

JOSEPH L. DEMER, M.D., Ph.D.

CURRICULUM VITAE

EDUCATION:

- 1972-1977 University of Arizona, Tucson--B.S., Electrical Engineering.
- 1977-1983 Johns Hopkins University School of Medicine--M.D., Ph.D.
Biomedical Engineering, May 27, 1983.
- 1983-1984 Baylor College of Medicine, St. Luke's Episcopal Hospital--
Internship (PGY-I), Internal Medicine.
- 1984-1987 Baylor College of Medicine, Cullen Eye Institute--Residency, Ophthalmology.
- 1987-1988 Texas Children's Hospital--Fellowship, Pediatric Ophthalmology
and Strabismus with Gunter K. von Noorden, M.D.

LICENSURE:

- 1987-present California Board of Medical Quality Assurance, A 043662, for practice of
Medicine.
- 1983-present Texas State Board of Medical Examiners, G4973, for practice of Medicine.
- 1994-present U.S. Federal Aviation Administration, private pilot, multi-engine, instrument,
land airplane.
- 1992-present U.S. Federal Aviation Administration, private pilot, single engine, instrument,
land airplane.
- 1985-present U.S. Federal Aviation Administration, private pilot, single engine, land airplane.
- 1971-present U.S. Federal Communications Commission, first class commercial radiotelephone
operator's license with radar endorsement.

BOARD CERTIFICATION:

American Board of Ophthalmology, October 22, 1988. (no expiration)

PROFESSIONAL EXPERIENCE:

- 2016-present Arthur L. Rosenbaum Professor of Pediatric Ophthalmology and Professor of Neurology, University of California, Los Angeles. Director of Ocular Motility Laboratory, Stein Eye Institute.
- 2010-present Chief, Pediatric Ophthalmology and Strabismus Division, Jules Stein Eye Institute.
- 2005-2016 Leonard Apt Endowed Chair in Pediatric Ophthalmology, and Professor of Neurology, University of California, Los Angeles. Director of Ocular Motility Laboratory, Jules Stein Eye Institute.
- 2004-2005 Grace and Walter Lantz Professor of Ophthalmology and Professor of Neurology, University of California, Los Angeles. Director of Ocular Motility Laboratory, Jules Stein Eye Institute.
- 1999-2004 David and Laraine Gerber Professor of Ophthalmology and Professor of Neurology, University of California, Los Angeles. Director of Ocular Motility Laboratory, Jules Stein Eye Institute.
- 1997-1999 Professor, Departments of Ophthalmology and Neurology, University of California, Los Angeles. Director of Ocular Motility Laboratory, Jules Stein Eye Institute.
- 1993-1997 Associate Professor, Departments of Ophthalmology and Neurology, University of California, Los Angeles. Director of Ocular Motility Laboratory, Jules Stein Eye Institute.
- 1988-1994 Medical Director of University Ophthalmology Associates, University of California, Los Angeles.
- 1988-2010 Chief, Comprehensive Ophthalmology Division, Jules Stein Eye Institute.
- 1988-present Director of Ocular Motility Laboratory, Jules Stein Eye Institute.
- 1988-1993 Assistant Professor, Departments of Ophthalmology and Neurology, University of California, Los Angeles.
- 1987-1988 Fellow, Department of Ophthalmology, Texas Children's Hospital, Houston, Texas. Pediatric Ophthalmology and Strabismus.
- 1987-1988 Research Assistant Professor, Department of Ophthalmology, Baylor College of Medicine, Houston, Texas.

- 1986-1987 Research Instructor, Department of Ophthalmology, Baylor College of Medicine, Houston, Texas.
- 1984-1987 Resident physician in Ophthalmology, Baylor College of Medicine.
- 1983-1984 Resident physician (PGY-I) in Internal Medicine, Baylor College of Medicine.
- 1981-1983 Medical student, Johns Hopkins University School of Medicine. Principal Investigator of research grant from Southern Medical Association--study of single neuronal unit behavior in cerebellum as related to vestibulo-ocular reflex.
- 1977-1981 Graduate and Medical Student, Johns Hopkins University School of Medicine. Debate coach, Johns Hopkins University. Funded by NIH Medical Scientist Training Program.
- 1981 Completion of Ph.D. requirements in 1981 in Biomedical Engineering. Thesis Advisor -- David A. Robinson.
- 1972-1977 Broadcast Engineer, KVOA-TV, Channel 4, Inc., Tucson, Arizona.

PROFESSIONAL ACTIVITIES:

Society Memberships

American Academy of Ophthalmology
American Academy of Pediatrics (specialty member)
American Physiological Society
American Medical Association
Association for Research in Vision and Ophthalmology
California Medical Association
International Strabismological Association
Los Angeles Ophthalmological Society
Pan American Association of Ophthalmology
Society for Neuroscience
Society for Biomedical Research
American Association for Pediatric Ophthalmology and Strabismus

Leadership Activities in Scholarly and Professional Societies

- 1989-1991 Program Committee, Low Vision Research Group.
- 1989-1990 Symposium Planning Committee, Low Vision Research Group.
- 1994 Co-chair, poster session, Ass'n for Research in Vision and Ophthalmology.
- 1994 Associate examiner, American Board of Ophthalmology.
- 1995-1998 Program Committee, Visual Science and Its Applications meeting.
- 1998-2002 Program Committee, Ass'n for Research in Vision and Ophthalmology.

	(Chair, 1999-2002)
2002-present	Administrative Council, International Strabismological Association
2004-2007	Awards Committee, Ass'n for Research in Vision and Ophthalmology.
2007	Chair of Awards Committee, Ass'n for Research in Vision and Ophthalmology.
2010-present	International Strabismological Association Council and Awards Lecture Committee Member
2013-2014	Leonard Apt Lecture Nominating Committee, Ophthalmology Section, American Academy of Pediatrics.
2013-2014	Biennial Meeting Section Program Organizer, International Society for Eye Research
2013-2014	Knowledge Base Committee of the American Academy of Ophthalmology
2014-2018	Vice President, International Strabismological Association

UCLA University Committees

2007-2011	Member, various campus-wide, confidential ad hoc promotion and tenure evaluation committees.
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UCLA Medical Center and Medical School Committees

1988-1990	Acute Care Committee
1988-1991	Ambulatory Care Committee
1992-1996	Strategic Planning Committee on Relationship Between Medical School and Medical Center
1992-1995	Risk Management Committee.
1996-1997	Clinical and Applied Research Subcommittee of the Research Planning Committee
2008-2009	Chair, Chancellor's Review Committee for Evaluation of Chair of Dept. of Surgery.

Department of Ophthalmology Committees

1988-present	Department of Ophthalmology Committee.
1988-present	Division Chiefs Committee.
1988-present	Clinical Committee.
1988-present	Quality Assurance Committee.
1988-present	Quality Assurance Committee of the Medical Staff.
1988-present	Research Committee.
1988-present	Clinical Faculty Appointment and Promotion Committee.
1988-1991	Ophthalmology Outpatient Department Committee.
1988-1990	Clinical Laboratory Committee.
1988-1992	Comprehensive Ophthalmology Search Committee.
1989-1992	Chairman, Comprehensive Ophthalmology Search Committee.
1989-1990	Search committee for Director, Doris Stein Eye Research Center.
1989-1994	Residency Steering Committee.

1989-1990	Residency Steering Committee, Subcommittee for Reorganization of Residency Curriculum.
1989-1990	Strategic Planning Committee for Patient Care.
1989-1990	Strategic Planning Committee for Research.
1989-1990	Patient Registration and Medical Records Committee.
1989-1990	Practice Contracting Committee.
1989-1990	Public Education and Patient Information Committee.
1988-1992	Vice-chair, University Ophthalmology Associates Executive Committee.
1992-1994	Chair, University Ophthalmology Associates Executive Committee.
1990	Ophthalmology Managed Care Task Force.
1992-1993	Clinical Teaching Service Fund Committee.
1992-1993	Dean's Search Committee for Chair of Ophthalmology and Director of Jules Stein Eye Institute.
1993-1994	Chair, Comprehensive Ophthalmology Search Committee.
1995-present	Chair, EyeSTAR ("Specialty Training and Advanced Research," residency/Ph.D.) Committee.
1998-1999	Chair, Comprehensive Ophthalmology Search Committee.
2005	Chair, Kolokotronis Chair Search Committee.
2009	Chair, 5 yr Committee Review of Surgery Department Chairman
2010	Chair, Pediatric Ophthalmology and Strabismus faculty search.
2010-present	Co-director, Fellowship in Pediatric Ophthalmology and Strabismus
2016	Basic Science Faculty Search Committee

Department of Neurology committees

2010-2016	Academic Appointment and Promotions Committee
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Ophthalmology Departmental Program Responsibilities

1988-2010	Chief, Comprehensive Ophthalmology Division.
1988-1991	Medical Director, Ophthalmology Outpatient Department. (primary clinical teaching service of the department)
1988-1994	Medical Director, University Ophthalmology Associates.
1994-2000	Associate Medical Director, University Ophthalmology Associates.
1988-present	Director, Ocular Motility Laboratory.
1995-present	Chair, EyeSTAR ("Specialty Training and Advanced Research," residency/Ph.D.) Committee.
2010-present	Chief, Pediatric Ophthalmology and Strabismus Division.
2011-present	Academic Appointment and Promotions Committee

Service to Governmental Organizations

July 1991	Reviewer, U.S. National Eye Institute Special Review Committee SRC-02, Chevy Chase, Maryland.
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June 1992	Reviewer, National Eye Institute Study Section, Vision B, Washington, D. C.
July 1993	Reviewer, National Eye Institute Study Section, SBIR, Washington, D. C.
March 1994	Reviewer, National Eye Institute Special Study Section, Washington, D.C.
August 1994	Outside Consultant, U.S. National Institutes of Health Pathology A Special Study Section, Washington, D.C.
1994-1997	Regular member, U.S. National Eye Institute Study Section, Vision B, Washington, D.C.
1996	Grant Reviewer, U.S. National Science Foundation.
1997	Grant Reviewer, Medical Research Council of Canada.
1997-1999	Chairman, National Institutes of Health Study Section, Visual Sciences B Study Section; Integrative, Functional, and Cognitive Neuroscience Initial Review Group, Washington, D. C.
May 1998	Chairman, National Institutes of Health VISB Special Emphasis Panel ZRG1 07, teleconference.
May 1999	Participant, NIH workshop on International Classification of Eye Movement Abnormalities and Strabismus
Dec 2000	Chairman, U.S. National Institutes of Health VISB Special Emphasis Panel ZRG1VISB-01, teleconference.
March 2001	Co-chair, Craniofacial specialization and disease, workshop at National Eye Institute, Bethesda, Maryland, March 7-8, 2001.
Nov 2001	Participant, NIDCD Special Emphasis Panel reviewing PAR-01-103.
2001	Grant Reviewer for Scottish National Health Foundation
2002	Ad hoc study section member, U.S. NIDCD
2003	Grant Reviewer, Swiss National Science Foundation
Oct. 2003	Chairman, U.S. National Institutes of Health ZDC1 SRB-R (45) Special Emphasis Panel/Initial Review Group for NIDCD
2004 - 2005	Grant Reviewer for Austrian National Science Foundation
2004	Grant Reviewer for U.S. Veteran's Administration
Nov. 2004	Chairman, U.S. National Institutes of Health ZDC1 SRB-R (34) Special Emphasis Panel/Initial Review Group for NIDCD
Nov. 2004	Ad hoc member, Visual Sciences A ZRG1 AED 01 Q study section, NIH
Aug. 2005	Member, DARPA Virtual Face Working Group, Arlington, VA.
Jan. 2006	Chairman, U.S. National Institutes of Health 2006/05 ZDC1 SRB-R (33) Special Emphasis Panel/Initial Review Group for NIDCD
June 2008	Ad hoc Member, U.S. National Institutes of Health Central Visual Processing Study Section, Bethesda, MD.
Sept. 2009	Ad hoc Member, U.S. National Institutes of Health NIDCD Special Study Section, teleconference.
April 2010	Ad hoc Member, U.S. National Institutes of Health NIDCD Special Study Section, teleconference.
January 2011	Ad hoc member, U.S. National Institutes of Health NEI Board of Scientific Counselors, NIH Campus, Bethesda.
Feb. 2013	Consultant to Pediatric Ophthalmology Investigators Group Planning Committee
March 2013	Ad hoc member, U.S. National Institutes of Health NEI Clinical Research Study Section.
Oct. 2014	Ad hoc member, U.S. National Institutes of Health ZRG1 IFCN-T (02)

	Integrative Neuroscience Study Section.
Mar. 2015	Ad hoc member, U.S. National Institutes of Health ZRG1 IFCN-T (02) Integrative Neuroscience Study Section.
Feb. 2016	Ad hoc member, U.S. National Institutes of Health SPC Mechanisms of Sensory, Perceptual and Cognitive Processes (SPC) Study Section.
June 2016	NIDCD Special Emphasis Panel ZDC1 SRB-R (37) Translational Grants Review
Oct. 2018	Member, National Eye Institute Special Emphasis Panel ZEY1 VSN (01)

Editorial Services to Scholarly Publications

1988-present	Reviewer for Investigative <i>Ophthalmology and Visual Science</i> .
2007-present	Editorial Board Member of Investigative <i>Ophthalmology and Visual Science</i> .
1989	Reviewer for ICEV, International Society for Clinical Electrophysiology of Vision.
1989-1996	Reviewer for <i>Aviat. Space Environ. Med.</i>
1990-2009	Reviewer for <i>J. Vestibular Res.</i>
1990-1991	Reviewer for <i>Behavioral Brain Res.</i>
1990-present	Reviewer for <i>Vision Res.</i>
1990	Reviewer for <i>Clin. Vis. Sci.</i>
1990	Reviewer for <i>Binoc. Vision</i> .
1997-present	Reviewer for <i>J. Neurophysiol.</i>
1990-1996	Reviewer for <i>J. Ped. Ophthalmol. Strabismus</i> .
1997-present	Reviewer for <i>J. AAPOS (J. Am. Ass'n. Ped. Ophthalmol. Strabismus)</i>
1991	Reviewer for American Medical Association <i>Guides</i> .
1992	Reviewer for <i>Biological Psychiatry</i> .
1993-present	Reviewer for <i>Am. J. Ophthalmol.</i>
1993-present	Reviewer for <i>Current Eye Res.</i>
1993-present	Reviewer for <i>Neurology</i> .
1992-present	Associate Editor, <i>Strabismus</i> .
1993-2002	Editorial board member, <i>Binocular Vision and Eye Muscle Surg. Quarterly</i> .
1994-2006	Editorial board member, <i>Am. J. Ophthalmol.</i>
1994-present	Reviewer for <i>J. Neurosci.</i>
1997-present	Reviewer, <i>Exp. Brain Res.</i>
1997-1999	Consensus panelist, Therapeutics and Technology Assessment Subcommittee of the American Academy of Neurology, Vestibular Testing in Adults and Children.
2001	Reviewer for <i>Brain</i>
2003	Reviewer for <i>Can. J. Ophthalmol.</i>
2003-present	Reviewer for <i>Br. J. Ophthalmol.</i>
2004-present	Reviewer for <i>Japanese J. Ophthalmol.</i>
2004	Reviewer for <i>J. Applied Physiol.</i>
2004	Reviewer for <i>Human Brain Mapping</i>
2004	Reviewer for <i>Comprehensive Ophthalmology Update</i>
2008-present	Reviewer for <i>J. Ophthalmic Plastic and Reconstructive Surgery</i>
2010	Reviewer for <i>European J. Neuroscience</i>
2010	Reviewer for <i>Optometry and Vision Science</i>

2011	Reviewer for <i>Ophthalmic Genetics</i>
2012-present	Editorial board member, <i>J. AAPOS</i>
2012-present	Reviewer for <i>J. NeuroOphthalmol.</i>
2013-present	Reviewer for <i>JAMA Ophthalmology</i>
2013-present	Reviewer for <i>Neuroradiology</i>
2015	Reviewer for <i>Journal of Anatomy</i>
2016	Reviewer for <i>Clinical Anatomy</i>
2016	Reviewer for <i>European Journal of Ophthalmology</i>
2017	Reviewer for <i>Journal of Optometry</i>
2017	Reviewer for <i>Journal of Pediatric Neurology</i>
2017	Reviewer for <i>Neurology & Neurotology</i>
2017	Reviewer for <i>Journal of Biomechanics</i>
2017	Reviewer for <i>Journal of Clinical Neurology</i>
2017	Reviewer for <i>Journal of the Mechanical Behavior of Biomedical Materials</i>

Community Service

1988	Interviewed for Article entitled "Breakthroughs in Eye Care," by June Leary, in <i>Luthern Brotherhood Bond</i> , Fall 1988.
1990	"Neuro-ophthalmology," 1 hour lecture to Rehabilitative Nurses Society, January 25, 1990, Culver City, California.
1991	Summary of article for Benign Essential Blepharospasm Research Foundation Newsletter, "Eye Movements in Essential Blepharospasm." Vol. 10, May 1991.
1992-1993	Board of Directors, Autism Society of Los Angeles.
1998	Lecture to Southern California Chapter of the National Marfan Foundation, October 3, 1998.
2008	Lecturer, National Marfan's Foundation annual convention.
2009-2012	Scientific Advisory Board member, Eye Sight Foundation of Alabama.
2010-present	Scientific Advisory Board member, Knights Templar Eye Foundation.

Teaching

1. Course M201, Clinical Fundamentals of Ophthalmology.
2. Course OP-100, Ophthalmic Basic and Clinical Sciences.
3. Review session for first year medical students on visual physiology, April 19, 1991. One hour.
4. Co-chair, Jules Stein Eye Institute 24th Annual Postgraduate Seminar, April 2-3, 1993.
5. Co-chair, Advanced Strabismus Surgery Symposium, April 16, 1993.
6. Senior instructor, course on nystagmus, American Academy of Ophthalmology Annual Meeting, November 1993, 1994, 1996, and 1997.
7. Co-chair, Jules Stein Eye Institute 25th Annual Postgraduate Seminar, April 8-9, 1994.
8. Co-chair, Jules Stein Eye Institute 29th Annual Postgraduate Seminar, April 3-4, 1998.
9. Co-Director, Advanced Pediatric Ophthalmology and Strabismus Surgery Symposium, April 3, 1998.
10. Co-chair, Jules Stein Eye Institute 29th Annual Postgraduate Seminar, April 1-2, 2002.

11. Director, LEO Clinical Update Course on Pediatric Ophthalmology and Strabismus, American Academy of Ophthalmology, Orlando, Florida, October 21, 2002.
12. Senior instructor, course 269, "Behind the insertions: New concepts of extraocular muscles for orbital and strabismus surgeons." American Academy of Ophthalmology, Orlando, Florida, October 21, 2002.
13. Director, LEO Clinical Update Course on Pediatric Ophthalmology and Strabismus, American Academy of Ophthalmology, Orlando, Florida, November 16, 2003.
14. Senior instructor, course 429, "Behind the insertions: New concepts of extraocular muscles for orbital and strabismus surgeons." American Academy of Ophthalmology, Orlando, Florida, November 17, 2003.
15. Neuro-ophthalmology section of Clinical Neuroscience required medical student clerkship, ongoing.
16. Anatomy of the eye and visual system, first year medical student curriculum, Spring 2008 – 10.
17. Advanced Elective in Ophthalmology, all summers.
18. Directed Individual Study in Biomedical Engineering, ongoing.
19. Medical Neuroscience required discussion section for medical students, ongoing.

HONORS AND SPECIAL AWARDS:

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| 2018 | Lifetime Achievement Award, American Association for Pediatric Ophthalmology and Strabismus |
| 2017 | Senior Achievement Award, American Academy of Ophthalmology |
| 2013 | Senior Honor Award, American Association for Pediatric Ophthalmology and Strabismus |
| 2009 | Association for Research in Vision and Ophthalmology Fellow, Gold Level. |
| 2004 | Recognition Award, Alcon Research Institute. |
| 2004 | Research to Prevent Blindness Walt and Lilly Disney Award for Amblyopia Research |
| 2003 | Friedenwald Award, Association for Research in Vision and Ophthalmology |
| 2001 | Achievement Award, American Academy of Ophthalmology. |
| 1999 | Honor Award, American Association for Pediatric Ophthalmology and Strabismus. |
| 1997 | Research to Prevent Blindness Lew R. Wasserman Merit Award |
| 1990 | Research to Prevent Blindness William and Mary Greve International Research Scholar Award. |

- 1987 National Children's Eye Care Foundation fellowship training loan award.
- 1985 Goar Award for Research Presentation, Cullen Eye Institute Alumni Day.
- 1981 First Place in Student Paper Competition, Annual Conference on Engineering in Medicine and Biology.
- 1972-1977 Rhodes Scholar Finalist. Presidential Scholar. National Merit Scholar. Phi Kappa Phi. Western Electric Grant Final Award. Outstanding Senior Engineer. Outstanding Debater.

PATENTS:

- 1979 U.S. Patent #4,176,660 "Disposable Esophageal and Tracheal Multiprobes." Kenneth C. Mylrea and Joseph L. Demer.

RESEARCH GRANTS AND FELLOWSHIPS RECEIVED:

- 1981 NIH Individual Postdoctoral Fellowship (award declined due to change in plans).
- 1982-1983 Principal Investigator of grant from Southern Medical Association for study of cerebellar control of eye movements \$5,000 for one year.
- 1986-1988 Principal Investigator, NEI ROI EY06394. "Vestibulo-ocular Reflex in Visual Rehabilitation," a multidisciplinary investigation of eye movement reflexes in visually impaired persons using telescopic spectacles. Total direct cost \$367,744 over three years. Grant surrendered upon move to University of California at Los Angeles, July 1988.
- 1987-1988 Principal Investigator of grants from Delta Gamma Foundation and National Children's Eye Care Foundation for study of cerebral blood flow and metabolism in human amblyopia. \$10,000 total for one year.
- 1988-1989 Permanent Charities Committee for the Entertainment Industries gift through Research to Prevent Blindness, Research Manpower Award, \$10,000.
- 1988-1991 Karl Kirchgessner Foundation, special gift to the School of Medicine and one year's endowment fund income, \$35,691.
- 1990-1993 Principal Investigator, NEI 1 ROI EY08656-01-03, "Visual-Vestibular Interaction with Low Vision Aids." Study of reflex eye movements and visual perception during head movement in normal and visually impaired humans. Total direct cost \$241,367 over three years.

- 1990-1995 Principal Investigator and Research to Prevent Blindness William and Mary Greve International Scholar, \$45,000.
- 1991-1993 Principal Investigator, NEI 1 ROI EY08313-01-03, "Biomechanical Analysis in Strabismus Surgery." Consortium with Smith-Kettlewell Eye Research Institute. Study and mathematical modeling of orbital biomechanics with application to improved accuracy of strabismus surgery. Total direct cost \$383,317 over three years.
- 1993-1997 Principal Investigator, NEI 1 ROI EY08656-04-07, "Visual-Vestibular Interaction with Low Vision Aids." Study of reflex eye movements and visual perception during head movement in normal and visually impaired humans. Total direct cost approx. \$525,000 over four years.
- 1994-1998 Principal Investigator, NEI 1 ROI EY08313-04-07, "Biomechanical Analysis in Strabismus Surgery." Consortium with Smith-Kettlewell Eye Research Institute. Study and mathematical modeling of orbital biomechanics, and immunohistochemistry and neural tract tracing, with application to improved accuracy of strabismus surgery. Total direct cost approx. \$900,705 over four years.
- 1996-2001 Project Director of Project 2, "New Approaches to Vestibular Testing," NINCD 1 PO1 DC02952, "Vestibular Clinical and Basic Research Project Center." Program project grant, under overall principal investigatorship of Vicente Honrubia, M.D. Development of new tests of human vestibular function. Total direct cost of project \$1,017,000 over five years.
- 1997-2000 Research to Prevent Blindness Lew R. Wasserman Merit Award, \$50,000.
- 1998-2000 Principal Investigator, NEI 1 ROI EY08313-08-10, "Biomechanical Analysis in Strabismus Surgery." Consortium with Smith-Kettlewell Eye Research Institute. Study and mathematical modeling of orbital biomechanics, and immunohistochemistry, and molecular biology, with application to improved accuracy of strabismus surgery. Total direct cost \$1,050,844 over three years.
- 2001-2005 Principal Investigator, NEI 1 ROI EY08313-11-15, "Biomechanical Analysis in Strabismus Surgery." Study and mathematical modeling of orbital biomechanics, magnetic resonance imaging, and immunohistochemistry, with application to improved accuracy of strabismus surgery. Total direct cost \$1,501,503 over five years.
- 2001-2006 Principal Investigator of Subcontract at UCLA, NEI 1 RO1 EY13583-01-05, "Genetic and Anatomic Basis of the Fibrosis Syndromes." Consortium with Boston Children's Hospital/Harvard, principal investigator Elizabeth Engle, M.D. Study by magnetic resonance imaging and clinical examinations of the phenotypes of

molecularly characterized forms of congenital fibrosis of the extraocular muscles. Total cost \$248,569 over five years.

- 2002-2007 Project Director of Project 1, "New Tests of Vestibular Function," and Core B. 1 PO1 DC005224, "Diseases of the Vestibular System," multiproject grant under overall principal investigatorship of Robert W. Baloh, M.D. Total direct cost of multiproject grant \$4,921,567 over five years. Total direct cost of Project 1 and Core A \$1,934,345 over five years.
- 2004-2012 Research to Prevent Blindness Walt and Lilly Disney Award for Amblyopia Research, \$75,000.
- 2004- Recognition Award, Alcon Research Institute, \$100,000.
- 2006 – 2011 Principal Investigator, NEI 1 RO1 EY08313-16-20, "Biomechanical Analysis in Strabismus Surgery." Study and mathematical modeling of orbital biomechanics, magnetic resonance imaging, ocular kinematics, and innervational development, with application to improved accuracy of strabismus surgery. Total direct cost \$1,712,546 over five years.
- 2007 - 2012 Principal Investigator of Subcontract at UCLA, NEI 1 RO1 EY13583-06-10, "Genetic and Anatomic Basis of the Fibrosis Syndromes." Consortium with Boston Children's Hospital/Harvard, principal investigator Elizabeth Engle, M.D. Study by magnetic resonance imaging and clinical examinations of the phenotypes of molecularly characterized forms of congenital fibrosis of the extraocular muscles. Total cost \$243,220 over five years.
- 2011 – 2016 Principal Investigator, NEI 1 RO1 EY08313-21-25, "Biomechanical Analysis in Strabismus Surgery." Study and mathematical modeling of orbital biomechanics, magnetic resonance imaging, and neuroanatomy, with application to improved accuracy of strabismus diagnosis and surgery. Total direct cost \$1,971,701 over five years.
- 2016 – 2020 Principal Investigator, NEI 1 RO1 EY08313-26-29, "Biomechanical Analysis in Strabismus Surgery." Study and mathematical modeling of orbital biomechanics, magnetic resonance imaging, and neuroanatomy, with application to improved accuracy of strabismus diagnosis and surgery, and to low tension glaucoma. Total direct cost \$1,539,411 over four years.

JOSEPH L. DEMER, M.D., PH. D.
LECTURES AND PRESENTATIONS

1. Demer, J. L., Adler, L., Mylrea, K. C., and Jewett, W. R. Temperature, ECG, and heart sound measurement using a single esophageal probe. Slide presentation at Ass'n for the Advancement of Medical Instrumentation annual meeting, San Francisco, May 1977.
2. Demer, J. L., Haddad, G. M., and Robinson, D. A. Effect of inferior olive lesions on the vestibulo-ocular and optokinetic systems of the cat. Slide presentation at Association for Research in Vision and Ophthalmology, Sarasota, May 1979.
3. Demer, J. L. and Robinson, D. A. Effect of reversible lesions of the inferior olive (IO) on gain of the vestibulo-ocular reflex (VOR). Slide presentation at Association for Research in Vision and Ophthalmology, Sarasota, May 1981.
4. Demer, J. L. and Robinson, D. A. Effect of reversible lesions and electrical stimulation of the olivocerebellar system on gain of the vestibulo-ocular reflex (VOR). Poster presentation at Society for Neuroscience, Los Angeles, May 1981.
5. Demer, J. L. Visual-vestibular interaction in cats after plastic modification of vestibulo-ocular reflex (VOR) gain. Slide presentation at Association for Research in Vision and Ophthalmology, Sarasota, May 1982.
6. Demer, J. L. and Zee, D. S. Vestibulo-ocular reflex (VOR) and optokinetic nystagmus (OKN) deficits in albino human beings. Slide presentation at Association for Research in Vision and Ophthalmology, Sarasota, May 1983.
7. Demer, J. L., Tusa, R. J., and Herdman, S. J. Model of the vestibulo-ocular reflex (VOR) and optokinetic system (OKS) simulating effects of asymmetric cortical lesions. Slide presentation at Association for Research in Vision and Ophthalmology, Sarasota, May 1984.
8. Demer, J. L., Goldberg, J., and Davis, J. Defective ocular motor storage: a delayed manifestation in cerebellar degeneration. Slide presentation at Association for Research in Vision and Ophthalmology, Sarasota, May 1985.
9. Demer, J. L., Tusa, R., and Herdman, S. Role of a parietal cortical area in optokinetic nystagmus (OKN). Slide presentation at Baylor Ophthalmology Alumni Association meeting, Houston, June 1985.
10. Demer, J. L., Goldberg, J., Jenkins, H. A., and Porter, F. I. Vestibulo-ocular reflex (VOR) during telescopically magnified vision: adaptation to reduce visual-vestibular conflict. Slide presentation at NASA Space Adaptation Symposium, Houston, February 1986.
11. Demer, J. L., Goldberg, J., Porter, F. I., Jenkins, H. A., Icaza, E., and Stich, M. Short-term vestibulo-ocular reflex (VOR) gain plasticity and visual-vestibular interaction in normal and low vision subjects. Poster presentation at Association for Research in Vision and Ophthalmology, Sarasota, May 1986.
12. Demer, J. L., Goldberg, J., Porter, F. I., and Jenkins, H. A. Vestibulo-ocular (VOR) adaptation to telescopic spectacle low vision aids. Slide presentation at Baylor Alumni Association Meeting, Houston, June 1986.
13. Demer, J. L., Goldberg, J., Porter, F. I., and Jenkins, H. A. Parametric modification of vestibulo-ocular reflex (VOR) gain and visual-vestibular interaction in normal and low vision subjects. Slide presentation at Fourth Annual Meeting on Biomedical Engineering in Houston, February 1986.

14. Demer, J. L., Goldberg, J., Porter, F. I., and Jenkins, H. A. Sensorimotor adaptation to telescopic spectacle low vision aids. Slide presentation at International Symposium on Low Vision, Waterloo, Ontario, Canada, June 26, 1986.
15. Demer, J. L., Goldberg, J., Porter, F. I., and Jenkins, H. A. Broad-band gain plasticity of the human vestibulo-ocular reflex (VOR). Slide presentation at the Society for Neuroscience, Washington, D. C., November 10, 1986.
16. Demer, J. L., Goldberg, J., Porter, F. I., Jenkins, H. A., and Schmidt, K. The effect of telescopic spectacle power on the human vestibulo-ocular reflex (VOR) and visual-vestibular interaction. Poster presentation at Association for Research in Vision and Ophthalmology, Sarasota, May 1987.
17. Demer, J. L., Porter, F. I., Goldberg, J., Jenkins, H. A., and Schmidt, K. The effect of telescopic spectacles on visual acuity during head motion. Slide presentation at Third Topical Meeting on Noninvasive Assessment of the Visual System, Incline Village, Nevada, January 27, 1987.
18. Demer, J. L., Porter, F. I., Goldberg, J., Jenkins, H. A., and Schmidt, K. The effect of head motion on visual acuity and retinal image stabilization during wearing of telescopic spectacles. Slide presentation at Fifth Annual Meeting on Biomedical Engineering in Houston, February 1987.
19. Demer, J. L., Goldberg, J., Porter, F. I., Jenkins, H. A., and Schmidt, K. Human adaptation to visual-vestibular conflict induced by telescopic spectacles. Poster presentation at Life Sciences Symposium: Three Decades of Life Science Research in Space. Washington, D. C., May 1987.
20. Demer, J. L., Crawford, M. J. L., Volkow, N., Demer, L. L., and Mullani, N. Antimatter and amblyopia. Slide presentation at Twenty-fourth Annual Baylor Ophthalmology Alumni Association Meeting, Houston, June 1987.
21. Demer, J. L., Goldberg, J., Porter, F. I., and Schmidt, K. Effect of peripheral visual field on vestibulo-ocular reflex (VOR) gain plasticity and visual-vestibular interaction. Slide presentation at Society for Neuroscience, New Orleans, November 20, 1987.
22. Demer, J. L., Porter, F. I., Goldberg, J., Jenkins, H. A., Schmidt, K. and Ulrich, I. Retrospective analysis of factors predicting functional success in telescopic spectacle use by low vision patients. Slide presentation at Fourth Topical Meeting on Noninvasive Assessment of the Visual System, Incline Village, Nevada, February 17, 1988.
23. Porter, F. I., Demer, J. L., Goldberg, J., Jenkins, H. A., and Schmidt, K. The role of head stability in use of telescopic spectacles by low vision patients. Poster presentation at Ass'n for Research in Vision and Ophthalmology, Sarasota, May 1988.
24. Demer, J. L., Volkow, N., von Noorden, G. K., and Gould, K. L. Functional imaging of cerebral cortex in human amblyopia by position emission tomography (PET). Slide presentation at Association for Research in Vision and Ophthalmology, Sarasota, May 1988.
25. Demer, J. L., Volkow, N. D., von Noorden, G. K., and Gould, K. L. Positron emission tomography for study of visual function in amblyopia. Slide presentation at Sixth Annual Meeting on Biomedical Engineering Research in Houston, February 1988.
26. Demer, J. L., Volkow, N., von Noorden, G. K., and Gould, K. L. Functional activation of cerebral cortex in human amblyopia. Slide presentation at Twenty-fifth Annual Baylor Ophthalmology Alumni Association Meeting, Houston, June 1988.
27. Demer, J. L., Volkow, N. D., von Noorden, G. K., and Gould, K. L. Positron emission tomographic (PET) study of effect of amblyopia and optical blur on human cortical response to complex visual stimulation. Poster presentation at Society for Neuroscience, Toronto, November 18, 1988.

28. Demer, J. L. Amblyopia: A model for plasticity in the human nervous system. Slide presentation at Neuroscience Grand Rounds, UCLA, September 28, 1988.
29. Demer, J. L., Porter, F. I., Goldberg, J. Jeknins, H. A., Schmidt, K. and Ulrich, I. Predicting functional use of telescopic spectacles prescribed for low vision patients.
30. Slide presentation at American Academy of Ophthalmology Annual Meeting, Las Vegas, October 9, 1988.
31. Demer, J. L. Clinical significance of eye movements. Slide presentation for the Department of Ophthalmology Specialty Service lecture, November 30, 1988.
32. Demer, J. L. Discussion of Visual processing deficits and parieto-occipital hypometabolism in Alzheimer's disease (AD PET-study). Slide presentation at American Academy of Ophthalmology Annual Meeting, Las Vegas, October 9, 1988.
33. Demer, J. L. Optokinetic abnormalities associated with childhood strabismus. Slide presentation to oculomotor Visual Vestibular Interdisciplinary Seminar Series, UCLA, October 28, 1988.
34. Demer, J. L. Amblyopia. Slide presentation at the PET- Neuroscience Seminar, UCLA, January 26, 1989.
35. Demer, J. L., Porter, F. I., Goldberg, J., Schmidt, K., and Haddock, R. Effect of telescopic spectacles on head stability in three axes. Slide presentation at Topical Meeting on Noninvasive Assessment of the Visual System, Santa Fe, New Mexico, February 15, 1989.
36. Demer, J. L. Cerebral blood flow and metabolism in amblyopia revealed by positron emission tomography. Slide presentation at Neuro-ophthalmology Symposium at White Memorial Medical Center, Los Angeles, March 19, 1989.
37. Demer, J. L. The treatment of the patient with low vision: Methods and horizons. Slide presentation at Jules Stein Eye Institute Annual Postgraduate Seminar, Los Angeles, April 7, 1988.
38. Demer, J. L., Goldberg, F. I., Schmidt, K., and Ulrich, I. The effect of telescopic spectacles (TS) on three axis head stability in normal and low vision subjects. Poster presentation at Association for Research in Vision and Ophthalmology, Sarasota, May 4, 1989.
39. Porter, F. I., Goldberg, J., and Demer, J. L. Sensitivity of visual acuity to spontaneous head motion while wearing telescopic spectacle low vision aids. Poster presentation at Association for Research in Vision and Ophthalmology, Sarasota, May 4, 1989.
40. Goldberg, J., Porter, F. I., and Demer, J. L. Head stability in low vision patients with nystagmus. Poster presentation at Association for Research in Vision and Ophthalmology, Sarasota, May 4, 1989.
41. Demer, J. L. Vertical visual-vestibular interaction with telescopic spectacles in normal and magnified vision. Slide presentation the Vision Research Conference, Jules Stein Eye Institute, UCLA, October 4, 1989.
42. Demer, J. L. Antimatter and amblyopia: Use of positron emission tomography for study of amblyopia. Specialty service lecture, Jules Stein Eye Institute Grand Rounds, October 25, 1989.
43. Demer, J. L., and Baloh, R. W. Vertical visual-vestibular interaction (VVI) induced by telescopic spectacles (TS) in human adults. Poster presentation at Society for Neuroscience, Phoenix, AZ, November 1, 1989.
44. Demer, J. L. Visual disability, 75 minute illustrated lecture. Visiting lecturer in graduate course, "Advanced Medical Aspects of Disabilities," California State University at Los Angeles, November 13, 1989.

45. Demer, J. L. "Vision in Older People." Small group sessions, illustrated by videotape, for UCLA Intensive Course in Geriatric Medicine, Beverly Hilton, Beverly Hills, California. January 17 and 19, 1990.
46. Demer, J. L. "Research on Eye Movements in Benign Essential Belparospasm and Related Facial Dystonias." Presentation to Benign Essential Belparospasm support group, University of California at Los Angeles, February 17, 1990.
47. Demer, J. L. Practical applications of eye movement studies. American Academy of Ophthalmology Western Regional Update Course, Section 2. Irvine Marriott Hotel, Irvine, California. February 24, 1990.
48. Miller, J. M., Demer, J. L. (presenting author), and Rosenbaum, A. L. Two mechanisms of up-shoots and down-shoots in Duane's syndrome revealed by a new magnetic resonance imaging (MRI) technique. 1990 Congress, International Strabismological Association, Surfer's Paradise, Queensland, Australia. March 12, 1990.
49. Demer, J. L. and Baloh, R. W. Retinal image stability during vertical head movements - Critical factor in functional use of telescopic spectacles. The International Conference on Low Vision 1990 - Low Vision Ahead II. Parkville, Victoria, Australia. March 14, 1990.
50. Demer, J. L. An ophthalmologist's approach to oscillopsia and vertigo. Jules Stein Eye Institute Institutional Symposium, International Congress of Ophthalmology. Singapore, March 19, 1990.
51. Demer, J. L. Diagnostic significance of conjugate eye movement abnormalities. One hour teaching course.
52. International Congress of Ophthalmology. Singapore, March 20, 1990.
53. Demer, J. L. Reversed vestibulo-ocular reflex (VOR) and visual-vestibulo-ocular reflex (VVOR) during active head movements: Evidence for role of motor programming. Association for Research in Vision and Ophthalmology Annual Meeting, Sarasota, Florida, April 30, 1990.
54. Demer, J. L. Case presentation on congenital nystagmus, Los Angeles Neuro-ophthalmology Society Meeting, Los Angeles, August 4, 1990.
55. Demer, J. L. Clinical video quiz and lecture on Physiologic and Pathologic Nystagmus. Jules Stein Eye Institute Specialty Service lecture, November 28, 1990.
56. Demer, J. L. Clinical laboratory studies in strabismus and motility disorders. American Academy of Ophthalmology Western Regional Update Course, Section 3. Irvine Marriott Hotel, Irvine, California. December 1, 1990.
57. Demer, J. L. Brain activity in amblyopia. Pediatric Ophthalmology Round Table, Jules Stein Eye Institute, January 17, 1991.
58. Demer, J. L. Functional imaging of the sensory and motor visual system. Jules Stein Seminar, Beverly Hilton Hotel, March 9, 1991.
59. Demer, J. L. Physiological correlates of human amblyopia: Cerebral cortical blood flow, metabolism, and electrical activity. Department of Ophthalmology Specialty Lecture, UCLA, March 27, 1991.
60. Demer, J. L. Progress in PET Studies of Amblyopia. Slide presentation at the PET-Neuroscience Seminar, UCLA, April 16, 1991.
61. Demer, J. L. Vertical eye movements in congenital nystagmus. Association for Research in Vision and Ophthalmology, Sarasota, FL. April 30, 1991.
62. Demer, J. L. and Goldberg, R. Neuro-ophthalmology. Clinical Neuroscience Grand Rounds, UCLA Department of Neurology, June 5, 1991.

63. Demer, J. L., Oas, J. G., and Baloh, R. W. Visual- vestibular interaction (VVI) during high frequency, active head movements in pitch and yaw. Poster presentation at meeting of the New York Academy of Sciences: "Sensing and Controlling Motion: Vestibular and Sensorimotor Function," Palto Alto, California, July 7-11, 1991.
64. Demer, J. L. Miller, J. M., and Rosenbaum, A. L. Clinical correlations of models of orbital statics. Mechanics of Strabismus invited symposium, Smith-Kettlewell Eye Research Institute, San Francisco, California. October 18, 1991.
65. Demer, J. L. "Vision in Older People," Comprehensive Geriatrics Review Course, Beverly Hilton Hotel, January 22, 1992.
66. Demer, J. L. "High frequency, vertical visual-vestibular interaction in humans: evidence for predictive mechanisms," Association for Research in Vision and Ophthalmology, Sarasota, Florida, May 8, 1992.
67. Demer, J. L. "Diagnosing weird eye movements," Jules Stein Symposium, Los Angeles, California, June 6, 1992.
68. Demer, J. L. "Computers in strabismus surgery." Jules Stein Symposium, Los Angeles, California, June 6, 1992.
69. Demer, J. L. "Positron emission tomographic studies of human amblyopia: correlations with electrophysiology and psychophysics." Symposium on "Imaging in Ophthalmology," San Antonio, Texas. June 27, 1992.
70. Demer, J. L. "Amblyopia: The hidden menace." Pediatric Ophthalmology for the Pediatrician, Los Angeles, California, August 7, 1992.
71. Demer, J. L. "Low vision: can anything be done?" Invited lecture at the Braille Institute, Los Angeles, California. August 12, 1992.
72. Demer, J. L. "Antimatter and amblyopia." Special Ophthalmology Department Lecture, Washington University, St. Louis, Missouri. September 9, 1992.
73. Demer, J. L. "Computer-assisted strabismus surgery." Ophthalmology Staff Meeting, Cedars-Sinai Hospital, September 15, 1992.
74. Demer, J. L. "Effect of luminance and stimulus predictability on human vertical pursuit, optokinetic nystagmus (OKN), and visual-vestibular interaction (VVI)." 22nd annual meeting of the Society for Neuroscience, Anaheim, California, October 26, 1992.
75. Demer, J. L. "Pediatric Eye Movements." Pediatric Departmental Grand Rounds lectures, November 13, 1992, University of California at Los Angeles.
76. Demer, J. L. "Refracting for Bifocals." Ophthalmology Basic and Clinical Science Course, November 1992, University of California at Los Angeles.
77. Demer, J. L. "Diagnosing Weird Eye Movements." Ophthalmology Seminar, January 16, 1993, Rancho Mirage, California.
78. Demer, J. L. "Effect of aging and visual impairment on dynamic visual acuity with telescopic spectacles during vertical motion." Noninvasive Assessment of the Visual System, February 21, 1993, Monterey, California.
79. Demer, J. L. "Visual Vestibular Disorders," Evaluation and Management of the Dizzy Patient. Continuing education course, February 27, 1993, University of California, Los Angeles.
80. Demer, J. L. "Low Vision: Can Anything be Done?" Jules Stein Eye Institute Annual Postgraduate Seminar, April 2, 1993, Century City, California.
81. Demer, J. L., Guyton, D. L., Michels, D., and Miller, K. M. "Pearls and Pitfalls in Clinical Refraction." Workshop presentation, Jules Stein Eye Institute Annual Postgraduate Seminar, April 2, 1993, Century City, California.

82. Demer, J. L. "Computer-assisted Strabismus Surgery." Advanced Strabismus Surgery Symposium, University of California, Los Angeles, April 16, 1993.
83. Demer, J. L. "Eye Movement Recordings in Surgical Planning." Advanced Strabismus Surgery Symposium, University of California, Los Angeles, April 16, 1993.
84. Demer, J. L., Honrubia, V., and Baloh, R. W. "Dynamic visual acuity: A test for oscillopsia and vestibulo-ocular reflex function." American Neurotological Society meeting, Century City, California, April 17, 1993.
85. Demer, J. L., Miller, J. M., Rosenbaum, A. L., Bateman, J. B., and Lufkin, R. "Quantitative magnetic resonance morphometry of extra-ocular muscles: A new diagnostic tool in paralytic strabismus." American Association for Pediatric Ophthalmology and Strabismus annual meeting, Rancho Mirage, California, April 21, 1993.
86. Demer, J. L. "Strabismus." Medical Grand Rounds, Holy Cross Medical Center, April 23, 1993, Mission Hills, California.
87. Demer, J. L. "Pediatric eye movements." Pediatric Grand Rounds, Kaiser Bellflower, August 23, 1993.
88. Demer, J. L. Effect of aging on vertical visual tracking and visual-vestibular interaction. Four Decades of Seminal Oculomotor Research, DAR Festschrift, Eibsee, Germany, September 27, 1993.
89. Demer, J. L. "Pediatric Eye Movements." Kaiser Permanente 35th Annual Pediatric Symposium, October 22, 1993. San Diego, California.
90. Demer, J. L. "Common and Urgent Eye Problems Workshop I." Kaiser Permanente 35th Annual Pediatric Symposium, October 22, 1993. San Diego, California.
91. Demer, J. L. "Common and Urgent Eye Problems Workshop II." Kaiser Permanente 35th Annual Pediatric Symposium, October 22, 1993. San Diego, California.
92. Demer, J. L. "Low vision rehabilitation: Making the best use of your eyes." "Come & See," monthly support group for the partially sighted. October 26, 1993, Redondo Beach, California.
93. Demer, J. L. "Diagnosing weird eye movements: Video and oculographic correlations." Ophthalmology specialty lecture, Jules Stein Eye Institute, November 8, 1993, Los Angeles, California.
94. Demer, J. L. Effect of contrast and stimulus predictability on human high frequency, vertical optokinetic nystagmus (OKN). Society for Neuroscience, November 10, 1993, Washington, D. C.
95. Demer, J. L., Kerman, B. M., Moral, J. N., Hovis, L. A., and Johnstone, M. A. Validity of ultrasonographic measurement of extra-ocular muscle size: Correlation with magnetic resonance imaging (MRI). Annual Meeting of American Academy of Ophthalmology, Chicago, Illinois, November 15, 1993.
96. Demer, J. L. Diagnosing weird eye movements: Video and oculographic pearls. Instruction course at annual meeting of American Academy of Ophthalmology, Chicago, Illinois, November 17, 1993.
97. Demer, J. L. The aging eye. Gerontology lecture series, West Los Angeles VAMC Campus, December 14, 1993, Los Angeles, California.
98. Demer, J. L. Pediatric eye movements II: Nystagmus. Pediatric Grand Rounds. Kaiser Bellflower. January 10, 1994, Bellflower, California.
99. Demer, J. L. Vision in the elderly. Medical Grand Rounds, West Anaheim Medical Center, January 14, 1994, Anaheim, California.

100. Demer, J. L. Evaluation of vestibular and visual oculomotor function: II. visual vestibular interaction. Clinical Applications of Vestibular Science (international meeting), February 12, 1994, Los Angeles, California.
101. Demer, J. L. Pediatric eye movements. Pediatric Grand Rounds. Olive View Medical Center, March 2, 1994, Sylmar, California.
102. Demer, J. L. Workshop (moderator): Strabismus Problems in the Adult. Jules Stein Eye Institute Twenty-fifth Annual Post-graduate Seminar, April 8, 1994, Los Angeles, California.
- 103.. Demer, J. L. Positron emission tomography in amblyopia. Jules Stein Eye Institute Twenty-fifth Annual Post-graduate Seminar, April 9, 1994, Los Angeles, California.
104. Demer, J. L. Magnetic Resonance Imaging in the Diagnosis of Palsied Extraocular Muscles. Jules Stein Eye Institute Twenty-fifth Annual Post-graduate Seminar, April 9, 1994, Los Angeles, California.
105. Demer, J. L. Workshop (moderator): Nystagmus. Jules Stein Eye Institute Twenty-fifth Annual Post-graduate Seminar, April 9, 1994, Los Angeles, California.
106. Demer, J. L. Difficult case presentation. Meeting of Society of von Noorden Fellows. June 19, 1994, Vancouver, BC, Canada.
107. Demer, J. L., Miller, J. M., Koo, E. Y., Rosenbaum, A. L., and Bateman, J. B. True versus masquerading superior oblique (SO) palsies: Muscle mechanisms revealed by magnetic resonance imaging (MRI). Joint Meeting of American Association for Pediatric Ophthalmology and Strabismus, and International Strabismological Association, June 21, 1994, Vancouver, BC, Canada.
108. Miller, J. M. and Demer, J. L. Computerized biomechanical analysis in strabismus surgery. Interactive workshop. Joint Meeting of American Association for Pediatric Ophthalmology and Strabismus, and International Strabismological Association, June 22, 1994, Vancouver, BC, Canada.
109. Demer, J. L. Diagnosing weird eye movements: Video and oculographic pearls. Instruction course at annual meeting of American Academy of Ophthalmology, San Francisco, California, November 1994.
110. Demer, J. L. Abnormal head position in restrictive strabismus. Lecture at joint meeting of American Academy of Ophthalmology and American Association for Pediatric Ophthalmology and Strabismus, San Francisco, California, November 1994.
111. Demer, J. L. Dynamic Visual Acuity During Vertical Retinal Image Motion: Comparison of Normal and Low Vision. Topical Meeting on the Noninvasive Assessment of the Visual System, February, 1995, Santa Fe, New Mexico.
112. Demer, J. L. Superior oblique palsy: Correlations with functional anatomy by MRI. UCLA Clinical Neuroscience Grand Rounds, March 15, 1995.
113. Demer, J. L. Central nervous system control of eye movements. Panel discussion Computerized ENG Workshop, Los Angeles, California, March 24, 1995.
114. Demer, J. L., Miller, J. M., and Poukens, V. Surgical implications of the recti extraocular muscle pulleys. Lecture at Meeting of American Association for Pediatric Ophthalmology and Strabismus, Orlando, Florida, April 5-9, 1995.
115. Demer, J. L., Poukens, V., Micevych, P. Nitroxidergic and catecholaminergic innervation of the smooth muscle of the medial rectus pulley in humans. Poster presentation at Association for Research in Vision and Ophthalmology, Ft. Lauderdale, Florida, June 1995.

116. Viirre, E. S. and Demer, J. L. Effect of target proximity on human vertical vestibulo-ocular reflex (VOR) during combined linear and angular acceleration. Poster presentation at Association for Research in Vision and Ophthalmology, Ft. Lauderdale, Florida, June 1995.
117. Demer, J. L. Recti extraocular muscle pulleys in the pathophysiology of strabismus. Lecture at Squint Club, Santa Fe, New Mexico, September 28 - October 1, 1995.
118. Demer, J. L., Viirre, E. S., and Howard, T. D. Effect of telescopic spectacles on retinal image stability and scan paths during visual search by standing subjects. Topical Meeting on the Noninvasive Assessment of the Visual System, February, 1996, Santa Fe, New Mexico.
119. Demer, J. L. Discussion of "Superior oblique muscle atrophy/hypodevelopment in superior oblique palsy." American Association for Pediatric Ophthalmology and Strabismus, March 14, 1996.
120. Demer, J. L., Grafton, S., Marg, E., Mazziotta, J. C., and Nuwer, M. Positron emission tomography (PET) in human amblyopia: Correlations with electrophysiology and psychophysics. American Association for Pediatric Ophthalmology and Strabismus, March 15, 1996.
121. Demer, J. L., Park, C. H., Howard, T. D., and Miller, J. M. The oculomotor plant simplifies binocular yoking during vertical gaze shifts. Association for Research in Vision and Ophthalmology, Ft. Lauderdale, Florida. April 21, 1996.
122. Park, C. H., Miller, J. M., and Demer, J. L. Computational simulation of concomitant horizontal strabismus. Association for Research in Vision and Ophthalmology, Ft. Lauderdale, Florida. April 22, 1996.
123. Poukens, V., Miao, C., Glasgow, B. J., and Demer, J. L. Smooth muscle alpha-actin immunoreactivity suggests presence of myofibroblasts in posterior sclera of humans and monkeys. Association for Research in Vision and Ophthalmology, Ft. Lauderdale, Florida. April 23, 1996.
124. Demer, J. L. MR imaging of the extraocular muscles: New applications. UCLA Course on Advances in Neuroimaging, May 4, 1996.
125. Demer, J. L. Extraocular muscle connective tissues and smooth muscles in ocular motility and strabismus. Smith-Kettlewell Oculomotor Symposium, Buenos Aires, Argentina, May 8, 1996.
126. Demer, J. L. The recti extraocular muscle pulleys in the pathophysiology of strabismus. Consejo Latinoamericano de Estrabismo (CLADE), Buenos Aires, Argentina, May 10, 1996.
127. Demer, J. L. Pulleys of the extraocular muscles. Main invited lecture to the Donders (Dutch Ophthalmological) Society, Rotterdam, The Netherlands, November 8, 1996.
128. Demer, J. L., Crane, B. T., and Viirre, E. S. Rotational and translational head stability during natural movements in young and elderly subjects. Society for Neuroscience. Washington, D. C. November 17, 1996.
129. Crane, B. T., Viirre, E. S., and Demer, J. L. Effect of age on the vestibulo-ocular reflex (VOR) and visual-vestibular interactions during natural movements. Society for Neuroscience. Washington, D. C. November 17, 1996.
130. Demer, J. L. and Crane, B. T. Gaze Stability With Telescopic Spectacles: Challenges of viewing up close and personal. Topical Meeting on Vision Science and its Applications. Optical Society of America. Santa Fe, New Mexico, February 2, 1997.
131. Demer, J. L. and Miller, J. M. Dynamic magnetic resonance imaging of the inferior oblique muscle in normal and strabismic subjects. *23rd Annual Meeting of the American Association for Pediatric Ophthalmology and Strabismus*, Charleston, South Carolina, April 4, 1997.

132. Demer, J. L. Ocular safety and intraocular pressure effects of magnetic search coil oculography. *Association for Research in Vision and Ophthalmology*, Ft. Lauderdale, Florida, April, 1997.
133. Crane, B. T., and Demer, J. L. Human canal-otolith interaction during natural movement. Program and Abstracts, Seventh Annual Neural Control of Movement Meeting, Cancun, Mexico, April 10, 1997.
134. Demer, J. L. Theories of strabismus: The role of orbital muscle pulleys. National Eye Institute invited workshop on Strabismus and Associated Visual and Visuomotor Phenomena, April 14-15, 1997, Bethesda, Maryland.
135. Demer, J. L. Keynote Speaker. UCLA Medical Scientist Training Program Retreat, September 5, 1997, Lake Arrowhead, California.
136. Demer, J. L. The mechanics of strabismus: Enhancing surgical treatment. Research to Prevent Blindness Science Writer's Seminar, September 21-24, 1997. Universal City, California.
137. Demer, J. L. Anatomia funcional del tejido conective fibromuscular de la orbita. Curso "Estrabismos Orbitarios," Mexico City, October 22, 1997.
138. Demer, J. L. Resonancia magnetica en el manejo de estrabismos complejos. Curso "Estrabismos Orbitarios," Mexico City, October 23, 1997.
139. Demer, J. L. Resonancia magnetica en paralisis de oblicuo superior. Curso "Estrabismos Orbitarios," Mexico City, October 23, 1997.
140. Demer, J. L. Las anomalías del tejido conective orbitario pueden causar estrabismo. Curso "Estrabismos Orbitarios," Mexico City, October 24, 1997.
141. Demer, J. L. Simulación computarizada en el manejo del estrabismo. Curso "Estrabismos Orbitarios," Mexico City, October 24, 1997.
142. Demer, J. L. and Crane, B. T. Short-latency vestibulo-ocular reflex (VOR) gain enhancement during natural movement. Seventh Annual Neural Control of Movement Meeting, Cancun, Mexico, April 10, 1997.
143. Demer, J. L. and Crane, B. T. Effect of visual and vestibular impairment on gaze stability in six degrees of freedom during natural activities. Annual Meeting of the Society for Neuroscience, New Orleans, Louisiana, October 26, 1997.
144. Crane, B. T. and Demer, J. L. Time course of target distance-dependent canal-otolith interactions in the human vestibulo-ocular reflex (VOR). Annual Meeting of the Society for Neuroscience, New Orleans, Louisiana, October 26, 1997.
145. Demer, J. L. Diagnosing weird eye movements: Video and oculographic pearls. Instruction course at annual meeting of American Academy of Ophthalmology, San Francisco, California, October 28, 1997.
146. Demer, J. L. Role of orbital connective tissue in the pathogenesis of strabismus. American Association of Certified Orthoptists Scientific Session, October 29, 1997.
147. Crane, B. T. and Demer, J. L. Effects of plasticity on linear and angular VOR initiation. Poster, Eighth Annual Neural Control of Movement Meeting, Key West, Florida, April 16, 1998.
148. Demer, J. L. and Crane, B. T. Gaze, head, and trunk stability during dynamic posturography in normal and vestibulopathic adults. Poster, Eighth Annual Neural Control of Movement Meeting, Key West, Florida, April 16, 1998.
149. Tian, J., Crane, B. T., and Demer, J. L. Catch-up vestibular saccades (CUVS) in labyrinthine deficiency. Poster, Eighth Annual Neural Control of Movement Meeting, Key West, Florida, April 16, 1998.

150. Demer, J. L. Role of orbital connective tissues and smooth muscle in binocular alignment and strabismus. Invited symposium (organizer). Association for Research in Vision and Ophthalmology, Ft. Lauderdale, Florida, May 11, 1998.
151. Demer, J. L. and Poukens, V. Fibrillin (FBN), elastin, and smooth muscle in the extraocular muscle pulleys in Marfan syndrome (MFS). Association for Research in Vision and Ophthalmology, Ft. Lauderdale, Florida, May 15, 1998.
152. Demer, J. L. New concepts of extraocular muscle function. Annual Postgraduate Seminar and 29th Jules Stein Lecture, UCLA, April 3, 1998.
153. Demer, J. L. Strabismus due to abnormal pulleys. Advanced Pediatric Ophthalmology Symposium, UCLA, April 3, 1998.
154. Demer, J. L., Poukens, V., Clark, R. A., Miller, J. M., and Porter, J. D. Molecular mechanism of strabismus in Marfan syndrome: Deficient fibrillin destabilizes extraocular muscle pulleys. Poster, *24th Annual Meeting of the American Association for Pediatric Ophthalmology and Strabismus*, Palm Springs, California, April 5, 1998.
155. Demer, J. L. Orbital connective tissues and smooth muscle in binocular alignment and strabismus. International Congress of Ophthalmology, June 23, 1998, Amsterdam, The Netherlands.
156. Demer, J. L. Course 27. Clinical use of imaging and computer modeling in surgery for complex strabismus. International Congress of Ophthalmology, June 23, 1998, Amsterdam, The Netherlands.
157. Demer, J. L. Heterotopy of extraocular muscle pulleys causes incomitant strabismus. International Strabismological Association, September 10, 1998. Maastricht, The Netherlands.
158. Demer, J. L. Workshop on imaging techniques: International Strabismological Association, September 10, 1998. Maastricht, The Netherlands.
159. Demer, J. L. Lecture on Strabismus in Marfan Syndrome, 11th Annual Regional Conference of the Southern California Chapter of the National Marfan Foundation, Children's Hospital of Los Angeles, October 2, 1998.
160. Demer, J. L. and Crane, B. T. Lecture on Effect of cerebellar dysfunction on initial vestibulo-ocular reflex (VOR) during transient angular and linear head acceleration. Society for Neuroscience, Los Angeles, California, November 11, 1998.
161. Demer, J. L. Plenary lecture: Orbital connective tissues and smooth muscle in binocular alignment and strabismus. Berkeley Vision Science Symposium, December 14, 1998, San Francisco, CA.
162. Demer, J. L. Organizer and presenter of workshop on "New Concepts of the Ocular Motor Plant and the Neural Control of Eye Movements, Society for the Neural Control of Movement, Princeville, Kauai, Hawaii, April 11-15, 1999.
163. Demer, J. L. Magnetic resonance imaging (MRI) of the functional anatomy of the human inferior oblique (IO) muscle. Association for Research in Vision and Ophthalmology, Ft. Lauderdale, Florida, May 10, 1999.
164. Demer, J. L. Visiting professorship and Stickle Lecture at Grand Rounds: "Orbital connective tissues in ocular motility and strabismus." Washington University School of Medicine, St. Louis, Missouri, May 21, 1999.
165. Demer, J. L. Roundtable on planning of strabismus surgery (invited), International Orthoptic Congress, Stockholm, Sweden, June 23, 1999.

166. Demer, J. L. Eye muscle morphology and mechanics. International Symposium on Advances in Strabismus Research: Basic and Clinical Aspects, Wenner-Gren Foundation, Stockholm, Sweden, June 25, 1999.
167. Demer, J. L. Keynote speaker on topic of extraocular muscle pulleys, International Strabismus Study Group, Longboat Key, Florida, October 20-23, 1999.
168. Demer, J. L. Invited presentation on Extraocular Muscle Pulleys, American Academy of Ophthalmology, Orlando, Florida, October 24-27, 1999.
169. Demer, J. L. Invited lecturer. Strabismus Surgery: Fascia, soft tissues and smooth muscles. Millennium Meeting: Pediatric Ophthalmology and Strabismus in the 21st Century, British Children's Eye Group, Institute of Child Health, London, January 25, 2000.
170. Demer, J. L. Panel speaker, session on ambulation, Society for Neural Control of Movement, Key West, Florida, April 12, 2000.
171. Demer, J. L. Minisymposium speaker, Eye Movements, Strabismus, Amblyopia, and Neuro-ophthalmology Section, ARVO, Ft. Lauderdale, Florida, May 2, 2000.
172. Demer, J. L. Keynote lecturer. Jack Crawford Day, Hospital for Sick Children, Toronto, Canada. May 25-26, 2000.
173. Demer, J. L. Louis Girard Lecture. Baylor Ophthalmology Alumni Association meeting, Houston, Texas, June 3, 2000.
174. Demer, J. L. Keynote lecturer (with simultaneous translation), Extraocular muscle pulleys, Japanese Association of Strabismus and Amblyopia, Okayama-shi, Japan, June 23-25, 2000.
175. Demer, J. L. Positron emission tomography in amblyopia. Japanese Association of Strabismus and Amblyopia, Okayama-shi, Japan, June 23-25, 2000.
176. Demer, J. L. Neural control of the orbital connective tissues: Implications for strabismus. Case Western Reserve University, Departments of Neurology and Ophthalmology, Cleveland, OH. Visiting professor, September 22, 2000.
177. Demer, J. L. Orbital connective tissues in binocular alignment and strabismus. University of Alabama, Birmingham. College of Optometry, Visiting Scholar, October 13, 2000.
178. Demer, J. L. Symposium speaker, Combined meeting with American orthoptic Council and the American Society of Certified Orthoptists at American Academy of Ophthalmology, Strabismus secondary to blow-out fracture, October 22, 2000.
179. Demer, J. L. "Ocular Compensation Due to Labyrinthine Input During natural Motion." The Vestibular Labyrinth in Health and Disease (New York Academy of Sciences), St. Louis, Missouri, November 17, 2000.
180. Demer, J. L. "New Tests of Vestibular Function." The Vestibular Labyrinth in Health and Disease (New York Academy of Sciences), St. Louis, Missouri, November 18, 2000.
181. Demer, J. L. Organizer and speaker on "Extraocular Muscle Compartmentalization and Function." Craniofacial Muscle Specialization and Disease Workshop, National Institutes of Health, Bethesda, Maryland, March 8, 2001.
182. Demer, J. L. "Beyond Origins and Insertions: New Concepts of Extraocular Muscles for the Strabismus Surgeon." 75 minute workshop. American Association for Pediatric Ophthalmology and Strabismus, San Diego, California, March 23, 2001.
183. Demer, J. L. Workshop 3 Organizer: The Need for Speed: Short latency phenomena in the oculomotor system. Neural Control of Movement, Seville, Spain, March 26, 2001.
184. Demer, J. L. "Context-dependent modulation of angular and linear vestibulo-ocular reflexes." Minisymposium organizer and speaker, Eye Movements, Strabismus, Amblyopia, and Neuro-

ophthalmology Section, Association for Research in Vision and Ophthalmology, Ft. Lauderdale, Florida, April 30, 2001.

185. Demer, J. L. "The orbital layers of human and monkey oblique extraocular muscles (EOMs) insert on the orbital connective tissue system." Association for Research in Vision and Ophthalmology, Ft. Lauderdale, Florida, April 30, 2001.

186. Demer, J. L. "The Orbital Pulley System: A Revolution in Concepts of Orbital Anatomy." Neurobiology of Eye Movements: From Molecules to Behavior (New York Academy of Sciences), Cleveland, October 4, 2001.

187. Demer, J. L. Leffler Lecture, "Orbital connective tissues in binocular alignment and strabismus," Wilmer Eye Institute, Johns Hopkins University, Baltimore, Maryland, October 12, 2001.

188. Demer, J. L. Smith-Kettlewell Colloquium, "Orbital connective tissues in binocular alignment and strabismus." San Francisco, California, December 3, 2001.

189. Demer, J. L. Visiting Professor and Grand Rounds speaker, University of Colorado, Denver, December 19, 2001.

190. Demer, J. L. Course presenter. "Farther Beyond Origins and Insertions: New Concepts of Extraocular Muscles for the Strabismus Surgeon in 2002" American Association for Pediatric Ophthalmology and Strabismus, Seattle, WA, March 22, 2002.

191. Demer, J. L. "Gaze-related Pulley Shifts: New Mechanism of Strabismus." International Strabismological Ass'n, Sydney, Australia, April 18, 2002.

192. Demer, J. L. Session Leader: Modification of Strabismus Surgery in View of Recent Anatomical Findings. International Congress of Ophthalmology, Sydney, Australia, April 18-19, 2002.

193. Demer, J. L. "Orbital Connective Tissues in Binocular Alignment and Strabismus." Neuro-ophthalmology Society of Australia, Sydney, April 21, 2002.

194. Demer, J. L. Minisymposium organizer and speaker, "Ocular Kinematics, Visual Perception, and Action." Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL. May 8, 2002.

195. Demer, J. L., and Tian, J. -R. Baranay Society, Seattle, WA, "Human Surge Linear Vestibulo-ocular Reflex (LVOR) with Vertically Eccentric Targets," September 29, 2002.

196. Demer, J. L. "A Revisionist Approach to Extraocular Muscle Modeling." Heidelberg Modeling Meeting, Heidelberg, Germany, October, 11, 2002.

197. Demer, J. L. "Active control of the orbital pulley system." Development and Perspectives in Visual Processing and Eye Movements. The Heidelberg Meeting on Eye Movements, Germany, October, 12, 2002.

198. Demer, J. L. "Behind the Insertions: New Concepts of Extraocular Muscles for Orbital and Strabismus Surgeons." American Academy of Ophthalmology course 269 (2 hours), Orlando, FL, October 21, 2002.

199. Demer, J. L. (course director), Lambert, S., and Tychsen, L. T. "LEO Clinical Update Course in Pediatric Ophthalmology and Strabismus." Multiple topics. American Academy of Ophthalmology course 330 (3.5 hours), Orlando, FL, October 21, 2002.

200. Demer, J. L. (workshop presenter). "Extraocular muscle imaging in strabismus diagnosis and management." Am. Ass'n for Pediatric Ophthalmology and Strabismus, March 25, 2003, Waikoloa, Hawaii.

201. Demer, J. L. Friedenwald Award Lecture, "Pivotal role of orbital connective tissues in binocular alignment and strabismus." Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL, May 6, 2003.
202. Demer, J. L., Tian, J. -R., and Clark, R. A. Pulleys and the vestibulo-ocular reflex (VOR). Progress in Sensorimotor Research, 25th Anniversary Symposium, Bethesda, Maryland, September 18, 2003.
203. Demer, J. L. "Functional anatomy of the extraocular muscle pulleys, " and " Extraocular muscle pulleys and strabismus: Diagnosis and treatment." 28th Annual Pediatric Ophthalmology Day, St. Justine Hospital, Montreal, Canada, October 17, 2003.
204. Demer, J. L. "Orbital Pulleys: New Insights for Diagnosis and Treatment of Strabismus." International Pediatric Ophthalmology and Strabismus Meeting, Anaheim, CA, November 15, 2003.
205. Demer, J. L. (course director), Flynn, J. T., Lambert, S., and Tychsen, L. T. "LEO Clinical Update Course in Pediatric Ophthalmology and Strabismus." Multiple topics. American Academy of Ophthalmology course 330 (3.5 hours), Anaheim, CA, November 16, 2003.
206. Demer, J. L. "Behind the Insertions: New Concepts of Extraocular Muscles for Orbital and Strabismus Surgeons." American Academy of Ophthalmology course 269 (2 hours), Anaheim, CA, November 17, 2003.
207. Demer, J. L. Course presenter. "Extraocular Muscle and Nerve Imaging in Strabismus Diagnosis and Management." American Association for Pediatric Ophthalmology and Strabismus, Seattle, WA, March 29, 2004.
208. Bhola, R., Rosenbaum, A. L., and Demer, J. L. "High Resolution Magnetic Resonance Imaging (MRI) Demonstrates Varied Anatomic Abnormalities in Brown's Syndrome." American Association for Pediatric Ophthalmology and Strabismus, Seattle, WA, March 30, 2004.
209. Demer, J. L. "Anatomy of Extraocular Pulleys." North American Neuro-ophthalmology Society Meeting, Orlando, Florida, March 31, 2004.
210. Demer, J. L. Ortube, M. C., Karim, S., Andrews, C., and Engle, D. C. Magnetic resonance imaging (MRI) demonstrates the endophenotype of Duane retraction syndrome (DRS) linked to the DURS2 locus. Ass'n for Research in Vision and Ophthalmology, March 28, 2004, Ft. Lauderdale, FL.
211. Demer, J. L. "Extraocular mechanics: Great debates about structure, modeling, and neural control." Organizer and speaker at Special Interest Group. Ass'n for Research in Vision and Ophthalmology, March 29, 2004, Ft. Lauderdale, FL.
212. Demer, J. L. "Orbital pulleys in binocular alignment and strabismus," Canadian Association of Pediatric Ophthalmology, Vancouver, British Columbia, Canada. June 17, 2004.
213. Demer, J. L. and Engle, E. C. Imaging nerves and muscles clarifies special forms of strabismus." Canadian Orthoptic Society, Vancouver, British Columbia, Canada. June 17, 2004.
214. Demer, J. L. "The new anatomy of the extraocular muscles and pulleys." Canadian Association of Pediatric Ophthalmologists, Vancouver, British Columbia, Canada. June 18, 2004.
215. Demer, J. L. and Clark, R. A. "Alterations in human rectus extraocular muscle (EOM) actions by the torsional vestibulo-ocular reflex (VOR)." Baranay Society XXIII International Congress, Paris, France, July 7, 2004.
216. Demer, J. L. Roger Trimble Lecture. British Isles Strabismus Association, York, England. October 8, 2004.
217. Demer, J. L. Visiting Professor. "Extraocular Muscle and Nerve Imaging in Strabismus Diagnosis and Management." New York Eye and Ear Infirmary, November 18, 2004.

218. Demer, J. L. Visiting Professor. "Extraocular Muscle and Nerve Imaging in Strabismus Diagnosis and Management." Department of Ophthalmology, University of Rochester, New York, November 19-20, 2004.
219. Demer, J. L. "Orbital Connective Tissues in Binocular Alignment and Strabismus." Alcon Research Institute, Ft. Worth, Texas, February 4, 2005.
220. Demer, J. L., Ortube, M. C., Engle, E. C., and Thacker, N. "High resolution magnetic resonance imaging (MRI) demonstrates abnormalities of motor nerves and extraocular muscles (EOMs) in neuropathic strabismus." American Association for Pediatric Ophthalmology and Strabismus, Seattle, WA, March 10, 2005.
221. Demer, J. L. and Engle, E. C. Magnetic resonance imaging (MRI) demonstrates the endophenotype of Duane's radial ray (Okhihiro) syndrome (DRRS). Ass'n for Research in Vision and Ophthalmology, May 5, 2005, Ft. Lauderdale, FL.
222. Demer, J. L. "Kinematic properties of the actuators of eye movements." Gordon Research Conference, Lewiston, ME. June 26, 2005.
223. Demer, J. L. "The inner workings of the head tilt test." Squint Club, Petoskey, Michigan. August 26, 2005.
224. Demer, J. L. Keynote Address: "Orbital connective tissues in binocular alignment and strabismus." Guest of Honor, New England Ophthalmological Society, Boston, September 30, 2005.
225. Demer, J. L. 2005 Robb-Petersen Lecture: "Endophenotype of the congenital cranial dysinnervation disorders." Harvard, Boston, MA, October 1, 2005.
226. Demer, J. L. 2005 William Gilles Lecture: "Ocular motility in a time of revolutionary paradigm shift." Australia and New Zealand Squint Club, Melbourne, NSW, Australia, April 22, 2006.
227. Demer, J. L. Visiting Professor. University of Halifax, Nova Scotia, Canada, September 20-23, 2006.
228. Demer, J. L. Special Guest Speaker. Chilean Congress of Ophthalmology, Valparaiso City, Chile, December, 2006.
229. Demer, J. L. "Techniques in Pulley Surgery," Pediatric Ophthalmology and Strabismus Day: An Interactive CME Symposium, Las Vegas, NV, November 10, 2006.
230. Mahoney Neuroscience Center Lecture, Columbia University, New York City, January 9, 2007.
231. "Orbital Connective Tissues in Binocular Alignment and Strabismus," visiting professor, Wills Eye Hospital, Philadelphia, PA, January 10, 2007.
232. Demer, J. L. "Pediatric Cataracts." Southern California College of Optometry, Fullerton, CA, January 14, 2007.
233. Public Lecturer, "Orbital Connective Tissues in Binocular Alignment and Strabismus," Sensorimotor Computation Workshop, University of British Columbia, February 9, 2007.
234. Demer, J. L. Discussion of "Connective tissue power of extraocular muscles." American Association for Pediatric Ophthalmology and Strabismus, Seattle, WA, April 14, 2007.
235. Demer, J. L. "Inflection of the inactive lateral rectus muscle: Evidence for pulleys rather than fat as determinants of extraocular muscle paths." Ass'n for Research in Vision and Ophthalmology, May 10, 2007, Ft. Lauderdale, FL.
236. Angeline Parks Lecture, "Orbital Connective Tissues in Binocular Alignment and Strabismus," Children's National Medical Center, Washington, D.C., September 7, 2007.
237. Demer, J. L. "Pulley Surgery." Costenbader Society, Washington, D.C., September 9, 2007.

238. Visiting Lecturer, Biomechanics of Strabismus, Cleveland Clinic, Cleveland, OH, September 29, 2007.
239. Demer, J. L. Functional anatomy of the extraocular muscles during vergence. Charing Cross Hospital, London, December 5, 2007.
240. Visiting Lecturer, Columbia University Basic Science Course, New York, NY. January 7, 2008.
241. Cleveland Ophthalmology Society Visiting Lecturer, Cleveland, Ohio, February 12, 2008.
242. Visiting Professor, Case Western Reserve University, Cleveland, Ohio, February 13, 2008.
243. Demer, J. L. and Rutar, T. "Heavy eye syndrome" in the absence of high myopia: A connective tissue degeneration associated with aging. 34th Annual Meeting of the American Association for Pediatric Ophthalmology and Strabismus, Washington, DC, April 3, 2008.
244. Demer, J. L., Poukens, V., Ying, H., Shan, X. Tian, J. and Zee, D. S. Effects of acute trochlear denervation on primate superior oblique (SO) muscle: Differential sparing of orbital layer. Ass'n for Research in Vision and Ophthalmology, April 30, 2008, Ft. Lauderdale, FL.
245. Demer, J. L. Invited speaker, "Role of Orbital Connective Tissues in Ocular Motility," French Neuro-ophthalmological Society, Hotel Dieu, Nantes, France. September 26 – 27, 2008.
246. Demer, J. L. Invited speaker, "Strabismus due to Congenital Cranial Dysinnervation Disorders," French Neuro-ophthalmological Society, Hotel Dieu, Nantes, France. September 26 – 27, 2008.
247. Demer, J. L. Invited speaker, "Role of Orbital Connective Tissues in Diagnosis and Treatment of Strabismus," French Neuro-ophthalmological Society, Hotel Dieu, Nantes, France. September 26 – 27, 2008.
248. Demer, J. L. Invited speaker, "Imaging in the Diagnosis and Treatment of Complex Strabismus," French Neuro-ophthalmological Society, Hotel Dieu, Nantes, France. September 26 – 27, 2008.
249. Demer, J. L. "Diagnosis and Surgical Treatment of Strabismus Due to Pulley Pathology." Gunter K. von Noorden lecturer, and visiting professor, Cullen Eye Institute, Baylor College of Medicine, Houston, Texas, October 16 – 17, 2008.
250. Demer, J. L. "Implications of Pulley Systems for Modern Strabismus Surgery." Keynote Speaker, American Academy of Ophthalmology Pediatric Subspecialty Day, Atlanta, GA, November 8, 2008.
251. Demer, J. L. "Compartmentalization in Extraocular Muscles." Symposium Speaker, Society for Neuroscience Annual Meeting, Washington, D.C., November 17, 2008.
252. Keynote Speaker, "Functional Anatomy of the Extraocular Muscle Apparatus," Portuguese Ophthalmological Society, December 5, 2008, Oporto, Portugal.
253. Keynote Speaker, "New Options for Surgical Treatment of Strabismus Due to Connective Tissue Disease," Portuguese Ophthalmological Society, December 5, 2008, Oporto, Portugal.
254. Visiting Lecturer, Columbia University Basic Science Course, New York, NY. January 5, 2009.
255. Visiting Lecturer, Retina Foundation of the Southwest, Dallas, TX, February 2, 2009.
256. Neurology Grand Rounds Speaker, "Neurological vs. Connective Tissues causes of Acquired Strabismus," Cedars-Sinai Medical Center, September 4, 2009.
257. Invited Speaker, "Role of Orbital Connective Tissues in Binocular Alignment and Strabismus," Congresso Internazionale Chirurgia Dello Strabismo, Nuevo Teatro Comunale, Vicenza, Italy, September 19, 2009.

258. Demer, J. L. "What Orthoptists Need to Know About the Orbital Pulley System." Instruction Course, American Association of Certified Orthoptists, San Francisco, CA, October 24, 2009.
259. Visiting Lecturer, Columbia University Basic Science Course, New York, NY. January 9, 2010.
260. Keynote Video Lecture, "Diagnostic and Surgical Approach to Strabismus Associated with Orbital^[SEP] Connective Tissues," Eye on Future 2010 Pediatric Ophthalmology Update, L. V. Prasad Eye Institute, Hyderabad, India, February 20 – 21, 2010.
261. Symposium speaker on training of physician scientists in ophthalmology, Ass'n for Research in Vision and Ophthalmology, May 2010, Ft. Lauderdale, FL.
262. "Pediatric Eye Emergencies," Noon Lecture of Pediatric Residents, Mattel Children's Hospital, August 30, 2010.
263. "MRI Evidence for Extraocular Muscle Pulleys," International Strabismological Association, Istanbul, Turkey, September 23, 2010.
264. "Magnetic Resonance Imaging of the Head Tilt Test in True vs. Masquerading Superior Oblique Palsy." Strabismus Research Society, Traverse City, Michigan, October 8, 2010.
265. "Double Vision in Strabismus: New Insights from Functional Anatomy." Annual Jules Stein Eye Institute and Southern California College of Optometry Symposium, January 9, 2011. Fullerton, CA.
266. Basic Science Course Lecturer, Grand Rounds Lecturer, and Visiting Professor, Columbia University Basic Science Course in Ophthalmology, New York, NY. January 13, 2011.
267. Invited speaker, Columbia University Advances in Clinical Ophthalmology Course, New York, NY, January 15, 2011.
268. Invited speaker, "Goals and objectives of the EyeSTAR curriculum," Association of University Professors of Ophthalmology, Scottsdale, AZ, January 29, 2011.
269. Invited speaker, "Expanding Repertoire in the Oculomotor Periphery: Selective Compartmental Function in Rectus Extraocular Muscles," A Tribute to John Leigh: Basic and Clinical Ocular Motor and Vestibular Disorders meeting, Buenos Aires, Argentina, March 25, 2011.
270. Invited speaker, University of California San Diego Pediatric Ophthalmology and Strabismus Meeting, March 30, 2011.
271. Visiting professor, State University of New York Stony Brook, Departments of Neuroscience and Ophthalmology. "Expanding Repertoire in the Oculomotor Periphery: Selective Compartmental Function in Rectus Extraocular Muscles," "Role of Orbital Connective Tissues in Binocular Alignment and Strabismus." April 14, 2011.
272. Workshop Organizer and Presenter, "The Nerve of That Muscle! New Understanding of Innervation of the Extrocular Muscles in Ocular Motility and Strabismus," American Association for Pediatric Ophthalmology and Strabismus, San Diego, CA, April 1, 2011.
273. "Compartmental function of horizontal rectus extraocular muscles (EOMs) during head tilt: Impaired lateral rectus (LR) inferior zone contractility in superior oblique (SO) palsy." Ass'n. for Research in Vision and Ophthalmology, Ft. Lauderdale, FL, May 2, 2011.
274. Workshop organizer and moderator, "Biomechanics in Ocular Motility and Beyond: Methods, Formulations, and Applications." Ass'n. for Research in Vision and Ophthalmology, Ft. Lauderdale, FL, May 2, 2011.
275. Asociacion Columbiana de Oftalmologia Pediatrica y Estrabismo, 4° Curso Internacional de Oftalmologia Pediatrica y Estrabismo. Keynote Speaker, four lectures, Colombian Association for Pediatric Ophthalmology and Strabismus, Cartagena, Colombia, July 28 and 29, 2011.

276. Invited speaker, Columbia University Advances in Clinical Ophthalmology Course, New York, NY, January 9, 2012.
277. Workshop speaker, "Extra-Large (XXL) Strabismus – Surgical Management," American Association for Pediatric Ophthalmology and Strabismus, San Antonio, TX, March 26, 2012.
278. Workshop organizer, "Through The Eyes of Autism: Eye Care for These Special Patients," American Association for Pediatric Ophthalmology and Strabismus, San Antonio, TX, March 26, 2012.
279. Workshop speaker, "Difficult Problems: Strabismus," American Association for Pediatric Ophthalmology and Strabismus, San Antonio, TX, March 28, 2012.
280. "Proportional Distribution of Human Lateral Rectus Muscle Compartments by Magnetic Resonance Imaging Extraocular Muscles." Ass'n. for Research in Vision and Ophthalmology, Ft. Lauderdale, FL, May 7, 2012.
281. "Strabismus is Gettin' Old," Squint Club, St. Louis, MO, September 30, 2012.
282. "Strabismus is Gettin' Old," International Pediatric Ophthalmology and Strabismus Meeting, Chicago, IL, November 9, 2012.
283. Senior Instructor, instruction course, "Clinical Applications of New Concepts of Extraocular Muscle Function," American Academy of Ophthalmology Annual Meeting, Chicago, IL, November 12, 2012.
284. Instructor, instruction course, "Imaging Studies in Strabismus," American Academy of Ophthalmology Annual Meeting, Chicago, IL, November 12, 2012.
285. "When Strabismus Surgery Is Indicated," Los Angeles County Optometric Society Winter Seminar, Los Angeles, CA, December 9, 2012.
286. Invited speaker, Columbia University Advances in Clinical Ophthalmology Course, New York, NY, January 21, 2013.
287. Through the Eyes of Autism Workshop, American Association for Pediatric Ophthalmology and Strabismus, Boston, MA, April 5, 2013.
288. Apt Lecture and Workshop, Strabismus is Gettin' Old," American Association for Pediatric Ophthalmology and Strabismus, Boston, MA, April 5-6, 2013.
289. "Magnetic Resonance Imaging (MRI) Demonstrates Differential Compartmental Contractility of Medial Rectus Muscle During Vertical Duction," Ass'n. for Research in Vision and Ophthalmology, Seattle, WA, May 6, 2013.
290. Knights Templar Lectureship, Emory University, Atlanta, GA. September 6, 2013.
291. Visiting Professor, University of Houston College of Optometry, September 16-17, 2013.
292. Visiting Professor, University of Michigan, October 31, 2013.
293. Invited lecture, American Association of Certified Orthoptists, New Orleans, LA, November 18, 2013.
294. Invited Lecturer, SUNY Downstate Ophthalmological Society, January 10-11, 2014.
295. Invited speaker, Columbia University Advances in Clinical Ophthalmology Course, New York, NY, January 20, 2014.
296. Sackler Lectureship, The Goldschleger Eye Institute, The Sheba Medical Center, Tel Aviv University, Israel, February 14, 2014.
297. Richard G. Weaver Lecture, Wake Forrest University, June 6, 2014.
298. Invited speaker, Cambridge Symposium on Strabismus, September 4 - 7, 2014. Cambridge, England.
299. North American Neuro-ophthalmology Society invited workshop speaker, San Diego, CA, February 25, 2015.

300. The William Gillies Lecture, Australia and New Zealand Strabismus Society, Brisbane, QLD, Australia, March 6-7, 2015.
301. Keynote Address, Congress of the European Society of Ophthalmology, Vienna, Austria, June 6 - 9, 2015.
302. Visiting Professor, Department of Ophthalmology, University of California, Davis, Sacramento, California, September 2, 2015.
303. Invited Speaker, "Orbital Pulleys and Muscles: Ridiculously Simple." Neuroophthalmology Subspecialty Day, American Academy of Ophthalmology, Las Vegas, NV, November 14, 2015.
304. Invited Speaker, International Orthoptic Congress, Rotterdam, Netherlands, June 27-30, 2016.
305. Invited Speaker, European Strabismological Association, Budapest, Hungary, September 29, 2016.
306. Invited Speaker, Neuro-Ophthalmic Disease Symposium, American Academy of Optometry, Anaheim, CA. November 9 - 10, 2016.
307. Visiting Professor, Department of Ophthalmology, University of Louisville, Kentucky, February 17, 2017.
308. Symposium Speaker, European Strabismological Association, Porto, Portugal, September 14, 2017.
309. Keynote Speaker, Japanese Neuro-ophthalmological Society, November 10-11, 2017.
310. North American Neuro-ophthalmology Society invited workshop speaker, Waikoloa Village, Hawaii, March 5 - 8, 2018.
311. "Significance of Compartmentalization in Ocular Motor Palsies," ISA Symposium on Concepts for Management of Paralytic Strabismus, Joint meeting of AAPOS and International Strabismological Association, Washington, DC, March 19, 2018.
312. Chaudhuri, Z., and Demer, J. L. "New Signatures for Evidence Based Evaluation in Strabismus: Imaging and Genetics," Joint meeting of AAPOS and International Strabismological Association, Washington, DC, March 20, 2018.
313. Demer, J. L. and Clark R. A. "Magnetic resonance imaging (MRI) demonstrates different patterns of horizontal extraocular muscle co-contraction in fusional divergence to near and distant targets." Ass'n. for Research in Vision and Ophthalmology, Honolulu, HI, April 30, 2018.
314. "Twisted Implications of Torques for Ocular Motor Modeling," Mathematical Modeling in Motor Neuroscience Research Meeting, University of Pavia, Italy, June 6, 2018.
315. "Nonlinear Ocular Motor Modeling," Mathematical Modeling in Motor Neuroscience Course, University of Pavia, Italy, June 7, 2018.
316. "Connective Tissue Pulley System of the Orbit," Cientifico X Curso Universatario International de Oftalmologia, Santiago, Chile, July 28, 2018.
317. "Glaucoma as a Repetitive Strain Injury to the Optic Nerve," Form and Function in Ocular Disease meeting, Dalhousie University, Halifax, Nova Scotia, October 20, 2018.
318. "Muscle Mechanisms of Fusional Divergence," AAPOS/AACO Joint Symposium in honor of Gunter K. von Noorden, MD. Chicago, IL. October 29, 2018.

Major Scheduled Lectures and Professorships

1. Keynote speaker, Arizona Ophthalmological Association, Flagstaff, AZ, June 8 – 9, 2019.
2. Bielschowsky Lecture of the International Strabismological Association, Paris, France, September 2020.

JOSEPH L. DEMER, M.D., Ph.D**BIBLIOGRAPHY****RESEARCH PAPERS****A. RESEARCH PAPERS - PEER REVIEWED**

1. Demer, J. L., Mylrea, K. D., Adler, L. and Jewett, W. R. An esophageal multiprobe for temperature, electrocardiogram and heart and lung sounds measurements. *IEEE Trans. Biomedical Engineering* 25:337-339, 1978.
2. Haddad, G. M., Demer, J. L. and Robinson, D. A. The effect of lesions of the inferior olive on the vestibulo-ocular and optokinetic systems of the cat. *Brain Res.* 185:265-275, 1980.
3. Demer, J. L. The variable gain element of the vestibulo-ocular reflex is common to the optokinetic system of the cat. *Brain Res.* 229:1-13, 1981.
4. Demer, J. L. and Robinson, D. A. Effects of reversible lesions and stimulation of olivocerebellar system on vestibulo-ocular reflex plasticity. *J. Neurophysiol.* 47:1084-1107, 1982.
5. Demer, J. L. and Robinson, D. A. Different time constants for optokinetic and vestibular nystagmus with a single velocity-storage element. *Brain Res.* 276:173-177, 1983.
6. Demer, J. L. and Zee, D. S. Vestibulo-ocular reflex and optokinetic deficits in albinos with congenital nystagmus. *Invest. Ophthalmol. Vis. Sci.* 25:739-745, 1984.
7. Demer, J. L., Echelman, D. A. and Robinson, D. A. Effects of electrical stimulation and reversible lesions of the olivocerebellar pathway on Purkinje cell activity in the flocculus of the cat. *Brain Res.* 346:22-31, 1985.
8. Demer, J. L., Koch, D. D., Smith, J. A. and Knolle, G. E. Persistent elevation in intraocular pressure after Nd:YAG laser treatment of the anterior segment. *Ophthalmic Surgery*, 17:465-466, 1986.
9. Demer, J. L., Goldberg, J., Jenkins, H. A. and Porter, F. I. Vestibulo-ocular reflex during magnified vision: Adaptation to reduce visual-vestibular conflict. *Aviat. Space Environ. Med.* 58(9, Suppl.): A175-A179, 1987.
10. McCrary, J. A., Demer, J. L., Friedman, D. I. and Mauad, M. M. The role of computed tomography and magnetic resonance imaging in the diagnosis of inflammatory disease of the optic nerve. *Survey Ophthalmol.* 31:352-355, 1987.
11. Porter, F. I., Demer, J. L., Goldberg, J., Jenkins, H. A., and Schmidt, K. Developing a methodology for predicting successful visual rehabilitation with spectacle magnifiers. *J. Vis. Rehab.* 1:22-34, 1987.
12. Demer, J. L., Porter, F. I., Goldberg, J., Jenkins, H. A., and Schmidt, K. Dynamic visual acuity with telescopic spectacles: improvement with adaptation. *Invest. Ophthalmol. Vis. Sci.* 29: 1184-1189, 1988.
13. Demer, J. L. and von Noorden, G. K. High myopia as an unusual cause of restrictive motility disturbance. *Surv. Ophthalmol.* 33: 281-284, 1988.
14. Demer, J. L. and von Noorden, G. K. Optokinetic asymmetry in esotropia. *J. Ped. Ophthalmol. Strabismus.* 25: 286-292, 1988.

15. Demer, J. L., von Noorden, G. K., Volkow, N. D., and Gould, K. L. Imaging of cerebral blood flow and metabolism in amblyopia by positron emission tomography. *Am. J. Ophthalmol.* 105:337-347, 1988.
16. Demer, J. L., Porter, F. I., Goldberg, J., Jenkins, H. A., and Schmidt, K. Adaptation to telescopic spectacles: Vestibulo-ocular reflex plasticity. *Invest. Ophthalmol. Vis. Sci.* 30: 159-170, 1989.
17. Demer, J. L., Porter, F. I., Goldberg, J., Jenkins, H. A., Schmidt, K., and Ulrich, I. Predictors of functional success in telescopic spectacle use by low vision patients. *Invest. Ophthalmol. Vis. Sci.* 30: 1652-1665, 1989.
18. Demer, J. L., Volkow, N. D., Ulrich, I., Krajewski, K., Davis, C. M., and Porter, F. I. Eye movements in cocaine abusers. *Psychiatry. Res.* 29: 123-136, 1989.
19. Tusa, R.J., Demer, J.L., and Herdman, S.J. Cortical areas involved in VOR and OKN in cats: Cortical lesions. *J. Neurosci.* 9: 1163-1178, 1989.
20. Demer, J. L., Holds, J. B., and Hovis, L. A. Ocular movements in essential blepharospasm. *Am. J. Ophthalmol.* 110: 674-682, 1990.
21. Baloh, R. W. and Demer, J. L. Gravity and the vertical vestibulo-ocular reflex. *Exp. Brain Res.*, 83: 427-433, 1991.
22. Demer, J. L., Goldberg, J., and Porter, F. I. Effect of telescopic spectacles on head stability in normal and low vision. *J. Vestibular Res.* 1: 109-122, 1991.
23. Demer, J. L., Goldberg, J., Porter, F. I., and Jenkins, H. A. Visual-vestibular interaction with telescopic spectacles. *J. Vestibular Res.* 1: 263-277, 1991.
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None.

E. RESEARCH PAPERS - NON-PEER REVIEWED (IN PRESS)

None.

F. RESEARCH PAPERS - NON-PEER REVIEWED (SUBMITTED)

None.

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None

ABSTRACTS

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