

Swaraj Bose, M.D.

Cedars Sinai Medical Center, Los Angeles, CA

Associate Professor
Ophthalmology and Neurology
Ex-Director, Neuro-Ophthalmology; Orbital Surgery
University of California, Irvine

sbose@neuroeyeorbit.com

www.neuroeyeorbit.com

SUMMARY

- **Board Certified**, American Board of Ophthalmology
- **Subspecialty Practice**: Neuro-Ophthalmology & Orbital Surgery
- **Academic Title**: Associate Professor of Ophthalmology and Neurology, University of California, Irvine, CA
- **Attending Physician**: Cedars Sinai Medical Center, Los Angeles, CA
- **Awards**: Achievement Award- American Academy of Ophthalmology, Best Doctors in America, America's Top Ophthalmologists, National Registers' Who's Who in Executives/Professionals, Castle-Connolly's Best Doctor in Southern California, Physician of Excellence Award (OCMA), Best Teacher of the Year

EDUCATION

Fellowships

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| Neuro-Ophthalmology/Neuroplastics/Orbital Surgery
Doheny Eye Institute
<i>University of Southern California, Los Angeles, CA</i>
Preceptors: Steve E. Feldon, MD & Alfredo A. Sadun, MD, Ph.D. | <i>1998-2000</i> |
| Neuro-Ophthalmology/Neurovascular Neuro-Ophthalmology
<i>New York University Medical Center and
New York Eye & Ear Infirmary, New York, NY</i>
Preceptor: Mark J. Kupersmith, MD | <i>1993-1994</i> |
| Glaucoma Research & Visual Psychophysics
Scheie Eye Institute
<i>University of Pennsylvania, Philadelphia, PA</i>
Preceptor: Jody R. Piltz-Seymour, MD | <i>1991-1993</i> |

Residencies

Ophthalmology (USA) <i>New York University Medical Center, New York, NY</i>	1995-1998
Internship (Internal Medicine, USA) <i>Veterans Administration Hospital & NYU Medical Center</i> New York University, New York, NY	1994-1995
Ophthalmology (India), MD <i>Dr. Rajendra Prasad Center for Ophthalmic Sciences,</i> All India Institute of Medical Sciences, New Delhi, India	1981-1984
Diplomat of the National Board (D.N.B.), Ophthalmology National Board of Examiners, New Delhi, India	1984
Internship (Medicine, India) <i>All India Institute of Medical Sciences</i> New Delhi, India	1980-1981

Medical School

<i>All India Institute of Medical Sciences, New Delhi, India</i> (M.B.B.S.)	1975-1980
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College/University

B. Sc Zoology (Honors) with Physics – I <i>Delhi University, Hans Raj College, India</i>	1974-1975
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PROFESSIONAL & CAREER BACKGROUND

Academic Appointments

Associate Professor in Clinical Ophthalmology University of California, Irvine Department of Ophthalmology, Irvine, CA	2006-2013
Associate Professor in Clinical Neurology University of California, Irvine Department of Neurology, Irvine, CA	2006-2013

Attending Physician, Ophthalmology Neuro-Ophthalmology, Orbital Surgery Cedars Sinai Medical Center, Los Angeles, CA	<i>2006-Present</i>
Assistant Professor in Clinical Ophthalmology University of California, Irvine Department of Ophthalmology, Irvine, CA	<i>2003-2006</i>
Assistant Professor in Residence, Ophthalmology University of California, Irvine Department of Ophthalmology, Irvine, CA	<i>2000-2003</i>
Assistant Professor in Residence, Neurology University of California, Irvine Department of Neurology, Irvine, CA	<i>2001-2006</i>
Clinical Instructor, Neuro-Ophthalmology Doheny Eye Institute, University of California Los Angeles Los Angeles, CA	<i>1998-2000</i>
Chief Resident (Ophthalmology) New York University Medical Center New York, NY	<i>1997-1998</i>
Clinical Researcher Scheie Eye Institute University of Pennsylvania Philadelphia, PA	<i>1991-1993</i>
Assistant Professor in Ophthalmology University of Delhi, Guru Teg Bahadur Hospital Delhi, India	<i>1989-1991</i>
Lecturer in Ophthalmology Delhi University, New Delhi, India	<i>1987-1989</i>
Registrar (Ophthalmology) Lady Hardinge Medical College New Delhi, India	<i>1985-1987</i>

Subspecialty Experience

Neuro-Ophthalmology including Neuro-Radiology, Neuro-Vascular Neuro-Ophthalmology

Neuro-Ophthalmology Interventional Vascular treatment of carotid fistulas, Aneurysms and AVMs

Neuro-Pathology including Brain cutting, histology, special staining and Electron-microscopy

Neuro-plastic and orbital procedures – Temporal artery biopsies, Optic nerve sheath fenestration, Trans-antral Orbital decompression for thyroid orbitopathy, removal of orbital tumors by anterior and lateral orbitotomy, functional blepharoplasty, ptosis repair, muscle surgery for restrictive and paralytic strabismus.

Scientific Reviewer

1. Scientific Reviewer: “Ophthalmology” Journal of the American Academy of Ophthalmology, 2000-Present
2. Scientific Reviewer: “American Journal of Ophthalmology” (AJO), 2004-Present
3. Graefes’ Archives of Clinical and Experimental Ophthalmology, 2004-Present
4. Investigative Ophthalmology and Visual Science (IOVS), 2004-Present
5. Scientific Session Moderator/Chairman, Platform presentation, North American Neuro-Ophthalmology Society (NANOS), 2004-Present
6. Journal of Neuro-Ophthalmology (JNO), 2005-Present
7. Journal of Neurology, 2005-Present
8. Scientific Grant Reviewer: “Fight for Sight”, New York, August 2007-Present
9. Abstract and Scientific Committee Member, North American Neuro-Ophthalmology Society (NANOS), 2004-Present
10. Frontiers of Neurology (Neuro-Ophthalmology) Co-Editor, Switzerland, 2008-2013

Research Experience Including Methodology

- University of California, Irvine:
Clinical Sciences: (a) Functional neuroimaging techniques using fMRI and PET scanning. (Dr. Steven Potkin and Dr. James Fallon, UCI BIRN Center) (b) Ultrahigh resolution OCT studies (Beckman Laser Center) (c) Confocal Microscopy (Dr. James Jester, Ph.D.)
Basic Sciences: (a) Mouse model of hyperthyroidism C57BL/6 and Mutant mice. (b) Immuno-chemistry and ultrastructural/electron microscopy studies of extra-ocular muscles (Dr. Douglas Wallace’s laboratory).
- Doheny Eye Institute, University of Southern California, Los Angeles:
Basic tissue sectioning and staining of optic nerve and brain specimens, special tissue staining, image analysis and electron-microscopy. (Dr. Alfredo Sadun’s laboratory).
Tissue culture techniques and study effect of hormones on the lacrimal gland and orbital tissues. (Dr. Austin Mircheff’s laboratory).

- New York University Medical Center, New York:
Electrophysiology including ERG, EOG, and VER recordings. (William Steeple's laboratory). Study of spiking potentials from single Retinal Ganglion and Amacrine cells from a flat mount of the rabbit retina. (Dr. Stewart Bloomfield's laboratory)
- Scheie Eye Institute, University of Pennsylvania, Philadelphia:
Macular Blood flow, Laser Doppler velocimetry, image analysis (Labs. of Drs. Juan Grunwald, Charles Riva, and Benno Petrig). Visual psychophysics including contrast sensitivity and color vision (Dr. M. Breton's lab). Aqueous fluorophotometry, tonography and visual fields (Dr. Jody R. Piltz). Participated in drug sponsored studies: Alcon (\$28,400) and Merck (\$12,000)
- University of Delhi and All India Institute of Medical Science, New Delhi:
Pupil cycle time recordings, VER and BAER recordings (Dr. O. P. Tandon's laboratory) Radial Keratotomy and Specular Microscopy of Rhesus Monkeys (Dr. M. Mohan's laboratory).

HONORS & AWARDS

1. Delhi Medical Association Gold Medal for Best All Around Medical Student, 1979.
2. Dr. Sorel Catherine Freymann Prize for Best Student in Pediatrics.
3. AIIMS Gold Medal for Best Postgraduate in Ophthalmology, 1984.
4. Delhi Ophthalmological Society Trophy for Best Clinical Case Presentation, 1986.
5. Alcon Serva Award Travel Grant for presenting a paper at the American Academy of Ophthalmology, Meeting. Dallas, Texas – 1992.
6. Research to Prevent Blindness and Kirby Eye Institute Travel Grant. Association for Research in Vision and Ophthalmology (ARVO), 1997.
7. "Outstanding Teacher of the Year" 2000-2001, Department of Ophthalmology, University of California, Irvine.
8. "America's Top Ophthalmologists" 2002-2003, Consumers' Research Council of America. Neuro Ophthalmology/Orbital Surgery.
9. National Register's Who's Who in Executives & Professionals, 2004.
10. "Best Doctors in America 2003-2004" U.S. News & World Report, 2004.

11. Dean's Research Award: \$8,000. University of California, Irvine. UCI Faculty Mentor. "Mitochondria in Graves' Disease", Summer 2004
12. "Best Doctors in Orange County 2004" Orange Coast Magazine, January 2004.
13. ARISE Award (for patient satisfaction), UCI Medical Center, August 2004.
14. "Visiting Professorship" lecturer status at University of California, San Diego, Shiley Eye Center, April 2005.
15. "Visiting Professor" University of Pennsylvania, Scheie Eye Institute, June 2005.
16. "Physicians of Excellence" Award, Orange County Medical Association, 2005.
17. "Best Doctors in Orange County 2005" Orange Coast Magazine, 2005.
18. "Visiting Professor", Invited Speaker, Department of Medicine and Endocrinology, Cedars Sinai Medical Center, June 2006.
19. Member of Medical Board for Lupus International, 2006.
20. Elected Fellow, North American Neuro-Ophthalmology Society, 2006.
21. "Physicians of Excellence" Award, Orange County Medical Association, 2007-2008.
22. Selected "International Neuro-Sciences Team Member for Patient Evaluation", Cedars Sinai Medical Center, September 2007.
23. "Physicians of Excellence" Award (Ophthalmology) Orange County Medical Association, 2007-2008.
24. "Best Doctors in America", 2007-08, 2009-10, 2011, 2014
25. "America's Top Doctors", 2008, 2009
26. Elected Scientific Chairman, Abstract Committee, North American Neuro-Ophthalmological Society. 2008-2010
27. Selected International Scientific Chair, Neuro-Ophthalmology, Asia ARVO 2009, Hyderabad, India
28. Physician of Excellence, Orange County, by Orange County Medical Association. 2008-09, 2009-10, 2010-11, 2011-12
29. Visiting Professor, GITAM University, Vishakhapatnam, India, Jan 2009
30. Visiting Professor, All India Institute of Medical Sciences, AIIMS, Dr RP Center for Ophthalmic Sciences, January 2009.
31. Invited Physician, X-Cell Center for Stem Cell Research, Dusseldorf, Germany, June, 2009.
32. Visiting Professor, King Khaled Eye Hospital, Saudi Arabia, October 12-17, 2009.
33. Honoree: Physician of Excellence, Orange County, by Orange County Medical Association. 2009-2010
34. Selected: National Register's Who's Who in Executives & Professionals, 2009-10.
35. Nominated to Membership: AOS- American Ophthalmological Society, May, 2009

36. Selected: Co-Editor of Scientific Journal: “Frontiers of Neuro-Ophthalmology” 2010
37. “Best Doctors in Orange County 2010” Orange Coast Magazine, 2010
38. Physician of Excellence Award, Orange County Medical Association, 2010-2011
39. Elected: Associate Editor: “Frontiers of Neuro-Ophthalmology” 2010-onwards
40. “Best Doctors in America”, 2011-2012
41. “Who’s Who in Science and Engineering”, 2011-2012
42. “Best Doctors in Orange County-2012” Orange Coast Magazine 2012
43. Visiting Professor, GITAM University, Vizag, India, 2014
44. Achievement Award, American Academy of Ophthalmology, 2015

TEACHING

Faculty Mentor

1. Babak Shabation, MD (Boston University, Boston, MA), August – October 2000.
2. Wade Crow, MD, (University of Southern California, Keck School of Medicine), Direct Supervision of Research Paper, 2000.
3. Parham V. Morgan, MD; (Arizona) Neuro-Ophthalmology Rotation Medical, November – December 2000.
4. Tranh Ninh, MD; Ophthalmology. Research Paper awardee, 2001.
5. Anshul Varshney, MD, April – May 2001
6. Martina Wollenhaupt, MD (Germany) Neuro-Ophthalmology Observer, August – October, 2001.
7. Sumit Garg, MD, (New York Medical College) Clinical Rotation, July 2002
8. Vivek Jain, MD, Neurology, University of California, Irvine, August 2002
9. Santosh Patel, MD, Ophthalmology, December 2002
10. Marjan Farid, MD, Psychological Disturbances in Graves’ Ophthalmopathy, Before and After Orbital Decompression”. January 2003 – May 2006.
11. Miguel Moreno, MD, Pediatric Neurology, May 2004
12. Shelly Bose, MD, Pediatric Neurology, May 2004.

13. Kristin Rarey (UCI Medical Student), "Mitochondria in Thyroid Disease" Clinical Rotation. January 2005
14. Andrew McIntosh, MD, Pediatric Neurology, July 2005
15. Anna Kesler-Diaz, MD Neuro-Ophthalmology, August 2005.
16. Nischal Kumar, MD (Ophthalmology Resident from St. George, Barbados), Neuro-Ophthalmology trainee/preceptorship, August 2005.
17. Rohit Shetty, MD (from Bangalore, India), June-July 2005.
18. Chyong Nien, MD (Santiago, Chile), May 2006-October 2007
19. Claudia Kwon, MD. Fellow: Neurology, February-March 2008.
20. Sabin Dang (Medical student) UCLA, Los Angeles, March 2009.
21. Omar Ozgur (Medical Student), Madison, Wisconsin, July 2009.
22. Kaveh Saremi, MD. (Neurology/Neuro-Muscular Fellow), Rotation in Neuro-Ophthalmology, August-October 2010.
23. Nehzad Mani, MD; Resident, Neurology. Rotation at Cedars Sinai Medical Center, Sept-Oct 2012
24. Residents and Fellows in Neurology/Neurosurgery rotations in Neuro-Ophthalmology at Cedars Sinai Medical Center, 2009-Present.

Specific Teaching Responsibilities

1. Organized and participated in national and local seminars and symposia including Ocular leprosy, Congenital eye disorders, Prevention of Blindness, 1985 – 1988.
2. Resident education and planning, University of Delhi, New Delhi, India, 1985-1988
3. Medical Student Examiner, Ophthalmology, University of Delhi New Delhi, India, 1988-1991
4. Classes for Ophthalmic techniques at University of Pennsylvania, Philadelphia, 1991-1993
5. Organizing cases for Neurology and Neurosurgery grand rounds, NYU, New York, 1993-1994

6. Neuroscience Course at New York University Medical Center, New York, NY, 1994-1997
7. Medical student lectures on Neuro-Ophthalmology at University of Southern California, Doheny Eye Institute, 1998 – 2000.
8. Resident (Ophthalmology and Neurology) and Medical Student lectures, Grand Rounds, University of California, Irvine, 2001 – 2013.
9. Cadaver dissection and prosection of eye and Orbit – Medical students and Ophthalmology residents, University of California, Irvine, 2001 - 2013.
10. Neuro-Ophthalmology Teaching at Osler Course, San Francisco, 2003-2012.
11. Neuro-Ophthalmology Teaching to Neurology, Psychiatry and Neurosurgery department residents and fellows. Cedars Sinai Medical Center, 2007 - Present

MEMBERSHIPS & PROFESSIONAL AFFILIATIONS

1. Association for Research in Vision and Ophthalmology (ARVO), since 1992.
2. American Academy of Ophthalmology (AAO). Active since 2000.
3. North American Neuro-Ophthalmological Society (NANOS). Active since 1998.
4. President, Southern California Neuro-Ophthalmological Society (SCANOS).
5. All India Ophthalmological Society.
6. Indo-Japanese Ophthalmological Foundation.
7. Orange county Society of Ophthalmology.

8. Organized first meeting of Southern California Association of Neuro-Ophthalmology Society (SCANOS) at UC Irvine, October 4, 2003.
9. Chairman, Volunteer Faculty Committee, University of California, Irvine, Ophthalmology.
12. Committee member, Oculoplastics Search Committee, University of California, Irvine.
13. Committee member, Pediatrics Search Committee, University of California, Irvine.
14. Department of Ophthalmology Research Funding Committee, University of California, Irvine.
15. Academic Senate, School of Medicine, University of California, Irvine, 2002-Present.
16. Human Resources Committee, School of Medicine, University of California, Irvine, 2002-Present.
17. Credentials Committee, School of Medicine, University of California, Irvine, 2005-Present.
18. Board Member, Lupus International, Irvine, CA 2006-2012.
19. Moderator and Co-Moderator, Platform sessions, Abstract, Scientific, Research, NOVEL and Curriculum Committees, NANOS, 2004-Present.
20. Symposium Moderator, International Neuro-Ophthalmology Society, 2008
21. Chair, Moderator and Speaker at the Asia ARVO 2009, International Meeting, Hyderabad, India.
22. Chair, Scientific Abstract Committee, NANOS, 2009-2010.
23. Scientific Session Moderator: 4th Annual – Gavin Herbert Eye Institute Colloquium, September 25-26, 2009, “An Update in Advances in Neuro-Ophthalmology”.
24. Moderator and Chair, Scientific Committee, NANOS, 2012, 2013.
25. Chair, Scientific Abstract Committee, NANOS, 2008-2014
26. Continuing Education Committee, Cedars Sinai Medical center, 2012-2014
27. Chair, Productivity and Compensation Committee, NANOS, 2014-Present
28. Founder and Co-director, Association of Los Angeles Physicians (ALAPIO), 2013-Present
29. American Academy of Ophthalmology (AAO) Committee Member: 2011-2013: Compass panel Member; Neuro-Ophthalmology
30. American Academy of Ophthalmology (AAO) Committee Member: 2014-2016

- a. Knowledge Base: Neuro-Ophthalmology/Orbit Panel
- b. BCSC Section 5; Neuro-Ophthalmology

INDEXED PUBLICATIONS

1. D'Souza, P, Shorey P, **Bose S**, Lamba PA. Primary School Teachers in Delivery of Eye Health Care. *Ind. J Ophthalmology*. 35(5): 429-430, 1987.
2. Rohatgi J, **Bose S**, Lamba PA. Argon Laser Iridotomy in Angle Closure Glaucoma, *Ind J. Ophthalmology*.. 35:285-289, 1987.
3. Lamba PA, Rohatgi J, **Bose S**. Evaluation of the Pre-Corneal Tear Film in Leprosy. *Ind. J Ophthalmology*. 35:125-129, 1987.
4. **Bose S**, Mohan M. Specular Microscopic Observations in Radial Keratotomy and Cryoapplications – An experimental study. *Acta Con Ophthalmology*. 805-809. 1987.
5. Sihota R, **Bose S**, Paul HA. The Neonatal Fundus in Maternal Toxemia. *J Pediatric Ophthalmology Strabismus*. 26:281-284, 1989.
6. Sihota R, **Bose S**, Paul HA. The Neonatal Fundus. *J Ophthalmology Nurs Technol*. 9(2): 61-65, 1990.
7. Kumar A, **Bose S**, Bhattacharya A. et al. Oral Clonidine Premedication for Elderly Patients Under-Going Intraocular Surgery. *Acta Anesthesiol Scand*. 36(2): 159-162, 1992.
8. Grunwald JE, Piltz JR, Patel N, **Bose S**, Reva CE. Effect of Aging on Retinal Macular Circulation. A blue field simulation study. *Invest Ophthalmology Vis Sci*. 34(13): 3609-3613, 1993.
9. Kumar A, Tandon OP, Bhattacharya A, **Bose S**, Kundra P. Recovery from Preoperative Sedation with Clonidine – Brain Stem Auditory Evoked Response. *Anesthesia*. 49(6): 533-537, 1994.

10. **Bose S**, Kupersmith MJ, Near-Ophthalmologic Presentations of Functional Visual Disorders. *Neurologic Clinics*. 13(2): 321-339, 1995.
11. **Bose S**, Piltz JR, Breton ME. Effect of Nimodipine, a centrally active calcium channel blocker on spatial contrast sensitivity in normal tension glaucoma. *Ophthalmology*. 102(8): 1236-43, 1995.
12. Piltz JR, **Bose S**, Lanchoney D. The Effect of Nimodipine, a centrally active calcium antagonist on Macular blood flow and visual function in patients with normal tension glaucoma and controls. *Journal of Glaucoma*. 7:336-342, 1998.
13. **Bose S**, Heller KB, Saadati HG, Sadun AA. Primary Visual Nuclei in Optic Nerve Hypoplasia and Normal Control. *Invest Ophthalmol Vis Sci*. 40(4): 8445, 1999.
14. Barr D, Kupersmith M, **Bose S**, Turbin R, Roth R. Isolated Sixth Nerve Palsy: An Uncommon Presenting Sign of Multiple Sclerosis. *Journal of Neurol*,247: 701-704, 2000.
15. Sadun A, Carelli V, **Bose S**, Ross-Cisneros F, Barboni P, Ahrens E. First Application of Extremely High-Resolution Magnetic Resonance Imaging to Study Microscopic Features of Normal and LHON Human Optic Nerve. *Ophthalmology*, 109(6): 1085-91, 2002.
16. Grant A, Jain V, **Bose S**. Epileptic Monocular Nystagmus. *Neurology*, 59: 1438-1441, 2002.
17. Zhu Z, et al, **Bose S**, Trousdale MD. Tumor Necrosis Factor Inhibitor Gene Expression Suppresses Lacrimal Gland Immunopathology and Ocular Surface Disease in a Rabbit Model of Autoimmune Dacryoadenitis. *Cornea*, 22(4): 343-351, 2003.
18. Sadun AA, **Bose S**, Neuro-Ophthalmology at Large, (from the) Annual Meeting of the Association for Research in Vision and Ophthalmology (ARVO). *Journal of Neuro-Ophthalmology*, (23) 1, 83-86, March 2003.

19. **Bose S.** Neuro-Ophthalmology at Large. *Journal of Neuro-Ophthalmology*, (23)4: 298-300, 2003.
20. McCulley TJ, Lam BL, **Bose S.** Feuer WJ. The Effect of Optic Disk Edema on Spontaneous Venous Pulsations. *Am J Ophthalmology*. 135(5):706-8. May, 2003.
21. **Bose S,** Pomeranz H. Neuro-Ophthalmology at Large. *Journal of Neuro-Ophthalmology*, 24(4): 323-326. Dec, 2004.
22. **Bose S,** Dhillon N, Ross Cisneros F, Carelli V. Relative Post-Mortem Sparing of Afferent Pupil Fibers in a Patient with 3460 Leber's Hereditary Optic Neuropathy. *Graefes' Archives Of Clinical and Experimental Ophthalmology*. July 20-05; 1-5.
23. **Bose S,** Pomeranz H. Neuro-Ophthalmology at Large. *Journal of Neuro-Ophthalmology*. 2005 Dec 25 (4); 321-4.
24. **Bose S,** Mok AC, Fallon JH, Potkin SG, Keator D. Three Month Change in Cerebral Glucose Metabolism in Patients with Non Arteritic Ischemic Optic Neuropathy. *Graefes' Archives of Clinical and Experimental Ophthalmology*. 2006 Jan, 13; 1-4.
25. **Bose S.** Pomeranz H. "Neuro-Ophthalmology at Large". Proceedings of "The Annual Meeting of the Association for Research in Vision and Ophthalmology (ARVO), Fort Lauderdale, Florida, April 30-May 4, 2006." *Journal of Neuro-Ophthalmology*. 26(3), 2006.
26. **Bose S.** "Neuroimaging in Neuro-Ophthalmology". *Neurosurgical Focus*. 23(5):E9, Nov. 2007.
27. **Bose S,** Pomeranz H. "Neuro-Ophthalmology at Large". Proceedings of "the Annual Meeting of the Association for Research in Vision and Ophthalmology (ARVO), Fort Lauderdale, Florida, May 6 – 10, 2007." *Journal of Neuro-Ophthalmology*. 27 (4), 2007
28. **Bose S,** Bhatti, M.T. "Clinicians' Corner" Focal Points, Clinical Modules for Ophthalmologists, American Academy of Ophthalmology, 28 (4), June 2010
29. Nien, C, Jester, J and **Bose, S** (2010) "Effects of hyperthyroidism on the Rectus Eye Muscles in C57BL/6 Mice." *Frontiers in Neurology Journal* 1:143., October 2010.

NON PEER REVIEWED ARTICLES

1. **Bose, S.** Current Therapeutic Strategies in the Treatment of Neuro-Ophthalmic Conditions. Therapeutic Updates. Vol. 3 No. 4, 2001.
2. **Bose, S.** Mary Rose Almasi. Soothe Dry Eyes. Keep your vision clear with these pro tips. Shape. Feb. 2007.

SCIENTIFIC ABSTRACTS

1. Sihota R, **Bose S**, Paul A. The Neonatal Fundus in Maternal Toxemia, All India Institute of Medical Science, New Delhi, Indian Journal of Pathology & Microbiology. 33(2): 193-4, 1990.
2. Sihota R, **Bose S**, Paul A. The Neonatal Fundus in Maternal Toxemia, All India Institute of Medical Science, New Delhi, Indian Journal of Pathology & Microbiology. 33(2): 193-4, 1990.
3. **Bose S**, Piltz J, Breton M. Effect of Nimodipine, a Centrally Active Calcium Channel Blocker on Spatial Contrast Sensitivity in Normal Tension Glaucoma. AAO 1992.
4. Grunwald E, Piltz J, **Bose S**, Patel N, Petrig L, Riva C. Effect of Aging on Retinal Macular Microcirculation. ARVO 1993.
5. Kupersmith M, **Bose S**, Warren F. Cavernous Sinus AV Shunt. NANOS 1994
6. **Bose S**, Warren FA, Kupersmith MJ. Bilateral Inflammatory Optic Neuropathy. Invest Ophthalmology Vis Sci. 35(4): 2059, 1994.
7. **Bose S**, Kupersmith M, Warren F. Pituitary Apoplexy – When not to Operate. AAO 1994.
8. Piltz JR, **Bose S**. Effect of B1 Selective and Non-selective B Blockers on Macular Blood Flow and Contrast Sensitivity. Invest Ophthalmology Vis Sci. 35(4): 1659, 1994.
9. **Bose S**, Bloomfield SA. A Comparison of the Spiking Pattern of Amacrine and Ganglion Cells in the Rabbit Retina. Invest Ophthalmology Vis Sci. 37(3): S1056, 1996.
10. **Bose S**, Siegel IM. Eyelid margin and tarsal Conjunctival Sensitivity as a Measure for RGP Lens Tolerance. Invest Ophthalmology Vis Sci. 38(4): S137, 1997.
11. **Bose S**, Zagzag D, Warren F. Primitive Neuroectodermal (PNET), possible irradiation induced. 26th Annual Frank B. Walsh Meeting.

12. **Bose S**, Carelli V, Saadati H, Sadun A. Optic Nerve and Retinal Changes in Leber's Hereditary Optic Neuropathy (LHON) with 11778 and 3460 mt DNA Mutations – A comparative light & electron-microscopic study. NANOS March 1999.
13. VanCoevorden RE, Piltz JR, **Bose S**, Stanford DC. The Effect of Forced Unilateral Breathing on Intraocular Pressure and Aqueous Flow in Human Eyes. Invest Ophthalmology Vis Sci. 40(4): 8836, 1999.
14. Ruth R, Kupersmith MJ, Turbin R, **Bose S**. Isolated Sixth Nerve Palsy and Uncommon Presenting Sign of Multiple Sclerosis: A retrospective study. Invest Ophthalmology Vis Sci. 40(4) 8653, 1999.
15. **Bose S**, Heller KB, Saadati HG, Sadun AA. Primary Visual Nuclei in Optic Nerve Hypoplasia's and Normal Control. Invest Ophthalmology Vis Sci. 40(4) 8445, 1999.
16. **Bose S**, Rao N, Feldon S. A Rock Sold Case. 31st Annual Frank B. Walsh Meeting, March 2000.
17. **Bose S**, Crow W, Stevenson D, Trousdale M, Mircheff AK. Role of Apoptosis in Rabbit Lacrimal Gland Acinar Cells in a Dry Eye Model of Autoimmune Dacryoadenitis. CLAO 2001.
18. Sadun AA, Carelli V, **Bose S**. Ahrens ET. Extremely High Sensation MRI of the Human Optic nerve Reveals LHON Associated Pathology. North American Neuro-Ophthalmological Society Meeting. February 2001. Pg 54. #28
19. **Bose S**, Crow W, Douglas S, Zejin Z, Schechter JE, Mircheff AK, Trousdale M. Evaluation of Apoptosis in Rabbit Lacrimal Glands with Autoimmune Dacryoadenitis and Following In-vivo Transduction of Adenovirus – Mediated Gene Transfer of IL-10. CLAO Abstract.
20. **Bose S**, Carelli V, Dhillon N, Ross-Cisneros F, Sadun AA. Post-Mortem Pupil Tracing in a Patient with LHON: A Di I Study. Invest Ophthalmology Vis Sci 2001.
21. **Bose S**. Relative Sparing of Afferent Pupillary Pathways in Leber's Hereditary Optic Neuropathy: A Postmortem Study. NANOS Abstracts, J Neuro-Ophthalmology 22: 170-171, 2002.
22. **Bose S**, Taban M, McCulley T, Banik R, Fallon J, Potkin S. Regional Cerebral Metabolic Changes Following Optic Nerve Sheath Fenestration for Pseudotumor Cerebri Using PET Imaging. NANOS. February 2003.
23. McCulley TJ, **Bose S**, Kersten RC. Medial rectus muscle incarceration in orbital trapdoor fractures, an uncommon but treatable cause of diplopia. American Journal of Ophthalmology 2003.
24. **Bose S**, J Fallon, Potkin S, D Keator: North American Neuro-Ophthalmology Society (NANOS) Meeting, Orlando, Florida. Topic: Neuro-Imaging in NAION Using PET Scanning". March 27 – April 1, 2004.

25. **Bose S**, J. Fallon, Potkin S. Association for Research and Vision in Ophthalmology (ARVO) Meeting, Ft. Lauderdale, Florida. Scientific Poster Presentation: “Functional Brain Imaging using PET Scan in Non-Arteritic Ischemic Optic Neuropathy” April 25, 2004.
26. Erb MH, Tran NH, **Bose S**, McCulley TJ. Association for Research and Vision in Ophthalmology (ARVO) Meeting, Ft. Lauderdale, Florida. Scientific Poster Presentation: “Comparative exophthalmometry between Asian and Caucasian adults.” April 25, 2004.
27. **Bose S**, Rarey K, Chen A, Wallace D. “Extra-ocular Muscle Mitochondrial Changes in Hyperthyroid Mice.” NANOS Poster Presentation. Feb. 2005.
28. **Bose S**, Rarey K, Chen A, Kenney C, Waymire K, Wallace D. “Mitochondrial Changes in Extra ocular Muscles of Hyperthyroid C57BL/6 Mice” ARVO Poster Presentation. May 2005.
29. Rarey K, **Bose S**. Orbital Histopathology in Experimentally Induced Hyperthyroidism.

In: National Student Research Forum, Galveston, TX (Faculty mentor).
30. The Association for Research in Vision and Ophthalmology (ARVO): “Ultrastructural Changes in Extra-ocular Muscles of Hyperthyroid Adenosine Nucleotide-1 (ANT1) Deficient Mice”. Ft. Lauderdale, FL May 4, 2006.
31. ARVO: “Trilodo-thyronine (T3) Activates Caspase-3 and Caspase-8 Pathways in Primary Cultured Mouse Extra-ocular Muscle Cells.” Ft. Lauderdale, FL May 10, 2007.
32. ARVO: “Confocal Laser Scanning Microscopy: A Novel Technique for Quantitative Assessment of Normal and Hyperthyroid Extra-ocular Muscles in C57BL/6 Mice.” Ft. Lauderdale, FL May 10, 2007.
33. **Bose S**, Nien C, Jester J. “Layer Specific Differences of Normal and Hyperthyroid Extra-ocular Muscles in C57BL/6 Mice” North American Neuro-Ophthalmology Society (NANOS) 2008.
34. **Bose S**, Nien CJ, Lam LT, Jester J. “Orbital and Global Layer Differences of Normal and Hyperthyroid Extra-ocular Muscles in C57BL/6 Mice” IOVS. A108 Pg 286. 2008.
35. **Bose S**, Nien CJ, Jester J. “Mitochondrial Abnormalities in Extra-ocular Muscles of Hyperthyroid Mice” International Neuro-Ophthalmology Society Meeting INOS 2008.
36. **Bose S**. Confocal Microscopy and neuro-ophthalmology. Asia ARVO. Hyderabad, India 2009.

BOOK CHAPTERS

1. **Bose S.** “Principles of Imaging in Neuro-Ophthalmology.” Chapter 185. In Ophthalmology 2nd Edition. Mosby. Inc., St. Louis, 2004, Myron Yanoff, MD, Jay Duker, MD editors.
2. **Bose S.** “Principles of Imaging in Neuro-Ophthalmology.” Chapter 11.01. Mosby Inc., St. Louis, 2003, Myron Yanoff, MD, Jay Duker, MD editors. Revised.
3. **Bose S.** “Orbital Tumors” Chapter 39. Practical Neuro-Ophthalmology. Thieme. New York. 2005. Anthony C. Arnold, MD, Leonard A. Lerin, MD, Ph.D, editors. Pg 345-355.
4. Sadun and **Bose**. “Anatomy of the Visual Sensory System: in Duane’s Foundations of Clinical Ophthalmology. Lippincott, Williams and Wilkins, Philadelphia. 2002 Edition. William Tasman, MD, Edward A. Jaeger, MD editors.
5. **Bose S.** “Neuro-Ophthalmology – Nonorganic Vision Loss” in Albert and Jakobiec’s Principles and Practice of Ophthalmology, 3rd Edition. Philadelphia: W. B. Saunders Co., Leonard A. Levin, MD, Simmons Lessell, MD, editors. Chapter 292. Pages 4017-4028.
6. **Bose S.** “Neuro-Ophthalmology: 49 Questions. Disorders of Higher Visual Function. First Edition. 2008. Eds: E. Berman, A. Lee. And Second Edition 2014.

SCIENTIFIC PRESENTATIONS

1. Lecture to Ophthalmic technicians at Scheie Eye Institute, University of Pennsylvania, Philadelphia. Topic: “Contrast Sensitivity and Vision.” September 1992.
2. American Academy of Ophthalmology, Annual Meeting, Dallas, Texas. Topic: “Calcium Channel Blockers in Normal Tension Glaucoma”. November 1992.
3. Greater New York Neuro-Ophthalmology Meeting. Presentation: Wallenberg Syndrome – Lateral Medullary Syndrome. September 1993.

4. Neurology and Neurosurgery Grand Rounds, Bellevue Hospital. Topic: "Management of Pseudo-tumor Cerebri (PTC)." October 1993.
5. Greater New York Neuro-Ophthalmology Meeting. Presentation: "Presentation of Neuro-sarcoidosis". December 1993.
6. Grand Rounds – Department of Neurology and Neurosurgery. Topic: "Presentation, Diagnosis and Management of Neuro-cysticercosis". December 1993.
7. Lecture given to ophthalmic technicians at Scheie Eye Institute, University of Pennsylvania, Philadelphia. Topic: "Humphrey Visual Field Testing".
8. North American Neuro-Ophthalmology Society (NANOS) Meeting, Durango, Colorado. Presentation: "Retinal/Choroidal Dysfunction Caused by Cavernous Sinus AV Shunts". March, 1994.
9. Greater New York Neuro-Ophthalmology Meeting. Presentation: "Autoimmune Optic Neuropathy". March, 1994.
10. Greater New York Neuro-Ophthalmology Meeting. Presentation: "Embolization of Carotid Cavernous Fistulas". June, 1994.
11. Grand Rounds – Department of Medicine, Veteran's Affairs Medical Center. Topic: "Evaluation of Diabetic Retinopathy." November, 1994.
12. New York University Medical Center, Alumni Meeting talk on: 'Bilateral Inflammatory Optic Neuropathy.' 1995.
13. University of Pennsylvania, Scheie Eye Institute. Invited Speaker. Topic: "Management of Carotid Cavernous Fistulas." 1995.
14. Association for Research and Vision in Ophthalmology (ARVO) Meeting, Ft. Lauderdale, Florida. Poster Presentation: "Spiking Activity of Ganglion Cells and Amacrine Cells in the Rabbit Retina." May, 1996.
15. Speaker during Visiting Professorship Day, Dr. Donald Gass, Vanderbilt University. Talk: "Carotid Dissection with Ophthalmic Artery Occlusion". March, 1997.
16. Association for Research and Vision in Ophthalmology (ARVO) Meeting, Ft. Lauderdale, Florida. Poster Presentation: "Eyelid Margin and Corneal Sensitivity in Hard Contact Lens Wearers". April, 1997.

17. Grand Rounds Speaker. New York University Medical Center. Department of Ophthalmology. Topic: "Modern Trends in Ocular Leprosy." June, 1997.
18. Speaker during Visiting Professorship Day, Dr. Harry Quigley, Johns Hopkins, Wilmer Eye Institute. Talk: "Management of Iris Cysts". March 1998.
19. Frank Walsh Neuro-Ophthalmology Annual Meeting, Atlanta, Georgia. Accepted Neuropathology Case Presentation: "A Rock Solid Case." February 6-7, 1999.
20. Invited Guest Speaker at Lady Hardinge Medical School, New Delhi, India. Topic: "Current Approach to Management of Thyroid Eye Disorders." This was attended by about 200 people, including medical students, residents, and faculty from Ophthalmology, Medicine, Endocrinology, Surgery, and Plastic Surgery. February 1999.
21. North American Neuro-Ophthalmology Society (NANOS) Meeting, Snowmass, Colorado. Presentation: "Light and Electron – Microscopic Findings in Cases with Leber's Hereditary Optic Neuropathy – Mitochondrial Mutation mt11778 and mt3460 cases." March 1999.
22. Association for Research and Vision in Ophthalmology (ARVO) Meeting, Ft. Lauderdale, Florida. Poster Presentation: "Primary Visual Nuclei in Optic Nerve Hypoplasia." A histopathological comparison of the lateral geniculate body, Superior Colliculus and Visual Cortex in a Patient with Optic Nerve Hypoplasia and a Normal Control. April 1999.
23. "Doheny Days" Doheny Eye Institute Annual Day. Invited Talk. Topic: "Malignant Transformation in Orbital Tumors." June 11–12, 1999.
24. Contemporary Neurology. Invited Speaker. Topic: "Neuro-Ophthalmologic Emergencies." August 23, 2000.
25. Invited Speaker: Neurosurgery Grand Rounds. Topic: "The Pupils in Coma." April 25, 2001.
26. Ophthalmology Grand Rounds. Topic: "Neuro-Ophthalmic Emergencies." April 25, 2001.
27. ARVO. Platform Presentation. May 3, 2001. LHON and Di I Study.
28. North American Neuro-Ophthalmology Society (NANOS) Meeting, Cooper Mountain Resort, Colorado. Presentation: "Relative Sparing of Afferent Pupillary Pathways in Leber's Hereditary Optic Neuropathy: A Postmortem Study." February 2002.

29. University of California Irvine Research Symposium. "The Pupil in Leber's Hereditary Optic Neuropathy." May 17, 2002.
30. The Association for Research and Vision in Ophthalmology (ARVO) Annual Meeting, Ft. Lauderdale, FL. "The Effect of Optic Disk Edema on Spontaneous Venous Pulsations (Revised)." May 2002.
31. ENT Grand Rounds. "Approach to Thyroid Orbitopathy and Blepharoplasty." May 29, 2002.
32. Neurology Rounds. "Approach to Fundus Examination." 2002
33. Neurology Rounds. "Approach to Diplopia." 2002
34. Neurology Rounds. "Approach to Abnormal Pupil and Anisocoria" 2002
35. Neurology Rounds. "Approach to Visual Field Examination." 2002
36. Orange County Optometric Society's Path Symposium. "Approach to Neuro-Ophthalmological Emergencies." August 11, 2002
37. Plastic Surgery Grand Rounds. "Surgical Approaches to Thyroid & Eye Disorders." September 2002.
38. Osler Board Review Course in Ophthalmology, San Francisco, CA, October 2002
39. Invited Guest Speaker: American Academy of Ophthalmology (AAO), "Natural History of Optic Neuritis." October 2002.
40. ENT Grand Rounds. "Traumatic Optic Neuropathy." November 20, 2002
41. Invited Speaker: Orange County Society of Ophthalmology. Annual Lecture, "Optic Neuropathies – A New Look." December 12, 2002.
42. North American Neuro-Ophthalmology Society (NANOS) Meeting, Snowbird, Utah. Poster Presentation: "Regional Cerebral Metabolic Changes Following Optic Nerve Sheath Fenestration for Pseudo-tumor Cerebri Using PET Imaging." February 2003.
43. University of California, Irvine. 10th Annual College of Medicine, 2003 Faculty Research Poster Session: "Regional Cerebral Metabolic Changes Following Optic Nerve Sheath Fenestration for Pseudo-tumor Cerebri Using PET Imaging." April 3, 2003.
44. Endocrine Grand Rounds. "The Management of Thyroid Eye Disease" September 7, 2003.
45. Moderator. Ophthalmology Grand Rounds. October 9, 2003.

46. University of California, Irvine. Neurology lecture to Residents: "Evaluation of the Ocular Fundus." January 14, 2004
47. Invited guest speaker, University of Southern California, Doheny Eye Institute. Neuro-Ophthalmology Symposium, "From Headaches to the Emergency Room." February 14, 2004.
48. Platform presentation: North American Neuro-Ophthalmology Society (NANOS) Meeting, Orlando, Florida. Topic: "Functional Neuro-Imaging in NAION Using PET scanning." March 27-April 1, 2004.
49. Case Presentation. NANOS Meeting. Symposium: "Surgical Complications in Neuro-Ophthalmology" or "Carotid Artery Trauma and Blindness." North American Neuro-Ophthalmology Society (NANOS) Meeting, Ft. Lauderdale, Florida, March 27-April 1, 2004.
50. Invited Speaker: Glaucoma Symposium, University of California, Irvine. Topic: "Current Status of Neuroprotection in Ophthalmology." April 17, 2004.
51. Invited Guest Speaker, The Association for Research and Vision in Ophthalmology (ARVO) Annual Meeting, Ft. Lauderdale, FL. Neuro-Ophthalmology Symposium. April 25-29, 2004.
52. Association for Research and Vision in Ophthalmology (ARVO) Meeting, Ft. Lauderdale, Florida. Scientific Poster Presentation: "Functional Brain Imaging using PET Scan in Non-Arteritic Ischemic Optic Neuropathy" April 25, 2004.
53. Osler Board Review Course in Ophthalmology, San Francisco, CA, May 12-13, 2004.
54. Moderator and Faculty Speaker. Pediatric and Neuro-Ophthalmology Update 2004. CME Symposium at the 'Arnold and Mabel Beckman Center' Aug. 21, 2004.
 - a)'Headache and the Ophthalmologist'
 - b)'Surgical Emergencies in Neuro-Ophthalmology'
55. University of California, Irvine. Department of Neurology, lecture, "The Visual Pathway" Jan 5, 2005
56. UCLA-Harbor. Department of Neurology. Grand Rounds Invited lecture, "Neuro-Ophthalmic Emergencies: The Diagnoses You Can't Afford to Miss in the ER." Jan, 21, 2005.
57. University of California, Irvine. Neurosurgery Grand Rounds, Invited lecturer: "Intra-Orbital Tumors." Feb 02, 2005.
58. University of California, Irvine. Lecturer, Neuro-Ophthalmology Board Review to Ophthalmology Residents. March 2, 2005.
59. University of California, Irvine. Lecturer, Neuro-Ophthalmology Review of OKAPS to Residents. March 30, 2005

60. University of California, San Diego, Shiley Eye Center. Invited lecturer in Neuro-Ophthalmology. April 11, 2005
61. Invited poster presenter, The Association for Research and Vision in Ophthalmology (ARVO) Annual Meeting, Ft. Lauderdale, FL. May 1-5, 2005.
62. Television interview – Adelphia Cable News; “Effects of the Sun on the Eye.” July 19, 2005
63. University of California, Irvine. Moderator, Neuro-Ophthalmology Grand Rounds, August 24, 2005
64. University of California, Irvine. Clinical Neuroscience Core Lecture Series, Neurosurgery Grand Rounds. Invited lecturer: “Neuro-Ophthalmology in the Emergency Room.” August 31, 2005
65. University of California, Irvine, Department of Ophthalmology. Faculty Lecturer: “Oculo-plastic Surgery Update 2005: Practical Tips for the Practicing Ophthalmologist”, October 1, 2005
66. University of California, Irvine, Department of Ophthalmology. Guest Speaker. Community Briefing on Neuro-Ophthalmology, lecture on “The Brain and the Eye” and “The Eye Institute”, November 1, 2005
67. University of California, Irvine, Department of Ophthalmology. Grand Rounds. “Approach to Diplopia.” November 7, 2005
68. University of California, Irvine, Department of Ophthalmology. Grand Rounds. “Cranial Nerve Palsies.” November 7, 2005
69. University of California, Irvine, Department of Ophthalmology. Grand Rounds. “Supra-nuclear Palsies.” November 7, 2005
70. Human Brain Map talk on PET and fMRI & Eye. GCRC. Cognitive & Sensory Perception. November 8, 2005
71. University of California, Irvine, Department of Ophthalmology. Grand Rounds. “Introduction to Optic Neuropathies/Optic Neuritis/ONTI”, November 14, 2005
72. University of California, Irvine, Department of Ophthalmology. Grand Rounds. “Ischemic Optic Neuropathies.” November 14, 2005
73. University of California, Irvine, Department of Ophthalmology. Grand Rounds. “Misc, Optic Neuropathies including PTC/Toxic/Drug-induced.” November 14, 2005
74. University of California, Irvine, Department of Ophthalmology. Pediatrics and Neuro-Ophthalmology CME Course. January 21, 2006

75. University of California, Irvine, Department of Ophthalmology. OKAP Review to residents. February 22, 2006
76. Desert Visionaries Lecture. "The Brain and the Eye" Palm Springs, CA. February 23, 2006
77. North American Neuro-Ophthalmology Society (NANOS) presentation: "Ultrastructural Changes in Extra-ocular Muscles of Hyperthyroid Adenosine Nucleotide Translocator-1 (ANT1) Deficient Mice". Tucson, AZ. March 1, 2006
78. The Association for Research in Vision and Ophthalmology (ARVO) presentation: "Mitochondrial Abnormalities in Extra-ocular Muscles in Hyperthyroid Adenosine Nucleotide Translocator-1 (ANT1) Deficient Mice". Ft. Lauderdale, FL. May 4, 2006
79. University of California, Irvine. Department of Ophthalmology. Continuing Medical Education course in Ophthalmology. "Mitochondrial Changes in Eye Hyperthyroid Eye Muscles". June 2, 2006
80. The Osler Institute, San Francisco, California. Board review to medical students: "The Pupil and its Abnormalities, Ocular Motility, Optic Nerves." June 5, 2006
81. Cedars-Sinai Medical Center, Los Angeles, California. Lecture for Endocrine Grand Rounds, "My Approach to Thyroid Eye Disease." June 6, 2006
82. The Case Management Society of America, Southern California Chapter, Costa Mesa, California. Lecture on: "The Brain and the Eye." June 22, 2006
83. University of California, Irvine. Department of Ophthalmology. Neuro-Ophthalmology Lecture for Grand Rounds. August 10, 2006
84. University of California, Irvine. Department of Ophthalmology. Lecture for Grand Rounds. August 30, 2006
85. University of Southern California, Doheny Eye Institute, Los Angeles, California. Invited guest speaker: CME Seminar for Pain Management in Neuro-Ophthalmology. "Migraine." September 9, 2006
86. University of California, Irvine, College of Medicine. "Orbital Imaging Part I – MRI/Cat Scan." September 20, 2006
87. The Osler Institute, San Francisco, California. Board Review Course to medical students in Ophthalmology. October 24, 2006
88. North American Neuro-Ophthalmology Society (NANOS) 33rd Annual Meeting. Moderated "Novel Approaches to Treatment of Neuro-Ophthalmic Diseases." Snowbird, Utah, February 12, 2007

89. North American Neuro-Ophthalmology Society (NANOS) 33rd Annual Meeting. “Neuroprotection from the Clinician’s Viewpoint: Myth or Reality?” Snowbird, Utah, February 12, 2007
90. North American Neuro-Ophthalmology Society (NANOS) 33rd Annual Meeting. Abstract presentation. “Quantitative Assessment of Normal and Hyperthyroid Extra-ocular Muscles in C57BL/6 Mice Using Confocal Laser Scanning Microscopy.” Snowbird, Utah, February 12, 2007
91. University of California, Irvine, College of Medicine. Annual Topics in Medicine Lecture: “Sudden Visual Loss.” March 13, 2007
92. University of California, Irvine, Department of Ophthalmology. OKAP Review to Residents. March 14, 2007
93. University of California, Irvine, Department of Ophthalmology. Oculoplastics Lecture for Grand Rounds. March 14, 2007
94. The Association for Research in Vision and Ophthalmology (ARVO) SIG Presentation: Ft. Lauderdale,
95. Florida. Invited talk on “Alternate Models with Relevance to Understanding TAO.” May 8, 2007
96. University of California, Irvine Eye Institute, 2nd Annual Collaboration Colloquium, Neuroscience Topics Presentation. May 18, 2007
97. University of California, Irvine, College of Medicine. Incoming Resident Orientation – Introduction to Neuro-Ophthalmology. July 3, 2007
98. Neuroscience lecture Series. Dept. of Neurology. “Emergency Cases in Neuro-Ophthalmology.” August 29, 2007
99. University of California, Irvine. Department of Ophthalmology. Intro to the Eye Exam Teaching Session. September 26, 2007
100. University of California, Irvine. Department of Ophthalmology. Neuro/Plastics Rounds: “Non-arteritic Ischemic Optic Neuropathy”, October 17, 2007
101. University of California, Irvine. Resident Lecture: “Botox”, October 31, 2007
102. Board Review Course in Neuro-Ophthalmology, UCI Medical Center. April 2008
103. The Gavin Herbert Colloquium, Arnold and Mabel Beckman Center of the Academy of Sciences, University of California, Irvine. Moderator and presenter “Subspecialty Roundup for the Comprehensive Ophthalmologist”, October 10 and 11, 2008

104. 3rd Annual Medical Conference of Gabon, Libreville, Gabon in Africa. Invited Speaker “Advances and Recent Developments in Neuro-Ophthalmology”, October 29-31, 2008.
105. AAO 2008 Joint Meeting. Atlanta, USA. North American Neuro-Ophthalmology Symposium: Top Five to Stay Alive: Five Pearls and Pitfalls for the Generalist. “The role of the pupil and pain in CN III”, November 10, 2008.
106. Indian Medical Association of Southern California and Indian Medical Association of Greater Los Angeles. 29th Annual Convention. Anaheim, CA. “What You Did Not Know About Botox”, November 22, 2008.
107. San Fernando Valley Optometric Society, Tarzana, CA, “Sight Threatening Cases in Neuro-Ophthalmology”, December 7, 2008.
108. Asia ARVO 2009, January 11-27, Hyderabad, India. Symposium “Recent Advances in Neuro-Ophthalmology” Talk: “Neuro-Protection in Neuro-Ophthalmology”
109. Asia ARVO 2009, January 11-27, Hyderabad, India. Symposium “Genetics and Imaging in Neuro-Ophthalmology” Talk: “Confocal Microscopy and Ultra High Resolution Electron Microscopy”
110. Asia ARVO 2009, January 11-27, Hyderabad, India. Symposium “Genetics and Imaging in Neuro-Ophthalmology” Talk: “Choice of Imaging in a Patient with Pupil Involving 3rd Nerve Palsy”
111. Visiting Professor Grand Rounds Talk. AIIMS, RPC Ophthalmic Sciences Institute, New Delhi, India, January 2009. “20 Cases that Should not be Missed in Neuro-Ophthalmology: For the Clinician”
112. Visiting Professor, Gitam University, Vishakhapatnam, Andhra Pradesh, India. January 2009. Talk: “Advances in Neuro-Ophthalmology”
113. North American Neuro-Ophthalmology Society, 35th Annual Meeting, February 21-26, 2009, Lake Tahoe, NV. Talk: Nano-medicine in Ophthalmology: Industry, Resources and Access”
114. Cedars Sinai Medical Center, Neurosurgery Brain Tumor Symposium, “Outsmarting Brain Tumors”, June 13, 2009. “Brain Tumors and the Eye”
115. Talk at VA Medical Center, Long Beach. “Introduction to Neuro-Ophthalmology and Orbital Tumors”, July 8, 2009.
116. 4th Annual Gavin Herbert Eye Institute Colloquium. September 25-26, 2009. Presenter “An Update in Advances in Neuro-Ophthalmology”
117. American Academy of Ophthalmology – AAO 2009 Joint Meeting. San Francisco, North American Neuro-Ophthalmology Symposium: Recognizing the

- Distinguishing Sign in Neuro-Ophthalmology “Pupil and Optic Atrophy”, October 24, 2009.
118. Invited Grand Rounds Presentation, King Khaled Eye Hospital, Kingdom of Saudi Arabia, October 12-17, 2009. “Nano-medicine and Neuroprotection in Neuro-Ophthalmology”
 119. Invited Neurology Talk to Patients and Caregivers of PSP Support Group, “The eye in PSP/Atypical Parkinson’s disease”, January 6, 2010, Multi-specialties Unit, Gottschalk Medical Plaza, Irvine.
 120. Lecture to Residents in Neurology, Neurosurgery, Psychiatry at Cedars Sinai Medical Center, Los Angeles, March 2010. “Visual Fields in Neuro-Ophthalmology”
 121. Invited Presentation at “Rio Hondo Optometric Society”, February 2010, “Interesting New Cases in Neuro-Ophthalmology”
 122. University of California, Irvine. Department of Ophthalmology. Neuro-Ophthalmology Board Review Course. April 2010
 123. University of California, Irvine. Department of Ophthalmology. Neuro-Ophthalmology Lecture “Approach to Diplopia”, May 5, 2010
 124. University of California, Irvine. Department of Ophthalmology. Neuro-Ophthalmology Lecture “Optic Neuropathies”, May 12, 2010
 125. University of California, Irvine. Department of Ophthalmology. Neuro-Ophthalmology Board Review Course. April 2010
 126. University of California, Irvine. Department of Ophthalmology. Grand Rounds. “The Swollen Optic Nerve”, November 10, 2010
 127. Cedars Sinai Medical Center, Endocrine Seminar. “Thyroid Eye Disease”, November 2010
 128. Third International Conference in Ophthalmology, Neuro-Ophthalmology, Riyadh, Saudi Arabia; Topics: “Nano-Technology in Ophthalmology”, “Office Tests for Functional Vision Loss”, “Recent Advances in Neuro-Imaging”, “Alternate Model of Thyroid Eye Disease”, “Surgical Management of Brain & Orbital Tumors”, “Pupil Involvement in 3rd Nerve Palsy”, “Clinical Use of Botox in Neuro-Ophthalmology”, “Tricky Cases that Teach Interactive”, “Surgical Emergencies in Neuro-Ophthalmology”, January 8-13, 2011
 129. University of California, Irvine. Department of Ophthalmology. Journal Club: Neuro-Ophthalmology. Moderator. January 19, 2011
 130. Lecture to Research Study Club, Los Angeles: Controversies in Ophthalmology: “How to Detect a Malingerer – a Neuro-Ophthalmological Approach”, February 11, 2012

131. Lecture to Los Angeles County Optometric Society (LACOS): “Cases Requiring an Urgent Neuro-Ophthalmologic Referral”, March 25, 2012
132. Invited Grand Rounds Speaker. “Alternate Surgical approaches in managing Orbital Tumors” Dept. of Otolaryngology (ENT), UCI Medical Center, CA, May 16, 2012
133. Neurology Lecture. Approach to Neuro-Ophthalmology and Fundus examination. Cedars Sinai Medical Center, August 15, 2012
134. Introduction and Use of OCT in Pituitary Tumors. Endocrinology. Cedars Sinai Medical Center, September 2012
135. Endocrinology Rounds, Speaker. “Graves’ Ophthalmopathy”. Cedars Sinai Medical Center, October 30, 2012
136. Symposium Talk at the American Academy of Ophthalmology Meeting (AAO), Chicago, “What to do when your patient sees nothing and you see nothing: the Neuro-Ophthalmology Workup” Nov. 12, 2012.
137. Neurology Lecture: Neuro-Ophthalmic Emergencies, 15 August, 2012
138. Rio Hondo Optometric Society, Annual Meeting, Keynote Speaker: Neuro-Ophthalmology, July 28, 2013
139. Brotman Medical Center, Invited Grand Rounds, CME: Neuro-Ophthalmic & Orbital Conditions in Medicine, April 24, 2014
140. Endocrine Grand Rounds: Cedars Sinai Medical Center: “Thyroid Eye Disease”, November, 2014
141. Speaker and Moderator, 12th Annual Congress of the Society for Brain Mapping and Therapeutics, “Imaging Technology-Overview” March 2015.

RESEARCH GRANTS

1. **NIH Funded GCRC Grant: Direct Costs \$30,000. Principal Investigator: Swaraj Bose, MD.** Title: “Functional Assessment of the Visual Cortex using PET Scanning in Patients with Optic Neuropathy.” University of California, Irvine. 12/2000 - 2004.
2. **Allergan Study.** “A One-Year, Multi-center, Open-Label Study (With a One- Year Extension) of the Safety and Efficacy of Brimonidine-Purite™ 0.15% Ophthalmic Solution Administered QID in Patients with Leber’s Hereditary Optic Neuropathy”. **Principal Investigator: Swaraj Bose, MD.** 12/2002 – 8/2004

3. **University of California, Irvine. Grant for Research : \$40,000.** Project: “Tissue Culture of Rabbit Lacrimal Gland Acinar Cells and Study the Effects of Thyroid Hormone.” **Principal Investigator: Swaraj Bose, MD. Completed**
4. **NIH. EY015926-01 RFA Graves’ Ophthalmology.** “Mitochondrial Etiology of Thyroid Associated Ophthalmopathy.” **Co-Investigator: Swaraj Bose, Principal Investigator: Douglas Wallace, Ph.D. 2004-09.**
5. **NI HEY 05801:** Project: “Secretory Changes in Purified Lacrimal Acinar Cells in Culture.” **Principal Investigator: Austin Mircheff, Ph D. University of Southern California and Keck School of Medicine. Completed. 7/2000-2001**
6. **NEI EY 10550:** Project: “Morphological Changes in Purified Lacrimal Acinar Cells in Culture.” **Principal Investigator: Joel Schechter, Ph D. University of Southern California and Keck School of Medicine. Completed 7/2000-2001**
7. **James H. Zumberge Funds: \$50,000.** “Pathogenesis of Thyroid Eye Disease” **Co Investigator: Swaraj Bose, MD. Principal Investigator: Steven E. Feldon MD. Completed. 9/2001**
8. **Clinical X Grant: \$60,000 (for two years) 2003-2005.** University of California, Irvine. “Effect of hyperthyroidism on the mouse extra-ocular muscle ultra structure and mitochondria. **Principal Investigator: Swaraj Bose, M.D. 2003-2005**
9. **Fight for Sight, New York: \$2,100.** UCI Faculty Mentor. “Mitochondria in Graves’ Disease”, Summer 2004
10. **Dean’s Research Award: \$8,000. University of California, Irvine. UCI Faculty Mentor.** “Mitochondria in Graves’ Disease”, Summer 2004
11. **Research for the Preservation of Blindness (RPB): \$20,000.** Thyroid Research, Unrestricted Grant. June, 2005
12. **Novartis Pharmaceuticals Protocol CFTY720D2309:** “A 24 month, double-blind, randomized, multi-center, placebo-controlled, parallel-group study comparing efficacy and safety of FTY720 1.25 mg and 0.5 mg administered orally once daily versus placebo in patients with relapsing-remitting MS.” **Co-Investigator: Swaraj Bose, MD. Principal Investigator: Stanley Van Den Noort, MD. September 2007-2008**
13. **Novartis Pharmaceuticals Protocol CFTY720D2309E1, Post Text Supplement:** A 24 month, double-blind, randomized, multi-center, placebo-

controlled, parallel-group study comparing efficacy and safety of FTY720 1.25 mg and 0.5 mg administered orally once daily versus placebo in patients with relapsing-remitting MS.” **Co-Investigator: Swaraj Bose, MD.**
Principal Investigator: Avery Tyler Pittluck, MD. 2008-2011.

14. **Pfizer Study:** Case-Crossover Study of PDE5 Inhibitor Exposure as a Potential “Trigger Factor” for Acute NAION. 2009-2012. **Principal Investigator: Swaraj Bose, MD**
 15. **Neuro-Vascular Neurosurgery Device** Clinical Study: Cerebral venous shunt device study: Cedars Sinai Medical Center Investigator: Dr Michael Alexander. **Co-Investigator: Swaraj Bose, MD;** 2014- onwards.
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