, Tsai RJF, Tseng SCG. Conjunctival transdifferentiation is due to the incomplete removal of limbal basal epithelium. *Invest Ophthalmol Vis Sci* 31:1903-1913, 1990.
- 43) Huang AJW, Tseng SCG. Corneal epithelial wound healing in the absence of limbal epithelium. *Invest Ophthalmol Vis Sci* 32:96-105, 1991.
- 44) Maskin SL, Tseng SCG. Culture of rabbit meibomian gland in collagen gel. *Invest Ophthalmol Vis Sci* 32:214-223, 1991.
- 45) Huang AJW, Tseng SCG, Kenyon KR. Change of paracellular permeability of ocular surface epithelium by vitamin A deficiency. *Invest Ophthalmol Vis Sci* 32:633-639, 1991.
- 46) Kruse FE, Tseng SCG. Zur untersuchung des limbusepithels in vitro (The investigation of limbal epithelial cells in vitro). *Fortschritte de Ophthalmologica* 8:107-112, 1991.
- 47) Tseng SCG, Tsai RJF. Limbal Transplantation for Corneal Surface Reconstruction, A Review. *Fortschritte de Ophthalmologica* 88:236-242, 1991.
- 48) Kruse FE, Tseng SCG. A serum-free clonal growth assay for limbal, peripheral and corneal epithelium. *Invest Ophthalmol Vis Sci* 32:2086-2095, 1991.
- 49) Chen JJY, Tseng SCG. Abnormal corneal epithelial wound healing in partial thickness removal of limbal epithelium. *Invest Ophthalmol Vis Sci* 32:2219-2233, 1991.
- 50) Maskin SL, Tseng SCG. Clonal growth and differentiation of rabbit meibomian gland epithelium in serum-free culture: Differential modulation by EGF and FGF. *Invest Ophthalmol Vis Sci* 33:205-217, 1992.
- 51) Feenstra RPG, Tseng SCG. Comparison of fluorescein and rose bengal staining. *Ophthalmology* 99:605-617, 1992.
- 52) Kruse FE, Tseng SCG. Proliferative and differentiative response of corneal and limbal epithelium to extracellular calcium in serum-free cultures. *J Cell Physiol* 151:347-360, 1992.
- 53) Feenstra RPG, Tseng SCG. What is actually stained by rose bengal? *Arch Ophthalmol* 110:984-993, 1992.
- 54) Kruse FE, Tseng SCG. Growth factors modulate clonal growth and differentiation of cultured limbal and corneal epithelium. *Invest Ophthalmol Vis Sci* 34:1963-1976, 1993.

- 55) Kruse FE, Tseng SCG. A tumor promoter-resistant subpopulation of progenitor cells is present in limbal epithelium more than corneal epithelium. *Invest Ophthalmol Vis Sci* 34:2501-2511, 1993.
- 56) Kruse FE, Tseng SCG. Serum differentially modulates the clonal growth and differentiation of cultured limbal and corneal epithelium. *Invest Ophthalmol Vis Sci* 34:2976-2980, 1993.
- 57) Kruse FE, Tseng SCG. Retinolsäure hemmt die proliferation der teilungszellen im peripheren hornhautepithel. *Fortschritte de Ophthalmologica* 90:662-668, 1993.
- 58) Kruse FE, Tseng SCG. Unterschiedliche regulation der proliferation von limbus- und hornhautepithel durch serumfaktoren. *Fortschritte de Ophthalmologica* 90:669-678, 1993.
- 59) Culbertson WW, Tseng SCG. Corneal disorders in floppy eyelid syndrome. *Cornea* 13:33-42, 1994.
- 60) Chodosh J, Dix R, Howell RC, Stroop WG, Tseng SCG. Staining characteristics and antiviral activity of sulforhodamine B and lissamine green B. *Invest Ophthalmol Vis Sci* 35:1046-1058, 1994.
- 61) Kruse FE, Tseng SCG. Retinoic acid regulates clonal growth and differentiation of cultured limbal and peripheral corneal epithelium. *Invest Ophthalmol Vis Sci* 35:2405-2420, 1994.
- 62) Tseng SCG, Feenstra RPG, Watson BD. Characterization of photodynamic action of rose bengal on cultured cell. *Invest Ophthalmol Vis Sci* 35:3295-3307, 1994.
- 63) Tsai RJF, Tseng SCG. Human allograft limbal transplantation for corneal surface reconstruction. *Cornea* 13:389-400, 1994.
- 64) Liu C-Y, Zhu G, Converse R, Kao C W-C, Nakamura H, Tseng SCG, Mui M-M, Seger J, Justice MJ, Stech ME, Hansen GM, Kao W W-Y. Characterization and chromosomal localization of the cornea-specific murine keratin gene: Krt 1.12. *J Biol Chem* 269:24627-24636, 1994.
- 65) Chen WYW, Mui M-M, Kao W W-Y, Liu C-Y, Tseng SCG. Conjunctival epithelial cells do not transdifferentiate in organotypic cultures: Expression of K12 keratins is restricted to corneal epithelium. *Cur Eye Res* 13:765-778, 1994.
- 66) Li D-Q, Tseng SCG. Three patterns of cytokine expression potentially involved in epithelial-fibroblast interactions of human ocular surface. *J Cell Physiol* 163:61-79, 1995.

- 67) Tseng SCG, Zhang S-H. Limbal epithelium is more resistant to 5-fluorouracil toxicity than corneal epithelium. *Cornea* 14:394-401, 1995.
- 68) Tseng SCG, Zhang S-H. Interaction between rose bengal and different tear components. *Cornea* 14:427-435, 1995.
- 69) Tsai RJF, Tseng SCG. Effect of stromal inflammation on the outcome of limbal transplantation for corneal surface reconstruction. *Cornea* 14:439-449, 1995.
- 70) Kim JC, Tseng SCG. Transplantation of preserved human amniotic membrane for surface reconstruction in severely damaged rabbit corneas. *Cornea* 14:473-484, 1995.
- 71) Chen WYW, Tseng SCG. Differential intrastromal invasion by normal ocular surface epithelia is mediated by different fibroblasts. *Exp Eye Res* 61:521-533, 1995.
- 72) Yoshino K, Tseng SCG, Pflugfelder SC. Substrate modulation of morphology, growth and tear protein production by cultural human lacrimal gland epithelial cells. *Exp Cell Res* 220:138-151, 1995.
- 73) Puangsricharen V, Tseng SCG. Cytologic evidence of corneal diseases with limbal stem cell deficiency. *Ophthalmology* 102:1476-1485, 1995.
- 74) Kim JC, Tseng SCG. The effects on inhibition of corneal neovascularization after human amniotic membrane transplantation in severely damaged rabbit corneas. *Korean J Ophthalmol* 9:32-46, 1995.
- 75) Tseng SCG, Li De-Quan. Comparison of protein kinase C subtype expression between normal and aniridic human ocular surfaces: Implications for limbal stem cell dysfunction in aniridia. *Cornea* 15:168-178, 1996.
- 76) Tseng SCG, Kruse FE, Merritt J, D-Q Li. Comparison between serum-free and fibroblast-cocultured single-cell clonal culture systems: Evidence showing that epithelial anti-apoptotic activity is present in 3T3 fibroblast conditioned media. *Curr Eye Res* 15:973-984, 1996.
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- (a) Rosenfeld PJ, Merritt J, Hernandez E, Meller D, Rosa Jr RH, Tseng SCG. Subretinal implantation of human amniotic membrane: A rabbit model for the replacement of Bruch's membrane during submacular surgery. *Invest Ophthalmol Vis Sci* 40:S206, 1999.
- (b) Helligenhaus A, Bauer D, Mrzyk S, Meller D, Steuhl KP, Tseng SCG. Amniotic membrane transplantation improves murine herpes stromal keratitis by induction of neutrophil apoptosis. *Invest Ophthalmol Vis Sci* 40:S257, 1999.
- (c) Pires RF, Tseng SCG, Prabhasawat P, Puangsricharn V, Maskin SL, Kim JC. Amniotic membrane transplantation for symptomatic bullous keratopathy. *Invest Ophthalmol Vis Sci* 40:S327, 1999.
- (d) Chokshi AR, Tseng SCG. Amniotic membrane transplantation or limbal autograft transplantation for limbal stem cell deficiency induced by 5-FU in glaucoma surgeries. *Invest Ophthalmol Vis Sci* 40:S328, 1999.
- (e) Choi T, Tseng SCG. In vivo demonstration of suppression of scarring and autologous blood-induced inflammation by intrastromal implantation of human amniotic membrane in rabbit corneas. *Invest Ophthalmol Vis Sci* 40:S328, 1999.
- (f) Meller D, Pires RF, Tseng SCG. Ex vivo preservation and expansion of human limbal epithelial progenitor cells by amniotic membrane. *Invest Ophthalmol Vis Sci* 40:S329, 1999.
- (g) Lee SB, Li D-Q, Gunja-Smith Z, Liu YQ, Tan DTH, Tseng SCG. Increased expression and activity of MMP-1 and MMP-3 by cultured pterygium head fibroblasts. *Invest Ophthalmol Vis Sci* 40:S334, 1999.
- (h) Li D, Meller D, Tseng SCG. Increased expression of MMP-1 and MMP-3 by cultured human fibroblasts derived from conjunctivochalasis. *Invest Ophthalmol Vis Sci* 40:S334, 1999.

- (i) Merritt JJ, Li DQ, Lee SB, Tan DT, Tseng SCG. Dysfunction of TGF- β s and TGF- β Rs expression in pterygium head fibroblasts. *Invest Ophthalmol Vis Sci* 40:S334, 1999.
- (j) Tseng SCG, Lee SB, Li DQ, Tan DT. Suppression of TGF- β signaling in both normal conjunctival fibroblasts and pterygial body fibroblasts by amniotic membrane. *Invest Ophthalmol Vis Sci* 40:S579, 1999.
- (k) Stark WJ, Mai ELC, Li Q, Ashrar F, Tseng SCG, O'Brien TP. Adjunctive amniotic membrane transplant in therapy of severe experimental bacterial keratitis. *Invest Ophthalmol Vis Sci* 40:S690, 1999.
- (l) Park WC, Heo JW, Yoo KW, Rho SH, Yoo YH, Tseng SCG. Effects of UVB and amniotic membrane transplantation on photorefractive keratectomy induced inflammation, lipid peroxidation and keratocyte death. *Invest Ophthalmol Vis Sci* 40:S774, 1999.

ARVO (April 30 – May 5, 2000)

- (a) Solomon A, Li D-Q, Lee S-B, Tseng SCG. Differential regulation of collagenase (MMP-1), stromelysin (MMP-3) and urokinase-type plasminogen-activator (uPA) in cultured human conjunctival and primary pterygium body fibroblasts by inflammatory cytokines. *Invest Ophthalmol Vis Sci* 41:S8, 2000.
- (b) Budenz DL, Barton K, Tseng SCG. Amniotic membrane transplantation for repair of leaking glaucoma filtering blebs: A randomized prospective trial. *Invest Ophthalmol Vis Sci* 41:S326, 2000.
- (c) Pires RTF, Meller D, Solomon A, Anderson DF, Tseng SCG. Long-term follow up of corneal surface reconstruction by amniotic membrane transplantation alone or combined with keratolimbal allograft for limbal stem cell deficiency. *Invest Ophthalmol Vis Sci* 41:S453, 2000.
- (d) Anderson DF, Pires RTF, Chen H-J, Eissa H, Exteberria J, Meller D, Tseng SCG. Ex-vivo expansion of rabbit limbal epithelial stem cells on amniotic membrane for transplantation to restore total limbal deficiency. *Invest Ophthalmol Vis Sci* 41:S454, 2000.
- (e) Meller D, Pires RTF, Tseng SCG. Ex vivo expansion of human limbal epithelial stem cells on amniotic membrane. *Invest Ophthalmol Vis Sci* 41:S454, 2000.
- (f) Kim MC, Meller D, Pires RTF, Tseng SCG. Rapid disappearance of Ia⁺ cells in human limbal and conjunctival epithelial cells cultured *Ex Vivo* on amniotic membrane. *Invest Ophthalmol Vis Sci* 41:S454, 2000.
- (g) Merritt JJ, Meller D, Li D-Q, Dabul V, Tseng SCG. Differential regulation of collagenase (MMP-1), stromelysin (MMP-3), and gelatinase B (MMP-9) in cultured human normal conjunctival and conjunctivochalasis fibroblasts by interleukin-1 β and tumor necrosis factor- α . *Invest Ophthalmol Vis Sci* 41:S456, 2000.
- (h) Tseng SCG, Meller D, Pires RTF, Anderson DF, Solomon A. Corneal surface reconstruction by limbal epithelial cells ex vivo expanded on amniotic membrane. *Invest Ophthalmol Vis Sci* 41:S756, 2000.

ARVO (April 29 – May 4, 2001)

- (a) Goto E, Tsai P-S, Tseng SCG. Kinetic analysis of the tear interference pattern. *Invest Ophthalmol Vis Sci* 42:S33, 2001.
- (b) Choi TH, Lee JY, Chun DH, Tseng SCG. The effect of amniotic membrane transplantation on limbal and corneal epithelial proliferation during corneal wound healing. *Invest Ophthalmol Vis Sci* 42:S265, 2001.
- (c) Anderson DF, Touhami A, Sandoval H, Tseng SCG. Corneal surface reconstruction in rabbits with unilateral total limbal deficiency using ex-vivo limbal epithelial stem cells expanded on rabbit amniotic membrane: long term outcomes. *Invest Ophthalmol Vis Sci* 42:S266, 2001.
- (d) Solomon A, John T, Tseng SCG. Amniotic membrane grafts for corneal perforation, descematoceles and deep ulcers. *Invest Ophthalmol Vis Sci* 42:S270, 2001.
- (e) Tseng SCG, Espana EM, Solomon A. Amniotic membrane transplantation for fornix reconstruction in symblepharon. *Invest Ophthalmol Vis Sci* 42:S270, 2001.
- (f) Sandoval H, Ricordi C, Pugliese A, Fraker C, Tseng SCG. Amniotic membrane can prolong the survival of human pancreatic cells. *Invest Ophthalmol Vis Sci* 42:S271, 2001.
- (g) Grueterich M, Tseng SCG. Connexin43 expression and proliferative activity of limbal and corneal epithelial cells expanded on intact and epithelially-denuded amniotic membrane. *Invest Ophthalmol Vis Sci* 42:S303, 2001.
- (h) Touhami A, Merritt J, Sun W, Tseng SCG. Expression of neurotrophin and their receptors by human limbal epithelial cells expanded on amniotic membrane culture. *Invest Ophthalmol Vis Sci* 42:S303, 2001.
- (i) Liu C-Y, Paradis H, Gendron RL, Choi D-W, Chapon P, Tseng SCG, Kao CWC, Kao WWY. AngX/CDT6, a novel fibrinogen/angioprotein-like factor that enhances angiogenesis in vivo. *Invest Ophthalmol Vis Sci* 42:S478, 2001.
- (j) Meller D, Li D-Q, Dabul V, Tseng SCG. Overexpression of collagenase (MMP-1), gelatinase (MMP-2), and stromelysin (MMP-3), and downregulation of urokinase plasminogen activator (uPA) in human normal conjunctival and conjunctivochalasis fibroblasts cultured on amniotic membrane stromal matrix. *Invest Ophthalmol Vis Sci* 42:S486, 2001.
- (k) Merritt JJ, Solomon A, Grueterich M, Lee S-B, Meller D, Li D-Q, Tseng SCG. Overexpression of IGF-BP2, IGF-BP3 and IGF2 in cultured primary pterygium fibroblasts. *Invest Ophthalmol Vis Sci* 42:S772, 2001.

ARVO (April 25-29, 2004)

- (a) Di Pascuale MA, Espana EM, He H, Kawakita T, Liu C-Y, Tseng SCG. Characterization of corneal pannus removed from patients with total limbal stem deficiency. *Invest Ophthalmol Vis Sci* 43:S59, 2004.
- (b) Yeh LK, Kawakita T, Espana EM, He H, Liu C-Y, Tseng SCG. Air exposure promotes intrastromal invasion of rabbit limbal epithelial cells at the limbal location in vivo. *Invest Ophthalmol Vis Sci* 43:S59, 2004.

- (c) Kawakita T, Espana EM, Di Pascuale M, Liu D-Y, Tseng SCG. In vitro growth and differentiation of mouse corneal epithelium on plastic depends on extracellular calcium concentration. *Invest Ophthalmol Vis Sci* 43:S60, 2004.
- (d) Romano AC, Espana EM, Yoo SH, Tseng SCG. Morphological characterization of corneal limbal niche by confocal microscopy. *Invest Ophthalmol Vis Sci* 43:S140, 2004.
- (e) He H, Espana EM, Kawakita T, Tseng D, Liu C-Y, Tseng SCG. Suppression of TGF- β signaling and myofibroblast differentiation in human keratocytes maintained by amniotic membrane stromal matrix. *Invest Ophthalmol Vis Sci* 43:S158, 2004.
- (f) Espana EM, Kawakita T, He H, Di Pascuale MA, Raju V, Smiddy R, Liu C-Y, Tseng SCG. Human and mouse keratocyte morphology and expression of keratocan and CD34 are maintained during expansion by serum containing media and amniotic membrane stroma. *Invest Ophthalmol Vis Sci* 43:S160, 2004.
- (g) Cho H, Tseng SCG. Modulation of ex vivo expansion of human limbal explant outgrowth on amniotic membrane by inhibitors of signal transduction pathways. *Invest Ophthalmol Vis Sci* 43:S163, 2004.
- (h) Tseng SCG, Di Pascuale MA, Espana EM, Kawakita T, Liu T, Cho H-T, Yeh L. Intraoperative mitomycin C and amniotic membrane transplantation for fornix reconstruction. *Invest Ophthalmol Vis Sci* 43:S163, 2004.
- (i) Li W, He H, Kawakita T, Tseng SCG. Amniotic membrane stroma induces cell death of interferon- γ activated macrophages in vitro. *Invest Ophthalmol Vis Sci* 43:S188, 2004.
- (j) Liu T, Sawai J, Di Pascuale MA, Tseng SCG. Water evaporation is increased in lid skin and ocular surface of patients with floppy eyelid syndrome. *Invest Ophthalmol Vis Sci* 43:S161, 2004.

OTHER WORKS SUBMITTED FOR PUBLICATIONS:

- 217) Yao Y-F, Zhang Y-M, Oiu W-Y, Tseng SCG. Mitomycin C, amniotic membrane transplantation and limbal autograft in treating recurrent pterygia with severe symblepharon and motility restriction. *Ophthalmology*, submitted, 2004.
- 218) Gao Y-Y, Di Pascuale MA, Elizondo A, Tseng SCG. Clinical treatment of ocular demodectosis by lid scrub with tea tree oil. *Cornea*, submitted, 2006.
- 219) Bauer D, Hermans P, Wasmuth S, Meller K, Meller D, van Roojen N, Tseng SCG, Steuh K-P, Heiligenhaus A. Influence of amniotic membrane transplantation on neutrophils in the cornea of mice with necrotizing HSV-1 keratitis. *Invest Ophthalmol Vis Sci*, submitted, 2006.
- 220) Ijiri S, Kobayashi A, Sugiyama K, Tseng SCG. Measurement of light transmittance of cryopreserved human amniotic membrane. *Cornea*, revised, 2006.

- 221) Kobayashi A, Sugiyama K, Tseng SCG. *In vivo* laser confocal microscopic findings of cryopreserved and fresh human amniotic membrane. *Cornea*, revised, 2006.
- 222) Tseng SCG, Goto E, Di Pascuale MA, Liu D, Gao Y-Y, Casas V. Kinetic analysis of tear interference images timed with eyelid blinking. *Curr Eye Res*, submitted, 2006.
- 223) Li W, He H, Hayashida Y, Kuo C-L, Tseng SCG. The fate of limbal epithelial progenitor cells during explant culture on intact amniotic membrane. *Stem Cells*, submitted, 2006.

FUNDED RESEARCH PERFORMED:

NIH, NEI, NRSA; F32 EY05744 - 7/1/84-11/30/84
 Modulation of Conjunctival Transdifferentiation by Vitamin A.
 P. I. - Scheffer C. G. Tseng

NIH, NEI; 5 RO1 EY05656 - 12/1/84-11/30/87
 Modulation of Conjunctival Transdifferentiation by Vitamin A.
 P. I. - Scheffer C. G. Tseng

Grant-in-Aid GA87-023 Fight For Sight, Inc. 1987-1988
 Photothrombosis of Corneal Neovascularization by Treatment with Argon Laser and Intravenous Rose Bengal.
 P. I. - Scheffer C. G. Tseng, Co-P. I. - Andrew JW Huang

NIH, NEI; RO1 EY06819 - 12/1/87-11/30/90
 Modulation of Conjunctival Transdifferentiation by Vitamin A.
 P. I. - Scheffer C. G. Tseng

FDA, Orphan Products Development FD-R-000826-01.
 9/30/92 - 9/29/93
 Photothrombotic Treatment for Corneal Neovascularization.
 P. I. -Andrew JW Huang, Ophthalmologist Scheffer CG Tseng, 5% Effort

NIH, NEI; RO1 EY06819 - 12/1/90 - 11/30/95
 Growth and Differentiation of Ocular Surface Epithelia.
 P. I. - Scheffer C. G. Tseng, 30% Effort

Vistakon, Inc.
 Perilimbal Bulbar Conjunctival Response to lens Wear
 P. I. - Scheffer C. G. Tseng
 Pilot Study - \$25,000 (direct cost) plus 6,250 (indirect cost)

NIH, NEI; RO1 EY06819 – 10/1/97 - 9/30/2000
Regulation of Limbal Epithelial Stem Cells.
P. I. - Scheffer C. G. Tseng, 30% Effort

NIH, NEI; RO1 EY06819 – 9/30/2000 – 9/29/2005
Ex Vivo Expansion of Limbal Epithelial Stem Cells
P. I. - Scheffer C. G. Tseng, 50% Effort

Eye Bank Association of America, 2001
Enrichment of Limbal Epithelial Stem Cells on Amniotic Membrane by TPA
P.I. - Martin Grueterich, Scheffer C. G. Tseng

NIH, NEI; R43 EY014768-01, April 1, 2003 to Sept 30, 2003
Development of Sutureless Amniotic Membrane Graft
P.I. - Scheffer C. G. Tseng, 10% Effort

NIH, NEI; RO1 EY015121-01, submitted Feb. 2003
Anti-scarring Mechanism of Amniotic Membrane
P.I.- Scheffer C. G. Tseng, 20% Effort

NIH, NEI; RO1 EY015735-01, October 1, 2004 to September 30, 2008
Transplantation of Expanded Limbal Epithelial Stem Cells
P.I.- Scheffer C. G. Tseng, 20% Effort

NIH, NEI, 1 R43EY015592-01, January 31, 2005 to Jan 1, 2006.
Title: Ex Vivo Expansion of RPE Cells by Amniotic Membrane
P.I.- Scheffer C. G. Tseng, 10% Effort

NIH, NEI, 1 R43 EY017497-01, 4/1/2006 – 3/31/2007
Anti-scarring and Anti-inflammatory Effects of Amniotic Membrane Extracts
P.I.- Scheffer C.G. Tseng, 10% Effort

NIH, NEI; RO1 EY06819-(20-25), 4/1/2006 – 3/31/2011
Niche Regulation of Limbal Epithelial Stem Cells
P.I.- Scheffer C. G. Tseng, 50% Effort

NIH/NEI; R44 EY014768, 4/1/2005 – 3/31/2007
Development of Sutureless Amniotic Membrane Graft
P.I.- Scheffer C. G. Tseng, 20% Effort

NIH, NEI; RO1 EY015121-01, resubmitted November, 2006
Anti-scarring Mechanism of Amniotic Membrane
P.I.- Scheffer C. G. Tseng, 20% Effort

INVENTION DISCLOSURE:

1. Therapeutic Applications of Reconstituted Cross-Linked Basement Membrane for Modulating Wound Healing and other Diseased Processes
Submitted to University of Miami on August 31, 1993. 100% Interest, Approved for Patent Application
2. A Device to Detect and Measure Real-time Eye Lid Blinking Rate
Submitted to University of Miami on September 19, 1995. 100% Interest, Provisional Patent filed with US Patent in August 1996.
3. A New Dry Eye Treatment Directed to Replacing Missing Meibum Lipids
Submitted to University of Miami on January 9, 1996. 50% Interest, Provisional Patent (60/046,659) filed with US Patent Office in May 15, 1997.
4. The Use of Amniotic Membrane Matrix to Reduce Corneal Haze Induced by Excimer Laser Photoablation
Submitted to University of Miami on December 18, 1996. 100% Interest, Provisional Patent filed with US Patent Office in Feb 1997.
5. Kinetic Analysis of Lipid Tear Film Using Sequential Images of Tear Interference
Submitted to University of Miami on April 9, 2001. 60% Interest.
6. Devices Facilitating Amniotic Membrane to Be Fastened and for Culturing Cells (#UM00-005) submitted on April 9, 2001, and a full release of such a right from UM on May 24, 2001, and subsequently from NIH. 40% Interest.

PATENTS:

1. US Patent 5,652,209
“Use of Secretory Products of Human Lacrimal Glands for Treating Dry Eye Disorders.
Issued on 7/29/97.
2. US Patent 60/123,172, PCT (70373/126249)
“Process and Device for Measuring Tear Fluorescein”.
3. US Patent 08/754,060
“Non-preserved Topical Corticosteroid for Treatment of Dry Eye, Filamentary Keratitis and Delayed Tear Clearance (or Turnover)”
4. US Patents 6,152,142 and 6,326,019
“Grafts Made from Amniotic Membrane; Methods or Separating, Preserving, And Using Such Grafts in Surgeries”
5. Taiwan Patent

“Grafts Made from Amniotic Membrane; Methods of Separating, Preserving, And Using Such Grafts in Surgeries”.

Filing No.: 87102862 Filing Date: Feb. 27, 1998

Publication No.: 00398982 Publication Date: July 21, 2000

Patent No.: 119091 Duration of Patent : From July 21, 2000 till Feb. 26, 2018

6. Provisional patent filed with USPTO (Provisional Application Serial No. 60/286,408 and U.S. Patent Application Serial No. 10/131,665) on April 27, 2001.
“Kinetic Analysis of Lipid Tear Film Using Sequential Images of Tear Interference”
5. US Provisional Patent (No.: 60/365,356)
“Amniotic Membrane Covering for a Tissue Surface and Devices Facilitating Fastening of Membranes”
Inventors: Scheffer C.G. Tseng, Helga Sandoval and William G. Lee
Filing Date: March 14, 2002
8. US Provisional Patent (No.: 60/415,986)
“Retinal Pigment Epithelial Cell Cultures on Amniotic Membrane and Transplantation”
Inventors: Susanne Binder and Scheffer C. G. Tseng
Filing Date: October 4, 2002
9. PCT Application: PCT/US03/31464
“Retinal Pigment Epithelial Cell Cultures on Amniotic Membrane and Transplantation”
Inventors: Susanne Binder and Scheffer C. G. Tseng
International Filing date: 06 October 2003
Priority date: 04 October 2002
10. Taiwan Provision Patent (No.: 92105276)
“Amniotic Membrane Covering for a Tissue Surface and Devices Facilitating Fastening of Membranes”
Inventors: Scheffer C.G. Tseng, Helga Sandoval and William G. Lee
Filing Date: March 11, 2003
11. US Provisional Patent (No.: 60/465,989)
“Enzymatic Isolation of Limbal Epithelial Sheet”
Inventors: Scheffer C.G. Tseng and Edgar Espana
Filing Date: April 28, 2003
12. US Provisional Patent (No.: 60/473,007)
“Keratocytes Cultured On Amniotic Membrane”
Inventors: Scheffer C.G. Tseng and Edgar Espana
Filing Date: May 23, 2003

IRB PROTOCOLS CONDUCTED (counted from 1997):

At the University of Miami:

1. Amniotic membrane transplantation for ocular surface reconstruction (93/363, terminated in 1998)
2. A new lipid replacement therapy for ocular irritation (96/048, active)
3. Clinical trial of a new dry eye ointment
4. DHEA and cortisol levels in patients with idiopathic central serous retinopathy
5. Amniotic membrane transplantation in age-related maculopathy (AMTARM): A pilot study (P.I. Philip J. Rosenfeld, M.D., Ph.D.)
6. The use of human amniotic membrane for in vitro study (93/249)
7. Limbal stem cell deficiency arising from systemic chemotherapy (00/263)
8. Amniotic membrane transplantation following primary surgical management of band keratopathy (00/262)
9. Amniotic membrane transplantation for partial limbal stem cell deficiency: Long term outcomes (00/261)
10. Total limbal stem cell deficiency: Long term follow up of patients treated by amniotic membrane transplantation and penetrating keratoplasty. (00/272)
11. Regulation of matrix metalloproteinase enzymes by cytokines and growth factors in cultured pterygium fibroblasts in comparison with cultured normal pterygium fibroblasts. (00/203)
12. Retrospective review of outcome of painful bullous keratopathy treated with amniotic membrane transplantation. (00/444)
13. Preparation of Amniotic Membrane from Human Placenta for Basic Research Uses. ((01/554A)
14. Amniotic membrane transplantation for pterygium surgery (00/202)
15. Treatment of CCIN (corneal and conjunctival intraepithelial neoplasm) with topical mitomycin C 0.02%-0.04% (01/339) Claudia Arroyave as co-investigator

At the Ocular Surface Center

1. Evaluation of lipid tear film in dry eye patients and normal subjects following topical instillation of investigational emulsion drops using kinetic analysis of tear interference images. Supported by Allergan (No. 02-01) and starting April, 2002.

ANIMAL PROTOCOLS CONDUCTED (counter from 1997)*At the University of Miami:*

1. Subretinal transplantation of amniotic membrane in the pig: A model for Bruch's membrane replacement following surgical removal of choroidal neovascular membranes in humans

2. Reduction of corneal haze induced by excimer laser photoablation by preserved human amniotic membrane (98/119renewal03) approved on 7/13/00
3. Production of polyclonal antibodies to various ocular surface proteins (98-205renewal02)
4. Biomedical and immunological characterization of monoclonal antibodies to corneal proteins (95-066)
5. Studies of epithelial growth and differentiation following epithelial wound healing (95-069)
6. Tissue harvesting from various laboratory animal species (for development of monoclonal antibodies as markers) (95-075)
7. Production of ascites fluid in mouse induced by injection of various surface antigens or hybridoma (95-090)
8. Cell differentiation on hydroxyapatite implants (Keratoprosthesis) and surgical technique ()
9. Amniotic membrane transplantation for acute chemical burns (98-243)
10. Amniotic membrane transplantation for partial and total limbal deficiency (98-267ad02)
11. Suppression of TGF- β (transforming growth factor) by intrastromal transplantation of amniotic membrane (98-204renewal02)
12. Amniotic membrane transplantation for suppressing inflammation and scarring in the eye of plasminogen deficient transgenic mice (99-097revised) Approved on 8/5/99.
13. Production of polyclonal antibody to HNE (4-hydroxy 2-nonenal) (98-205renewal02), Approved on 7/8/99

At the Ocular Surface Center

1. Ex vivo expansion of rabbit retinal pigment epithelial cells on rabbit amniotic membranes for autologous re-transplantation onto denuded Bruch's membrane. As a consultant.
2. IACUC Protocol #05-188 entitled "Development of Sutureless Amniotic Membrane Graft", approved on 08/23/05.
3. IACUC # 05-220 entitled "Ex-vivo Expansion of Limbal Epithelial Stem Cells on Amniotic Membrane", approved on 10/06/05.

EDITORIAL RESPONSIBILITIES:

Serving as Reviewer for:

- a) Investigative Ophthalmology and Visual Science
- b) Ophthalmology
- c) Archive Ophthalmology
- d) Experimental Eye Research
- e) Current Eye Research
- f) American Journal of Ophthalmology
- g) Graefe's Archive of Clinical and Experimental Ophthalmology

- h) Refractive and Cornea Surgery
- i) Cornea
- j) National Medical Journal of India
- k) New England Journal of Medicine
- l) European Journal of Epidemiology
- m) The Lancet (ID: 4660)
- n) Documenta Ophthalmologica
- o) Journal of Refractive Surgery
- p) Ophthalmic Surgery and Lasers
- q) Journal of Clinical Investigation
- r) Indian Journal of Ophthalmology
- s) Gene
- t) Survey of Ophthalmology
- u) British Journal of Ophthalmology
- v) Journal of Investigative Dermatology
- w) Collegium Antropologicum
- x) Graefe's Archive for Clinical and Experimental Ophthalmology
- y) Ophthalmic Research
- z) International Journal of Biochemistry & Cell Biology
- aa) Tissue and Cell
- bb) Feb Lett
- cc) European Journal of Ophthalmology
- dd) Tissue Engineering
- ee) Journal of Cell Science
- ff) Canadian Journal of Ophthalmology
- gg) Future Medicine

Serving as Reviewer for Grant Proposal Submitted to:

- a) Singapore Medical Research Council
- b) Swiss National Science Foundation
- c) Wellcome Trust
- d) Royal National Institute for the Blind, U.K.
- e) The Ophthalmic Research Institute of Australia
- f) Fight for Sight, UK
- g) Singapore Biomedical Research Council (BMRC)
- h) OeNB's Anniversary Fund for the Promotion of Scientific Research and Teaching
(Jubiläumsfonds zur Förderung der Forschungs- und Lehraufgaben der Wissenschaft)
- i) Taiwan Academia Sinica
- j) Biotechnology and Biological Sciences Research Council, UK
- k) National Eye Research Centre, UK

Serving as Members of the Editorial Board:

- a) Hong Kong Journal of Ophthalmology
- b) Guest Editorial Board Member- Invest Ophthalmol Vis Sci
- c) Managing Editor, Frontier in Bioscience
- d) Ocular Surface
- e) Cornea
- f) Chung-Gung Memorial Hospital Medical Journal

PROFESSIONAL AND HONORARY ORGANIZATIONS:

Members:

American Medical Association
 Association for Research in Vision and Ophthalmology
 American Academy of Ophthalmology
 American Society of Cataract & Refractive Surgery
 American Society of Cell Biology
 American Society for Photobiology
 American Chinese Ophthalmologist Association
 Christian Ophthalmology Society
 Fight for Sight
 Florida Society of Ophthalmology
 International Society for Eye Research
 International Ocular Surface Society
 Miami Ophthalmology Society
 National Honor Society for International Scholars
 Pan-American Ophthalmology Society
 R. Twonley Paton Society
 Society of Chinese Bioscientist in America
 Wilmer Resident Association
 Council of Healthcare Advisors

Board of Officers:

TissueTech, Inc., since 2002
 Ocular Surface Research & Education Foundation, since 2001

Honorary Member of Advisory Board or Committee:

Asia-Pacific Society of Cornea & Refractive Surgery, since 1998
 International Advisory Board of the Shantou University/Chinese University of Hong Kong
 Joint Eye Center, since 2001
 International Advisory Committee of the Implant Conference

HONORS AND AWARDS:

Visiting Professorships

- 1985 Visiting Professorship, Department of Ophthalmology, Bethesda Eye Institute, St. Louis University School of Medicine
- 1986 Visiting Professorship, Washington National Eye Center, Department of Ophthalmology, Washington, DC
- 1988 Visiting Professorship, Emory University, Department of Ophthalmology, Atlanta, GA.
- 1990 Visiting Professorship, Chung-Gung Memorial Hospital, Department of Ophthalmology, Taipei, Taiwan.
- 1990 Visiting Professorship, Pan-American Association of Ophthalmology, Caracas, Venezuela.
- 1991 Visiting Professorship, The University of Texas Health Science Center, Department of Ophthalmology, San Antonio, Texas.
- 1993 Visiting Professorship, National Institute of Health, Taiwan.
- 1994 Visiting Professorship, Department of Ophthalmology & Department of Neurobiology and Anatomy. Wake Forest University, The Bowman Gray School of Medicine, Winston-Salem, North Carolina.
- 1994 Visiting Professorship, Fundacion Oftalmologica Nacional, Bogota, Colombia, Feb. 17-19, 1994. XV Annual Course. (a) New frontiers in dry eye (b) Concept of limbal stem cells and corneal diseases characterized by limbal stem cell dysfunction (c) Limbal transplantation for corneal surface reconstruction (d) Novel strategies for corneal surface reconstruction including amniotic membrane transplantation.
- 1996 Visiting Professorship, University of Cincinnati, Cincinnati, Ohio, November 6-7, 1996. Department of Ophthalmology. (a) New strategies for ocular surface reconstruction. Department of Cell Biology, Anatomy and Neurobiology. (b) Regulation of corneal epithelial stem cells at the limbus.
- 1997 Outstanding Faculty/Administrator Scholar and elected to Phi Beta Delta, the National Honor Society for International Scholars.
- 1997 Visiting Professorship, Department of Ophthalmology, Dong-A University, Pusan, Korea, March 24, 1997. (a) New Strategies for Ocular Surface Reconstruction
- 1997 Visiting Professorship, Department of Ophthalmology, Tokyo Dental College, Ichikawa, Japan, March 26, 1997, (a) Ocular Surface Health, Reconstruction, and Floppy Eyelid Syndrome
- 1997 Visiting Expert under Health Manpower Development Plan (HMDP) sponsored by Ministry of Health Singapore and Singapore National Eye Center, June 17 to 24, 1997.
- 1997 Visiting Professorship, Department of Ophthalmology, University of Toronto, Toronto, Canada, September 11-12, 1997. (a) Ocular surface health, diagnostic and therapeutic strategies, (b) Corneal diseases characterized by limbal deficiency, (c) New Strategies of ocular surface reconstruction.
- 1998 Visiting Professorship, Department of Ophthalmology and Visual Sciences

- Washington University School of Medicine, St. Louis, MO, March 19, 1998. (a) Important concepts for treating ocular surface and tear disorders, (b) Regulation of limbal stem cells by stromal fibroblasts and matrix.
- 1998 Visiting Professorship, Department of Ophthalmology, University of Washington, Seattle, Washington, April 28, 1998. (a) Important concepts for treating ocular surface and tear disorders.
- 1998 Visiting Professorship, Department of Ophthalmology, Mayo Clinic, Rochester, MN, August 21-22, 1998. (a) Dysfunction and restoration of ocular surface epithelial stem cells – New strategies using amniotic membrane transplantation and stem cell transplantation. (b) Important concepts of treating ocular surface and tear disorders.
- 1998 Visiting Professorship, Department of Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan, October 5-7, 1998. Dysfunction and restoration of epithelial stem cells.
- 1999 Visiting Professorship, Department of Ophthalmology, Washington Hospital Center, Washington, DC, April 24, 1999. (a) New strategies of ocular surface reconstruction. (b) Important concepts for treating ocular surface and tear disorders.
- 1999 The Second Ulrich Ollendorff Lectureship, Edward S. Harkness Eye Institute, Department of Ophthalmology, College of Physicians & Surgeons of Columbia University, New York, NY, May 20, 1999. (a) Dysfunction and Restoration of Ocular Surface Epithelial Stem Cells – New Strategies of Ocular Surface Reconstruction with Stem Cell Transplantation and Amniotic Membrane Transplantation.
- 1999 Visiting Professorship, Kellogg Eye Center, University of Michigan, Ann Arbor, MI, November 6-7, 1999. (a) Dysfunction and Restoration of Ocular Surface Epithelial Stem Cells – New Strategies of Ocular Surface Reconstruction with Stem Cell Transplantation and Amniotic Membrane Transplantation. (b) Important Concepts of Treating Ocular Surface and Tear Disorders.
- 1999 Visiting Professorship, King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia, November 13-17, 1999. (a) Dysfunction and Restoration of Ocular Surface Epithelial Stem Cells – New Strategies of Ocular Surface Reconstruction with Stem Cell Transplantation and Amniotic Membrane Transplantation. (b) Important Concepts of Treating Ocular Surface and Tear Disorders.
- 2000 Visiting Professorship, Brooke Army Medical Center, San Antonio and University of Texas Health Center, San Antonio, Texas, January 20-21, 2000. (a) Important Concepts for Treating Ocular Surface & Tear Disorders. (b) Dysfunction and Restoration of Limbal Epithelial Stem Cells.
- 2000 Visiting Professorship, El-Maghraby Eye Hospital, Jeddah, Saudi Arabia, January 24-28, 2000. (a) Important Concepts for Treating Ocular Surface & Tear Disorders. (b) Dysfunction and Restoration of Limbal Epithelial Stem Cells.
Amniotic Membrane Transplantation for Ocular Surface Reconstruction
- 2000 Visiting Professorship, Department of Ophthalmology, Kanazawa University School of Medicine, Kanazawa, Japan. February 22, 2000. Dysfunction and

- Restoration of Limbal Epithelial Stem Cells: Role of Amniotic Membrane transplantation
- 2001 Visiting Professorship, Department of Ophthalmology, Geisinger Medical Center, Danville, PA, September 15-16, 2000. (a) Neuroanatomic Integration of Ocular Surface Defense: Clinical Significance, (b) Amniotic Membrane Transplantation for Ocular Surface Reconstruction
- 2002 Visiting Professorship, Department of Ophthalmology, Tokyo Dental College, Chiba, Japan, September 28, 2001 (a) Clinical significance of kinetic analysis of tear interference images; October 1, 2001 (b) New progress of amniotic membrane transplantation
- 2002 Department of Ophthalmology, Osaka University School of Medicine, Osaka, Japan, Oct 15, 2001. Ocular Surface Reconstruction with Epithelial Stem Cells and Amniotic Membrane
- 2002 LSU Eye Center, Louisiana State University School of Medicine, New Orleans, LA, Nov 7, 2002.
- 2003 Visiting Professor, Department of Ophthalmology, Tokyo Dental College, Japan, April 2003 – present
- 2003 Visiting Professor, New York Eye & Ear Infirmary, New York, NY, March 11-12, 2004. (a) How Does Amniotic Membrane Works? (b) What Is Dry Eye?
- 2004 Visiting Professor, Western University, London, Ontario, September 14-16, 2004
- 2004 Visiting Professor, Long Island Jewish Hospital, NY, December 8, 2004.

Others:

- 1971-78 Book Coupon Scholarship, National Taiwan University
- 1975-76 Predoctoral Fellowship, US Army Research Unit-2
- 1978-79 Regents Fellowship, University of California at San Francisco (UCSF)
- 1979 Honorable Mention, Research Contest by Graduate Student Association, UCSF
- 1980-81 Chancellor's Graduate Research Fellowship, UCSF
- 1990 Best Paper Award, XXVI ICO (International Congress of Ophthalmology)
- 1996 The L. T. Bruce Hart Summer Scholar Award to Karly Kaplan for the project that was supervised during the 1996 Summer High School Research Program sponsored by the American Heart Association
- 1997 Pharmacia & Upjohn Residents' Research Prize in Ophthalmology & Visual Sciences for the best oral paper presentation by Sao Bing Lee, M.D. on "Differences in cytokine expression between pterygial and normal human conjunctival fibroblasts"
- 1998 Charlotte Breyer Rodgers Chair in Ophthalmology
- 1999 Ulrich Ollendorff Lecture, Columbia University
- 1999 President, International Ocular Surface Society
- 2002 International Gold Medal Award, International Symposium of Ophthalmology
- 2002 Sek-Jin Chew Lecture
- 2002 Chancellor Award, Louisiana State University School of Medicine, LSU Eye

- Center of Excellence
- 2003 Marvin Henry MD Memorial Lecture, University of Illinois at Chicago
Department of Ophthalmology and Visual Sciences (UIC Eye Center)
- 2004 Senior Achievement Award, American Academy of Ophthalmology
- 2004 “Best of Show” Award Video at Annual Meeting of American Academy of
Ophthalmology 2004 and Joint Meeting with European Society of Ophthalmology
“Fornix Rconstruction by Mitomycin C and Amniotic Membrane Transplantation
in Chronic Cicatricial Ocular Surface Diseases”
- 2004 Kersley Lecture, Medical Contact Lens and Ocular Surface Association
(MCLOSA), London, UK
- 2005 Oliver H. Dabezies Jr. M.D. Lecture by Contact Lens Association of
Ophthalmology
- 2005 James E. McDonald, M.D. Keynote Lecture, 16th Annual Loyola Ophthalmology
Resident-Alumni Day Meeting, Chicago, IL, June 11, 2005.
- 2005 Secretariat Award, American Academy of Ophthalmology

OTHER PROFESSIONAL ACTIVITIES:

Government Consultant

- Ad Hoc Member, Study Section VISA, Feb, 2002
- Ad Hoc Member, Study Section VISA, Oct, 2002
- Ad Hoc Member, Study Section MDCN, May, 2003
- Ad Hoc Member, Study Section AED, Nov, 2003
- Ad Hoc Member, Study Section ZEY1 VSN 01, March, 2004
- Member of expert panel for Interagency Coordinating Committee on Validation of
Alternative Methods (ICCVAM), August 2004- January 2005
- Ad Hoc Member, AED Study Section, June 2005
- Ad Hoc Member, AED Study Section, February 2006

Invited Outside Lectureships

Fourteenth Cambridge Ophthalmological Symposium Cambridge, England: Sept. 4-5, 1984.
Topical retinoid treatment for dry eye disorders.

Eighth National Science Writer Seminar by Research To Prevent Blindness, Inc. Washington,
DC Sept. 30 - Oct. 3, 1984.
Topical retinoid treatment for dry eye disorders.

New England Ophthalmological Society Boston, Massachusetts. Oct. 19, 1984. Topical
retinoid therapy for ocular surface disorders.

First International Tear Film Symposium Lubbock, Texas. Nov. 7-10, 1984

(a) Topical vitamin A treatment for ocular surface disorders with mucin deficiency and keratinization. (b) Modulation of goblet cell differentiation by vitamin A: Exploration of possible mechanism for mucin deficiency.

New England Ophthalmological Society: Centennial Meeting, Boston, Massachusetts. May 16, 1985.

New approaches of diagnosis and treatment for ocular surface disorders.

Moisture Seekers Monthly Meeting Long Island, New York. June 6, 1985.

Ocular surface changes in KCS and topical retinoid treatment.

Topical Retinoid - An Update Symposium held by Boston University, New York, New York. April 18, 1986.

Topical tretinoin for severe dry-eye disorders.

XVI Congreso Pan Americano De Oftalmologia Santo Domingo, Republica Dominicana. April 10, 1987.

Current concepts in management of dry eyes.

American Society for Laser Medicine and Surgery, Seventh Meeting San Francisco, CA. April 13, 1987.

Induction of conjunctival transdifferentiation by photothrombosis with rose bengal and argon laser.

World Congress of Cornea Washington, DC. April 27, 1987.

Modulating mechanism of conjunctival transdifferentiation.

IX Curso Internacional De Oftalmologia Barcelona, Spain. May 27, 1987.

New Approaches to dry-eye disorders.

Christian Ophthalmology Society Norfolk, VA. June 13, 1987.

New approaches to ocular surface disorders.

Ophthalmic Cytology Symposium Parma, Italy. October 9, 1987.

Corneal cytology: transdifferentiation defect and treatments.

American Academy of Ophthalmology: Advances in Corneal and External Disease Dallas, TX. November 10, 1987.

Role of vitamin A in the dry eye and ocular surface abnormalities.

American Academy of Ophthalmology Southern Regional Update Course Miami, FL. March 4-6, 1988.

1) Chemical Injuries, 2) Topical Retinoids.

ARVO: May 1989. Moderator, Poster Session: Lacrimal Glands

Christian Ophthalmology Society Hilton Head, SC. June 24, 1988.
Diagnostic strategies of external diseases.

American Academy of Ophthalmology Southern Regional Update Course Miami, FL. March 3-5, 1989.
Ocular Surface Reconstruction Techniques.

ARVO: May 1989. Moderator, Paper Session: Epithelial Wound Healing.

XXVI ICO: Singapore. March 18-24, 1990.
Limbal Transplantation for Corneal Surface Reconstruction.

Christian Ophthalmology Society Perido Beach, Alabama. June 22, 1990.
External Disease Germs.

XII Interamerican Course Miami, FL. November 6-9, 1990.
1) Growth factors: How they regulate cell growth and differentiation. 2) Limbal transplantation for ocular surface disorders. 3) Research frontiers in corneal transplant.

XXXVIII National Congress Ophthalmology by Venezuela Ophthalmology Society Valencia, Venezuela. November 25-29, 1990) Research advances in corneal transplantation. 2) Role of limbal stem cells in corneal disorders. 3) Limbal transplantation for corneal surface reconstruction. 4) How to work up patients with ocular irritations.

XIII Interamerican Course Miami, FL. October 22-25, 1991.
1) Blepharitis. 2) Limbal conjunctival transplantation.

The San Antonio Ophthalmological Society San Antonio, TX. November 21, 1991.
1) Concepts of stem cells and limbal stem cells. 2) Corneal disease characterized by limbal stem cell dysfunctions. 3) How to work up patients with non-specific ocular irritations. 4) Limbal transplantation for corneal surface reconstruction.

1992 Cornea and External Disease Course Miami, FL. January 17-18, 1992.
1) Diagnostic strategy for ocular irritations. 2) Limbal transplantation. 3) The roles of growth factors and fibroblasts in epithelial wound healing.

Ocular Surface Disease Symposium Houston, TX. February 22, 1992. Cullen Eye Institute.
Feature Speaker on 1) Concept of limbal stem cells. 2) Corneal diseases characterized by deficiency of limbal stem cells. 3) Limbal stem cell transplantation for corneal surface reconstruction. 4) Diagnostic strategies for ocular irritation.

Trade Secrets: Corneal and External Diseases Miami, FL. October 3, 1992.
The role of keratitis sicca in microbial keratitis.

La Cornee: Problemes Actuels Paris, France. October 17, 1992. Moderator and Speakers on
1) Limbal transplantation for large corneal epithelial injuries 2) Update of photodynamic therapy using rose bengal as a photosensitizer.

Keratoprosthesis Study Group Miami, FL. November 6, 1992.
Modulation of epithelial growth by fibroblasts.

Novel Advances in Cataract and Corneal Refractive Surgery II Miami, FL. November 14, 1992.
Role of corneal epithelium in maintaining the tear film stability, and hence refractive quality.

ASORN South Florida Miami, FL. January 29, 1993.
Keeping an Eye on Change: Limbal conjunctival graft advances in the treatment of pterygium.

29th Annual Resident's Day Miami, FL. June 17-19, 1993.
a) Transplantation of human amniotic membrane for corneal surface reconstruction
b) The ocular surface: basic concepts for clinicians.

Cornea and External Disease Congress Brisbane, Australia. July 9-12, 1993.

a) Ocular surface health: The stem cell theory, b) Impression cytology, c) Vital staining, d) Limbal deficiency syndromes, and e) Diagnostic strategies for non-specific ocular irritation, f) Cyclosporin. g) Limbal transplantation, h) Novel strategies, i) Therapeutic strategies for ocular irritation, j) Stem cell dysfunction, k) Vitamin A therapy, l) Understanding corneal wound healing.

XIX Pan-American Congress of Ophthalmology Caracas, Venezuela. July 11-15, 1993.
Transplantation of human amniotic membrane for corneal surface reconstruction.

IVth International Symposium on Sjogren's Syndrome Tokyo, Japan. August 11-13, 1993.
Ocular surface changes in Sjogren's syndrome.

First International Symposium Bordeaux, France. September 9-11, 1993. Bordeaux, France.
a) Transplantation of human amniotic membrane for corneal surface reconstruction.
b) Mucin interactions as a mechanism for tear film stability
c) Cytokine network in corneal wound healing.

Visual Science Research Seminar Series Winston-Salem, North Carolina. January 19, 1994.
Department of Ophthalmology, Bowman Gray School of Medicine, Wake Forest University.
An overview of corneal epithelial wound healing and ocular surface reconstruction.

Trade Secrets Current Techniques and Future Trends in Keratorefractive Surgery, Miami, FL, February 5, 1994.

Wound healing in refractive surgery.

The Second Meeting of Asia Cornea Research Club Taipei, Taiwan. August 5-7, 1994.

- c) Cytokine regulation of corneal epithelial growth and differentiation with a special emphasis on how limbal stem cells are activated.
- d) The role of stromal fibroblasts in supporting epithelial growth with an emphasis on epithelial-mesenchymal cytokine dialogue.

ARVO: May 1995. Moderator, Paper Session: Glycoproteins and Epithelial Differentiation.

The Sixth International Symposium of the Society of Chinese Bioscientists in America (SCBA) Vancouver, Canada. June 25-30, 1995. Regulation of corneal epithelial proliferation and differentiation.

Gordon Research Conference on Epithelial Differentiation & keratinization, Tilton, NH. July 16-21, 1995.

Characterization of culture conditions that allow TGF- β 1 to stimulate clonal growth of limbal epithelial stem cells but inhibit corneal transient amplifying cells.

American Society of Ophthalmic Registered Nurses, 1995 Annual Meeting Atlanta, Georgia. October 29-November 1, 1995.

Pterygium: New concepts and methods of treatment.

Trade Secrets "Dry eye and ocular surface disorders" Miami, Florida, December 2, 1995.

- e) Key concepts on tear film & ocular surface-- Source of tear film-ocular surface and meibomian glands
- f) Diagnostic approaches for dry eye & ocular surface disorders-- diagnostic stains and tear clearance
- g) Clinical managements & case reports-- meibomian gland disease; limbal deficiency.

ASORN Regional Meeting 1996 Miami, Florida, February 10, 1996

Pterygium: new concepts and methods of treatment

Annual Meeting of Ophthalmologists' Society of Alberta Banff, Alberta, Canada, March 9-10, 1996.

- h) Concepts important for ocular surface health
- i) Strategies for ocular irritation
- j) New strategies for ocular surface reconstruction

International Symposium of Current Research on Ocular Surface Taipei, Taiwan, September 21-22, 1996 as a co-organizer for the celebration of Chang Gung Memorial Hospital 20th Year Anniversary

Regulation of corneal epithelial cells at the limbus, b) New strategies of ocular surface reconstruction by stem cell transplantation and amniotic membrane transplantation

Korean External Eye Disease Society Seoul, Korea, October 3, 1996

New strategies for ocular surface reconstruction

Korean Ophthalmology Society Meeting Seoul, Korea, October 4, 1996

New diagnostic and therapeutic strategies for ocular irritation

Santen International Symposium for Corneal Healing Responses to Injuries and Refractive Surgeries Yokohama, Japan, October 5, 1996 as a co-organizer

Regulation of limbal stem cells

The CLAO Annual Meeting Las Vegas, Nevada, January 17, 1997

Ocular surface reconstruction with homografts and allografts

The 8th Seoul Ophthalmology Symposium Seoul, Korea, March 22, 1997

- a) New understandings of corneal wound healing
- b) Amniotic membrane transplantation and limbal stem cell transplantation for ocular surface reconstruction
- c) Mechanism of preocular tear film stability

The Special Interest Group Meeting of ARVO, Ft. Lauderdale, Florida, May 12, 1997

Participate in “Molecular biology approach of normal and diseased corneas: corneal transparency—functions of cornea-specific/ubiquitous genes” by presenting “Clinical observation of cell-cell and cell-matrix interactions in ocular surface”

Health Manpower Development Plan Singapore, June 17 to 24, 1997

- a) How to do good research
- b) Ocular surface health, wound healing and reconstruction
- c) Case presentation and discussion
- d) Live surgery demonstration: amniotic membrane transplantation for pterygium and ocular pemphigoid
- e) SNEC Ocular Surface Teaching Course and Symposium
- f) Discussion on research planning and clinical collaboration
- g) Workshop on impression cytology
- h) Floppy eyelid syndrome

Ocular Surface Teaching Course and Symposium held by Singapore National Eye Center, June 21 and 22, 1997

- a) Diagnostic strategies for ocular surface disorders
- b) Therapeutic strategies for ocular surface disorders
- c) Amniotic membrane transplantation for pterygium
- d) Corneal diseases characterized by limbal stem cell deficiency
- e) Overview of Ocular Surface Reconstruction

Ocular Surface and Tear Teaching Course and Symposium held by Allergen and Chulalongkorn Memorial Hospital, Bangkok, Thailand, June 26, 1997

- a) Diagnostic strategies for ocular surface disorders
- b) Therapeutic strategies for ocular surface disorders
- c) New concept of limbal stem cell deficiency
- d) New strategies for ocular surface reconstruction

Chung-Gung Memorial Hospital Taipei, Taiwan, July 1, 1997
How to be prepared for a best eye doctor for the 21st century

Department of Ophthalmology, University of Toronto Toronto, Canada, September 11-12, 1997

- a) Ocular surface health, diagnostic and therapeutic strategies
- b) Corneal diseases characterized by limbal deficiency
- c) New Strategies of ocular surface reconstruction.

American Academy of Ophthalmology San Francisco, CA, October 28, 1997
Ocular Surface Disease Symposium held by Castroviejo Society
Anatomy and pathophysiology of ocular surface diseases

Inter-American Curso Miami, FL, November 5, 1997
Ocular Surface Reconstruction Techniques

International Symposium: Cornea, Refractive Surgery and Contact Lenses for Celebration of 10th Anniversary of L. V. Prasad Eye Institute, Hyderabad, India, November 30 to December 4, 1997

Moderator: Ocular Surface Diseases

- a) Important concepts for treating ocular surface and tear film disorders
- b) Ocular surface characteristics in health and disease

Hong Kong Ophthalmological Symposium '97 External Eye Disease, Hong Kong, China, December 6-7, 1997, Feature Speaker

- a) Important concepts for treating ocular surface and tear disorders
- b) New Strategies of ocular surface reconstruction including amniotic membrane transplantation
- c) Diagnostic strategies for ocular surface and tear disorders
- d) Therapeutic strategies for ocular surface and tear disorders

St. Louis Ophthalmological Society St. Louis, MO, March 19, 1998

New strategies for ocular surface reconstruction with limbal transplantation and amniotic membrane transplantation

Sixth Annual Meeting of Asia Cornea Research Club Singapore, March 26, 1998

- a) Suppression of myofibroblast differentiation and TGF- β isoform expression in human corneal fibroblasts by amniotic membrane matrix
- b) New development in basic and clinical ocular surface research

Inaugural Scientific Meeting of the Asia Pacific Society of Cornea and Refractive Surgery Singapore, March 27, 1998

- a) PLENARY LECTURE: New strategies of ocular surface reconstruction
- b) PLENARY LECTURE: Amniotic membrane transplantation and limbal transplantation for limbal deficiency
- c) Pathogenic role of floppy eye lids and delayed tear clearance

Ocular Surface Symposium held by Taiwanese Society of Ophthalmology Taipei, Taiwan, April 4, 1998

- a) Important concepts for treating ocular surface and tear disorders
- b) New strategies for ocular surface reconstruction

Washington Academy of Eye Physicians and Surgeons (WAEPS) Seattle, Washington, April 28, 1998

New strategies for ocular surface reconstruction with amniotic membrane transplantation and limbal stem cell transplantation

The Fifty-seventh Clinical Meeting of the Residents Association of the Wilmer Ophthalmological Institute May 1, 1998

Amniotic membrane transplantation for ocular surface reconstruction

CREST '98 West Palm Beach, Florida, May 9, 1998

Anti-scarring effect of amniotic membrane transplantation

VISTA '98 Ft. Lauderdale, Florida, May 10, 1998

Amniotic membrane transplantation for diffuse CIN

Fourth Biomedical Optics and Implants Colloquium Miami, Florida, May 15, 1998

The anti-scarring effect of amniotic membrane matrix

Oxford Ophthalmological Congress Symposium on Ocular Surface Disease Oxford, UK, July 7, 1998

Advances in the understanding and management of ocular surface failure

XIII International Congress of Eye Research Paris, France, July 26 – 31, 1998

- a) Suppression of myofibroblast differentiation and TGF- β isoform expression in human corneal fibroblasts by amniotic membrane matrix
- b) Regulation of limbal epithelial stem cells by epithelial-mesenchymal interactions

c) New strategies of ocular surface reconstruction with limbal transplantation and amniotic membrane transplantation for limbal stem cell deficiency

Co-chairman: Epithelial Stem Cells

Reunión de la Sociedad Española de Córnea y Enfermedades Externas Alicante, Spain, September 30, 1998

FEATURE SPEAKER: Concepto actual de superficie ocular

The 4th Conference of the International Federation of Placental Associations Tokyo, Japan, October 3, 1998

Workshops: Clinical Application of Fetal Membrane

Suppression of TGF- β Signaling system and myofibroblast differentiation in human corneal and limbal fibroblasts by amniotic membrane matrix

VIII Reunion Internacional de la APABO (8th APABO's Reunion Interational) New Orleans, LA, November 8, 1998

Amniotic membrane transplantation and limbal transplantation for corneal surface reconstruction

ASORN Annual Meeting New Orleans, LA, November 8, 1998

Amniotic membrane transplantation for ocular surface reconstruction

AAO Instruction Course: Surgical Treatment of Ocular Surface Disease Course No. 209, New Orleans, LA, November 8, 1998

Senior Instructor: Claes H. Dohlman, M.D. Associate Instructors: Michael D. Wagoner, M.D., John W. Shore, M.D., Scheffer C. G. Tseng, M.D., Ph.D., William J. Power, MBBCh.

a) Biology of the ocular surface b) Amniotic membrane grafts

AAO Free Paper Discussion Amniotic membrane transplantation for ocular surface reconstruction by Kruse FE, et al. New Orleans, LA, November 9, 1998

AAO, 1998 Symposium on "The Management of Pterygium" New Orleans, LA, November 10, 1998

Limbal deficiency in pathogenesis of pterygium

XX Inter-American Curso Miami, FL, November 18, 1998

Surgical options to treat severe ocular surface diseases

CIBA Vision Symposium on Surgically Induced Inflammation and Wound Healing Copenhagen, Denmark, November 27, 1998

a) Ocular surface health and wound healing

b) Ocular surface reconstruction using stem cell transplantation and amniotic membrane transplantation

Ophthalmic Winter Seminar in Swiss Alps Grindelwald, Switzerland, January 28, 1999
New surgical techniques for ocular surface disorders

23rd Annual Meeting of the Japanese Cornea Society Yamaguchi-Ube, Japan, February 12, 1999

Amniotic membrane transplantation for ocular surface reconstruction: an update of new indications and action mechanisms

Israel Corneal and Refractive Society Meeting Golan Heights, Israel, June 11-12, 1999

- a) New strategies for ocular surface reconstruction
- b) An integrated view of ocular surface health and disorders

1999 Cornea and External Disease Congress Brisbane, Australia, June 25-27 and July 3-4, 1999

- a) Concepts of ocular surface in health and disease
- b) Diagnostic & therapeutic strategies for ocular irritation
- c) Corneal diseases with limbal stem cell deficiency and limbal transplantation
- d) Amniotic membrane transplantation
- e) Diagnostic work-up of dry eye

8th Western Eye Research Conference Taos, New Mexico, August 29, 1999

Dysfunction and restoration of corneal epithelial stem cells

XXX Congresso Brasileiro de Oftalmologia Recife, Brazil, September 4-7, 1999

- a) Amniotic membrane transplantation for conjunctival surface disorders
- b) Amniotic membrane transplantation for corneal surface disorders
- c) New understanding and surgical strategy of pterygium

Il Trapianto de Cornea Complicato Castriglione della Pescaia, Italy, October 8-9, 1999

Clinical uses of amniotic membrane transplantation

San Antonio Ophthalmology Society San Antonio, Texas, January 20, 2000

Amniotic membrane for ocular surface reconstruction

II Bowman Club Meeting Newcastle, UK, March 17, 2000

- a) Neuroanatomical integration of ocular surface: clinical significance and applications
- d) New strategies to restore limbal stem cell deficiencies: ex vivo expansion

I Simposio da Sociedade Internacional de Superficie Ocular Goiania, Goias, Brsil, April 14-15, 2000

- a) Neuroanatomic integration of ocular surface defense: diagnostic and therapeutic implications
- b) Amniotic membrane transplantation
- e) Clinical significance of delayed tear clearance: Illustrative cases

Meibomian Glands and Their Secretion Boca Raton, FL, April 27-28, 2000

a) Growth of meibomian tissue in culture

CREST 2000 Ft. Lauderdale, FL, April 29, 2000

Neuroanatomic integration of ocular surface defense: Clinical Significance

International Ophthalmic Microsurgery Study Group (IOMSG) Copenhagen, Denmark, June 4-6, 2000

Amniotic membrane transplantation for ocular surface reconstruction: An overview and new advances.

VII Simposio Internacional de Atualizacao em Oftalmologica da Santa Casa de Sao Paulo Sao Paulo, Brazil, June 15 – 17, 2000

a) Clinical significance of neuroanatomic integration of ocular surface defense

b) Diagnostic and therapeutic strategies for treating ocular irritation

c) New strategies for ocular surface reconstruction: Amniotic membrane transplantation and stem cell transplantation

5th International Symposium on Ocular Trauma Montreal, Quebec, Canada, July 6-9, 2000.

Amniotic membrane transplantation for acute chemical and thermal burns

Chairman of Cornea Session.

19th European Symposium on Contact Lenses Berlin, Germany, October 13-16, 2000.

Pathogenic role of delayed tear clearance and anti-inflammatory therapy in dry eye management.

XIV International Congress of Eye Research Santa Fe, New Mexico, October 15-20, 2000.

Ex vivo expansion of limbal epithelial cells by amniotic membrane for treating total limbal stem cell deficiency.

Third International Conference on the Lacrimal Gland, Tear Film and Dry Eye Syndromes: Basic Science and Clinical Relevance Maui, Hawaii, November 18, 2000.

Ex vivo expansion of limbal epithelial stem cells for corneal surface reconstruction: Experimental data and preliminary clinical result

Cornea Society of Thailand Symposium: Ocular Surface Diseases: Basic Principle, Work-up & Management Update: Feature Speaker, Bangkok, Thailand, November 29, 2000

a) Neuroanatomic integration of ocular surface defense: Clinical significance, clinical features of ocular surface disorders, work-up in patients with ocular surface disorders

b) Clinical indications of AMT: patch graft, conjunctival surface reconstruction, corneal surface reconstruction, and in limbal deficiency

c) Other surgical procedures in ocular surface disorders: limbal transplantation, allograft and autograft, systemic immunosuppression, and stem cell cultures

Annual Meeting of the Royal College of Ophthalmology of Thailand Bangkok, Thailand, November 30, 2000

The roles of preserved and non-preserved artificial tears in current ophthalmology practice

The Third Regional Meeting of International Ocular Surface Society Warsaw, Poland, December 1-3, 2000

Inaugural Lecture: Amniotic membrane as a new strategy for tissue reconstruction and engineering: An overview

18th APAO Meeting Taipei, Taiwan, March 10-14, 2001

- a) Amniotic membrane transplantation: Action Mechanism
- b) Amniotic membrane transplantation for acute chemical and thermal burns

Simposium Internacional sobre Superficie Ocular (4th Regional Meeting of International Ocular Surface Society) Bilbao, Spain, March 16-17, 2001

- a) Classification of dry eye
- b) Treatment of pterygium

PAACO-LOS Congress 2001 Beirut, Lebanon, April 1-5, 2001

- a) Symposium of Corneal Diseases and Surgeries in the 21st Century
Amniotic membrane transplant: Indications and Technique
- b) Special Lecture: Amniotic membrane transplantation for ocular surface reconstruction:
An overview

Cellular Therapies & Tissue Engineering Conference Miami, FL, May 7-8, 2001

New strategy of tissue engineering using amniotic membrane

Snangdong Eye Institute & Hospital 10th Anniversary International Symposium of Ophthalmology May 19, 2001, Qingdao, China

Amniotic membrane as a new strategy for tissue reconstruction and engineering: An overview

The International Symposium of Modern Ophthalmology & 6th International Ocular Surface Society Regional Meeting for Celebrating 25th Anniversary of Chang Gung Memorial Hospital August 3 –5, 2001, Taipei, Taiwan

- a) Opening Remarks for 6th IOSS Regional Meeting
- b) Amniotic Membrane as a New Strategy for Tissue Reconstruction and Engineering:
Action Mechanism

The 7th IOSS Regional Meeting October 10, 2001, Kyoto, Japan

- a) Opening Remarks for 6th IOSS Regional Meeting
- b) Introduction of Plenary Lecture given by Ray JF Tsai
- c) Surgical variables of ex vivo expansion of limbal epithelial stem cells for corneal surface reconstruction for total limbal deficiency in rabbits

The 55th Japanese Congress of Clinical Ophthalmology Oct 11-15, 2001, Kyoto, Japan

- a) Asia Symposium: PLENARY LECTURE “Restoration of ocular surface defense as a prerequisite for successful reconstruction of total limbal deficiency.
- b) Dry Eye Research Symposium: Keynote Lecture “Pathogenesis and clinical significance of conjunctivochalasis”
- c) Instruction Course: “How to perform amniotic membrane transplantation”

The 40th Anniversary Scientific Meeting of Bascom Palmer Eye Institute February 21, 2002, Miami, FL

Moderator: What is new in ocular surface diseases

First International LASEK Congress March 22-23, 2002, Houston, TX

Role of basement membrane in corneal wound healing

Virginia Society of Ophthalmology Annual Scientific Meeting April 12-13, 2002, Williamsburg, VA

Amniotic Membrane Transplantation for Ocular Surface Reconstruction

X International Ocular Surface Society Meeting June 13-15, 2002, Grosseto, Italy

- a) Restoration of Ocular Surface Defense Is a Prerequisite for Successful Ocular Surface Reconstruction
- b) Amniotic Membrane Transplantation as a New Strategy for Tissue Reconstruction and Engineering
- c) Amniotic Membrane Transplantation

Simposium Sobre Superficie Ocular June 21-22, 2002, Santiago de Compostela, Spain

- a) Differential Diagnosis of Dry Eyes
- b) New Treatment of Pterygium
- c) Reconstruction of Ocular Surface with Stem Cells, Amniotic Membrane and Ex Vivo Expansion

International Symposium of Ophthalmology June 28-30, 2002, Shantou, China

Instruction Course: Strategies for Successful Pterygium Surgery

XXX Congreso Nacional De Oftalmologia September 17-21, 2002, Cartagena, Colombia

- a) Significancia clinica de la intergracion neuroanatomica en la defense de la superficie Ocular Surface Center
- b) Reconstruccion de la superficie corneal con transplante de membrane amniotica y celulas stem. Cultivo de celulas stem

6th Allergan Symposium “Resurfacing the Ocular Surface” September 27, 2002, London, UK

Chairman

Restoration of Stem Cell Niche by Amniotic Membrane

AAO and PAAO Joint Meeting October 20-23, 2002

Discussion on Free Paper by Tandon et al “Amniotic Membrane Transplantation in Acute Ocular Burns: A Randomized Controlled Clinical Trial

Doheny Eye Institute and the University of Southern California Department of Ophthalmology Third Annual Meeting “Epithelial Cell Biology: Implications for the Ocular Surface” October 25-26, 2002, Los Angeles, CA

Ex Vivo Expansion of Limbal Epithelial Stem Cells by Amniotic Membrane

Chancellor’s Award Lecture, LSU Eye Center of Excellence November 7, 2002, New Orleans, LA

New Strategies of Ocular Surface Reconstruction

Ophthalmic Laser Surgical Society (OLSS) January 21, 2003, New York, NY

Ex Vivo Expansion of Limbal Epithelial Stem Cells as a New Strategy to Treat Ocular Surface Diseases

First SERI-ARVO Meeting on Research in Vision and Ophthalmology February 6-9, 2003, Singapore

- a) In Workshop I “Understanding Basic Science Research: A Primer for Anyone”, An Introduction to Molecular and Cell Biology II”
- b) In Symposium 6: “Stem Cell Biology”, Chairman
“Restoration of Limbal Epithelial Stem Cell Niche by Amniotic Membrane”

Medical Education Program Baptist Health Miami International Medical Center February 27, 2003, Miami, FL

Ocular Surface Surgeries

The Third Annual UIC Cornea and Refractive Surgery Symposium March 5, 2003, Chicago, IL

- a) Amniotic Membrane for Ocular Surface Reconstruction
- b) Marvin Henry MD Memorial Lecture: Surgical Strategies for Treating Total Limbal Stem Cell Deficiency

Second International Congress on LASEK & Advanced Surface Ablation May 30, 2003, Cleveland, OH

- a) Basement membrane in wound healing/Role of amniotic membrane
- b) Maintenance of keratocyte phenotype and anti scarring effect by amniotic membrane matrix

II Congresso Nazionale S.I.C.S.S.O./XV IOSS International Meeting June 5-7, 2003, Erice, Italy “Ocular Surface in Refractive Surgery, in Corneal Lamellar Surgery, and ----“

- a) New understanding and management of lid abnormalities in Stevens-Johnson syndrome
- b) Controlling conjunctival inflammation and scarring by intraoperative mitomycin C and amniotic membrane transplantation
- c) Practical Course in Plenary Session with all participants
- d) Wetlab: Amniotic membrane

The Cleveland Clinic Foundation, Cole Eye Institute September 6, 2003, Cleveland, OH “Conjunctival Inflammation” A Stepladder Approach in Diagnosis, Treatment and Ocular Surface Surgical Reconstruction.

- a) Trauma- Chemical Injuries
- b) Stem Cell Transplantation and Amniotic Membrane Transplantation for Conjunctival Diseases

Glaucoma Foundation’s Tenth Annual Scientific Think Tank Meeting focusing on Bioengineering of the Eye September 19-20, 2003, Boston, MA

- a) Engineering of ocular tissues using amniotic membrane matrix

Wilmer Eye Institute Dry Eye Guidelines Panel Meeting October 17-19, 2003, Baltimore, MD

The 19th Congress of Asia-Pacific Academy of Ophthalmology November 29, 2003, Bangkok, Thailand

Plenary Lecture: Cornea, Ocular Surface Update: New advances in tissue reconstruction and engineering

Instruction Course: Amniotic membrane transplantation for ocular surface reconstruction

The 13th Iranian Congress of Ophthalmology November 1-4, 2003, Tehran, Iran

Keynote Lecture: New strategies of ocular surface reconstruction

Stem Cell Transplantation Symposium: modulator and major speaker

XLVI Congresso Português De Oftalmologia December 5-8, 2003, Faro, Portugal

Keynote Lecture: Important issues and new strategies in ocular surface reconstruction

III Curso de Oftalmologia February 5-7, 2004, Bogotá, Colombia

- a) What is Dry Eye? New definition and classification
- b) What is Dry Eye? New differential diagnosis and medical treatments

- c) What is Dry Eye? New surgical treatments

American Glaucoma Society Mini-Symposium “Glaucoma in the Presence of Corneal Diseases”, March 5, 2004, Sarasota, FL

- a) Severe Ocular Surface Disorders & Glaucoma

The Third International Congress on LASEK & Epi-LASIK and Advanced Surface Ablation March 19-20, 2004, Houston, TX

- a) Role of basement membrane in wound healing: How amniotic membrane works
b) Maintenance of keratocyte phenotype and anti-scarring effect by amniotic membrane matrix

Bascom Palmer Eye Institute New Horizons in Ophthalmology April 1-3, 2004, Aspen, CO

- a) Amniotic membrane transplantation
b) Surgical strategies for simple and complicated pterygium
c) Limbal stem cell transplantation

45th Annual Meeting of Taiwanese Ophthalmology Society Oct 1-2, 2004, Taipei, Taiwan

- a) How does amniotic membrane work?
b) What is dry eye? New definition, classification, differential diagnosis, medical and surgical treatments

AAO and SOE Joint Meeting Oct 23-26, 2004, New Orleans, LA

- a) Does post-LASIK dry eye exist?

11th Annual Scientific Meeting of the Medical Contact Lenses and Ocular Surface Association (MCLOSA) Nov 19, 2004, London, UK

- a) Dry eye tests- clinical perspective
b) The Kersley Lecture: Ocular surface inflammation, scarring and their management

University of Florida College of Medicine Department of Ophthalmology *Pearls for Practice: Cornea & External Disease* December 4, 2004, Gainesville, FL

- a) What is dry eye?
b) Ocular Surface Reconstruction I: Ocular Surface Defense
c) Ocular Surface Reconstruction II: Limbal Stem Cells
d) Ocular Surface Reconstruction III: Amniotic Membrane

IV Congresso S.I.C.S.S.O. International Scientific Meeting June 2-4, 2005, Venice, Italy

- a) Clinical significance of demodex blepharitis
b) Fornix reconstruction by amniotic membrane and mitomycin C
c) Application of fibrin glue in amniotic membrane transplantation
d) The new cellular mechanism of limbal stem cell deficiency: epithelial mesenchymal transition
e) The tear film break up starts with the lipid film

f) How LASIK induces persistent dry eye?

16th Annual Loyola Ophthalmology Resident-Alumni Day Meeting June 11, 2005,
Chicago, IL New advances in amniotic membrane transplantation

Meetings and Courses Organized

First Ocular Surface and Tear Workshop Miami, Florida, May 19, 1995
Ocular surface health

Second Ocular Surface and Tear Workshop Miami, Florida, April 20, 1996
Concepts important for ocular surface reconstruction

Third Ocular Surface and Tear Workshop Miami, Florida, May 16-17, 1997
Preocular tear film: components, properties, and functions

AAO Instruction Course: Practical Application of Important Concepts for Treating Ocular Surface and Tear Disorders No. 648, New Orleans, LA, November 10, 1998
Associate instructor: Kazuo Tsubota, M.D.

Fourth Ocular Surface and Tear Conference Miami, Florida, May 14, 1999
Amniotic membrane for ocular surface reconstruction: Exploring scarless wound healing

AAO Instruction Course: Ocular Surface Reconstruction by Stem Cell Transplantation and Amniotic Membrane Transplantation No. 326, Orlando, FL, October 25, 1999
Associate Instructor: Kazuo Tsubota, M.D.

AAO Instruction Course: Treatment of Ocular Surface Disease No. 507, Orlando, FL,
October 26, 1999
Senior Instructor: Claes H. Dohlman, M.D., Ph.D.
Other Associate Instructor: C. Stephen Foster, M.D., Dimitri Azar, M.D.

The 2nd Meeting of the Asia Pacific Society of Cornea and Refractive Surgery February 16-17, 2000

Clinical significance and pathogenesis of floppy eyelid and conjunctivochalasis.
Importance of focus in Research.

Special Interest Group Meeting at ARVO Ft. Lauderdale, FL, May 3, 2000
Limbal Stem Cell Deficiency & Transplantation of Limbal Epithelial Stem Cells.

AAO Instruction Course: Current Concepts & New Techniques in Corneal Transplantation
No. 252, Dallas, TX, October 23, 2000
Senior Instructor: Olivia Serdarevic, M.D.

Other Associate Instructor: Kaz Soong, M.D., Walter Stark, M.D., et al. Scheffer C. G. Tseng, M.D., Ph.D.

AAO Instruction Course: Strategies for Successful Pterygium Surgery No. 398, Dallas, TX, October 24, 2000

Senior Instructor: Donald Tan, M.D.

Associated Instructor: Scheffer C. G. Tseng, M.D., Ph.D.

AAO Instruction Course: Treating Dry Eye with New Concepts No. 461, Dallas, TX, October 24, 2000

Senior Instructor: Kazuo Tsubota, M.D.

Associated Instructor: Scheffer C. G. Tseng, M.D., Ph.D.

AAO Instruction Course: Ocular Surface Reconstruction by Stem Cell Transplantation and Amniotic Membrane Transplantation No. 567, Dallas, TX, October 25, 2000

Senior Instructor: Scheffer C. G. Tseng, M.D., Ph.D.

Associate Instructor: Kazuo Tsubota, M.D., Kenneth Kenyon, M.D.

AAO Instruction Course: Treatment of Ocular Surface Disease No. 603, Dallas, TX, October 25, 2000

Senior Instructor: Claes H. Dohlman, M.D., Ph.D.

Associate Instructor: C. Stephen Foster, M.D., Dimitri Azar, M.D., Scheffer C. G. Tseng, M.D., Ph.D.

6th IOSS Annual Meeting and 4th Kpro Study Group Meeting Ft. Lauderdale, FL, May 4-5, 2001

Keratoprosthesis or Not

AAO Instruction Course: Ocular Surface Reconstruction by Stem Cell Transplantation and Amniotic Membrane Transplantation No. 359, New Orleans, LA, November 12, 2001

Senior Instructor: Scheffer C. G. Tseng, M.D., Ph.D.

Associate Instructor: Kazuo Tsubota, M.D., Kenneth Kenyon, M.D.

AAO Instruction Course: Treating Dry Eye with New Concepts No. 272, New Orleans, LA, November 11, 2001

Senior Instructor: Kazuo Tsubota, M.D.

Associate Instructor: Scheffer C. G. Tseng, M.D., Ph.D.

AAO Instruction Course: Strategies for Successful Pterygium Surgery No. 671, New Orleans, LA, November 14, 2001

Senior Instructor: Donald Tan, M.D.

Associate Instructors: Dennis Lam, M.D., Scheffer C. G. Tseng, M.D., Ph.D.

XII International Ocular Surface Society Symposium Co-hosted with International Symposium of Ophthalmology, June 30, 2002, Shantou, China

- 1) New Advances in Diagnosis and Treatment of Ocular Surface Diseases
- 2) Corneal and Ocular Surface Diseases II
- 3) Corneal and Ocular Surface Diseases III

AAO Instruction Course: Treating Dry Eye with New Concepts No. 260, Orlando, FL, October 21, 2002

Senior Instructor: Kazuo Tsubota, M.D.

Associate Instructor: Scheffer C. G. Tseng, M.D., Ph.D.

AAO Instruction Course: Ocular Surface Reconstruction by Stem Cell Transplantation and Amniotic Membrane Transplantation No. 635, Orlando, FL, October 23, 2002

Senior Instructor: Scheffer C. G. Tseng, M.D., Ph.D.

Associate Instructor: Kazuo Tsubota, M.D., Kenneth Kenyon, M.D.

AAO Instruction Course: Advanced Keratoplasty Techniques (including Wetlab No. 160, Orlando, FL, October 21, 2002

Senior Instructor: Edward J. Holland, M.D.

Associate Instructor: Mark Terry, M.D., Sheraz Daya, M.D., Mark Mannis, M.D., Scheffer C. G. Tseng, M.D., Ph.D., William Culbertson, M.D., Kazuo Tsubota, M.D.

ASCRS Instruction Course: New Therapies Directed to Corneal Epithelial Wound Healing and Scarring in Refractive Surgeries San Francisco, CA, April 15, 2003

Senior Instructor: Scheffer C. G. Tseng, M.D., Ph.D.

ASCRS Instruction Course: Ocular Surface Transplantation and Other Surgical Strategies for Pterygium San Francisco, CA, April 12, 2003

Senior Instructor: Donald Tan, M.D.

Associate Instructor: Scheffer C. G. Tseng, M.D., Ph.D.

Amniotic Membrane Transplantation: Cutting Edge Approach to Ocular Surface Reconstruction Miami, FL, November 1, 2003

CME credit course sponsored by Baptist-South Miami Hospital

Instructor: Scheffer C. G. Tseng, M.D., Ph.D.

AAO Instruction Course: Treating Dry Eye with New Concepts No. 575, Anaheim, CA, November 18, 2003

Senior Instructor: Kazuo Tsubota, M.D.

Associate Instructor: Scheffer C. G. Tseng, M.D., Ph.D.

AAO Instruction Course: Ocular Surface Reconstruction by Stem Cell Transplantation and Amniotic Membrane Transplantation No. 190, Anaheim, CA, November 16, 2003

Senior Instructor: Scheffer C. G. Tseng, M.D., Ph.D.
Associate Instructor: Kazuo Tsubota, M.D., Kenneth Kenyon, M.D.

AAO Instruction Course: Advanced Keratoplasty Techniques (including Wetlab) No. 253,
Anaheim, CA, November 16, 2003
Senior Instructor: Edward J. Holland, M.D.
Associate Instructor: Mark Terry, M.D., Sheraz Daya, M.D., Mark Mannis, M.D., Scheffer
C. G. Tseng, M.D., Ph.D., Eduardo Alfonso, M.D.

AAO Instruction Course: Ocular Surface Reconstruction by Stem Cell Transplantation and
Amniotic Membrane Transplantation No. 188, New Orleans, LA, October 24, 2004
Senior Instructor: Scheffer C. G. Tseng, M.D., Ph.D.
Associate Instructor: Kazuo Tsubota, M.D., Kenneth Kenyon, M.D.

AAO Instruction Course: Advanced Keratoplasty Techniques (including Wetlab) No. 347,
New Orleans, LA, October 25-26, 2004
Senior Instructor: Mark Mannis, M.D.
Associate Instructor: Mark Terry, M.D., Sheraz Daya, M.D., Edward Holland, M.D.,
Scheffer C. G. Tseng, M.D., Ph.D., Eduardo Alfonso, M.D., William Culbertson, M.D.

AAO Instruction Course: Pterygium Surgery No. 621
New Orleans, LA, October 26, 2004
Senior Instructor: Dalel Tartak, M.D.
Associate Instructor: Susan Sentf, M.D., and Scheffer C. G. Tseng, M.D., Ph.D.

ASCRS Instruction Course: Transplantation of Limbal Stem Cells
Washington DC, April 19, 2005
Senior Instructor: Koji Nishida, M.D., Ph.D.
Associate Instructor: Scheffer C. G. Tseng, M.D., Ph.D.

ASCRS Instruction Course: Fibrin Glue Uses in Corneal and Conjunctival Surgeries
Washington DC, April 19, 2005
Senior Instructor: John Havernisian, M.D..
Associate Instructor: David Hardten, M.D., Steve Kaufman, M.D., Gabor Koranyi, M.D.,
Scheffer C. G. Tseng, M.D., Ph.D.

Consultantship

Clinical Advisor in Clinical Assessment of Ocular Surface Disease organized by Health
Economic Research, Seacurus, NJ.

Clinical Consultant Bio-Tissue, Inc., Miami, Florida, USA

TEACHING SPECIALIZATION (courses taught):

Participating teaching lectures for medical students, residents and clinical and research fellows.

Course: Opth 41406 for elective clerkship "Ocular Surface Biology", University of Miami.

THESIS AND DISSERTATION ADVISING:

Sao-Bing Lee, M.D., 1997-present, Ph.D. thesis adviser for National Singapore University

Glenda Nolan, 2003, "A Study of Ocular Surface Squamous Neoplasia Using Conjunctival Impression Cytology" PhD Thesis Examiner, The University of Queensland, Brisbane, Queensland, Australia

Graham Andrew Lee, 2003, "Advances in Anterior Segment Disease" The degree of Doctor of Medicine, The University of Queensland, Brisbane, Queensland, Australia

Research Fellows Trained under Scheffer C. G. Tseng (Clinical Fellows Are Not Included)

Andrew JW Huang, M.D., MPH 1984-1987

Current Position: Professor, Department of Ophthalmology, University of Minnesota School of Medicine

Ray JF Tsai, M.D. 1986-1988

Current Position: Professor and Chairman, Department of Ophthalmology, Chuang-Gung Memorial Hospital, Taipei, Taiwan

James JY Chen, M.D. 1988-1990

Current Position: Private practice, Taipei, Taiwan

Steven L Maskin, M.D. 1988-1991

Current Position: Private practice, Tampa, FL.

Friedrich E Kruse, M.D. 1988-1991

Current Position: Professor & Chairman, Klinikum der Universität Erlangen, Augenklinik, Erlangen, Germany.

Robert P Feenstra, M.D. 1989-1991 (Pre-doctoral fellowship)

Current Position: Ophthalmology Residency, University of Amsterdam, The Netherlands.

Jae Chan Kim, M.D. 1992 (July-December)

Current Position: Professor, Chong-Ann University, Seoul, Korea

Ying-Wei Chen, M.D. 1990-1992

Current Position: Private practice, Atlanta, GA

James Chodosh, M.D. 1992-1993

Current Position: Associate Professor, Department of Ophthalmology, University of Oklahoma

She-Hui Zhang, M.D., 1991-1993

Current Position: Post-doctoral fellow, University of Washington

De-Quan Li, M.D. 1992-1994

Current Position: Assistant Professor, Department of Ophthalmology, Baylor University

Vilavun Puangsrucharern, M.D., 1994 -1995

Current Position: Assistant Professor, Department of Ophthalmology, Chulalongkorn University Hospital, Bangkok, Thailand

Shwu-Huey Lee, M.D., 1995-1996

Current Position: Department of Ophthalmology, Cathay General Hospital, Taipei, Taiwan

Karly Kaplan, Summer 1996, The Summer High School Research Program

Current Position: Second year Medical School Student, University of Florida

Keith Barton, M.D., 1995-1996

Current Position: Consultant Ophthalmologist, Moorfield Eye Hospital, London, England

Pinnita Prabhasawat, M.D., 1995-1997

Current Position: Assistant Professor, Department of Ophthalmology, Siriraj Hospital, Mahidol University

Xiong Ma, M.D., 1996-1997

Current Position: Senior Research Associate, Lions Eye Research Laboratory, Department of ophthalmology, Louisiana State University School of Medicine

Ume L. Abbas, M.D. August – October, 1997

Current Position: Resident (PGY2), Department of Internal Medicine, State University of New York, Health Science Center of Brooklyn

Giong Gao, M.D., 1997-1998

Current Position: Assistant Professor, Quen-Ming Medical College

Woo-Chan Park, M.D., 1997-1998

Current Position: Assistant Professor, Department of Ophthalmology, Dong-A University, Pusan, South Korea

Sao-Bing Lee, M.D., 1997-1998

Current Position: Registrar, Department of Ophthalmology, Singapore National Eye Center, Singapore

Daniel Meller, M.D., 1997-1999

Current Position: Assistant Professor, Department of Ophthalmology, University of Essen, Germany

Peter Sek Keung Kwok, M.D., 1998

Current Position: Consultant, Department of Ophthalmology, Queen Mary Hospital, Hong Kong, China

Renato T. Ferreira Pires, M.D., 1998-2000

Current Position: Instituto de Olhos de Goiania, Brazil

Jaime Etxebarria, M.D., 2000

Zhou Chen, M.D. 1998

Hospital Ramon y Cajal, University of Alcala, Madrid, Spain

The Second Affiliated Hospital of the First Military University, Guang-Zhou, China

Abraham Solomon, M.D., 1998-2001

Current Position: Senior Lecturer, Department of Ophthalmology, Hadassah University Hospital, Jerusalem, Israel.

Tae-Hoon Choi, M.D., 1998-1999

Current Position: Assistant Professor, Department of Ophthalmology, Hallym University Hospital, Seoul, Korea

Hong-Jeng Chen, M.D., 1999

Deceased.

David F. Anderson, M.D., 1999-2000, Consultant, Southampton Eye Unit, UK

Keith S. K. Chan, M.D. 1999

Current Position: Senior medical officer, Department of Ophthalmology, Tung-Wah Eastern Hospital, Hong Kong

Helga Sandoval, M.D., 2000-2001

Current Position: Research Associate, Department of Ophthalmology, University of South Carolina

Martin Grueterich, M.D., 2000-2002
Assistant Professor, Augenlinik der LMU Muenchen, Germany

Seng-Ei, Ti, M.D., 2001, Consultant, Singapore National Eye Center, Singapore

Amel Touhami, M.D., 2000- 2002
Current Position: Internal QA/QC Officer, Bio-Tissue, Inc. (till 2003)

Eiki Goto, M.D., 2000- 2002
Assistant Professor, Department of Ophthalmology Keio University, Tokyo, Japan

Fernando Peniche, M.D., 2001- 2002
Current Position: Attending Physician

Andre Romano, M.D., 2002
Current Position: Residency, University of Polista, Sao Paulo, Brazil

Junki Sawai, M.D., 2003
Current Position: Private practice in Japan

Daniel Tzong-Shyue Liu, M.D., 2003-2004
Current Position: Attending Physician, Cathay Hospital, Taipei, Taiwan

Hee-Tae Cho, M.D., 2003-2004
Current Position: Associate Professor, Korea

Edgar M. Espana, M.D., 2000-2004
Current Position: Glaucoma Fellow, New York Eye & Ear Infirmary, NY.

Mario Di Pascuale, M.D., 2002-2005
Current Position: Cornea Fellow, University of Texas at Dallas

Tetsuya Kawakita, M.D., 2002-2005

Ying-Ying Gao, M.D., 2004- 2005

Alireza Baradaran-Rafii, M.D., 2004-2005

Antonio Elizondo, M.D., 2004-present, in training

Kevin Guo, M.D., 2004-present, in training

Hua He, Ph.D., 2002-present, in training

Wei Li, M.D., 2003-present, in training

UNIVERSITY COMMITTEE AND ADMINISTRATIVE RESPONSIBILITIES:

1986 - 1996	Member, Subcommittee of Pharmacy and Therapeutics, Bascom Palmer Eye Institute, Department of Ophthalmology
1996 – 2001	Co-chairman, Subcommittee of Pharmacy and Therapeutics, Bascom Palmer Eye Institute, Department of Ophthalmology
1990	Subcommittee of Establishing a Policy for In-house Grant Review, Bascom Palmer Eye Institute, Department of Ophthalmology
1990 – 2001	Reviewer for Office Technology Transfer of Patent and Copyright Committee, University of Miami
1992 - 1993	Member of Subcommittee: Task Force for Strategic Planning, Bascom Palmer Eye Institute, Department of Ophthalmology
1992 - 1993	Chairperson, Subcommittee on an Evaluation of Purchasing for Research Faculty, Bascom Palmer Eye Institute, Department of Ophthalmology
1998 - 2001	Member of Subcommittee: Task Force for Research Planning, Bascom Palmer Eye Institute

COMMUNITY ACTIVITIES:

1985-86	Medical consultant, Spectra Pharmaceutical Services, Inc., Hanover, MA.
1987	Consultant, 7th Edition AMA Drug Evaluation
1993 - 1995	Board member of the Miami Chinese School
1995 - 1998	Principal, Miami Chinese Baptist Church, Chinese Bible School
1996	Grant Judge for Citibank Success Fund for the Dade Public Education
1996	Volunteer Mentor for the Summer High School Research Program sponsored by American Heart Association
2004	Vision Health Booth at Chinese New Year Festival