

CURRICULUM VITAE

Sept., 2017

Thomas Tolles Norton

Professor, *emeritus*
Department of Optometry and Vision Science
School of Optometry
University of Alabama at Birmingham

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Education:

1961-1965 B.A., Yale University, Psychology
1965-1970 Ph.D., University of California, Los Angeles, Psychology
1970-1972 NIH Postdoctoral Fellow (Neurophysiology), University of Pennsylvania,
Department of Anatomy

Employment:

1972-1978 Duke University
Assistant Professor, Department of Psychology
Assistant Professor, Department of Physiology
1978-Present University of Alabama at Birmingham (UAB)
1978-1986 Associate Professor, Department of Physiological Optics, School of
Optometry, UAB
1978-1989 Associate Professor, Department of Psychology, School of Social and
Behavioral Sciences, UAB
1978-Present Member, Vision Science Research Center, UAB (Senior Scientist, 1986-
present)
1986-present Professor, Department of Vision Sciences (Dept. name change in 2005),
UAB
2014- present Professor *emeritus*, Department of Optometry and Vision Science, UAB
1989-2013 Professor, Department of Psychology, UAB
1989-1991 Director, Vision Science Research Center, UAB
2004-2013 Associate Scientist, Minority Health and Research Center, UAB
2010-2013 Professor, Department of Neurobiology, UAB
2010-present Member, UAB Graduate Biomedical Sciences faculty

Honors:

Honors in Psychology, Yale University, 1965 (Dr. Robert Galambos, mentor)
Sigma Xi, Associate Member, 1965; Member, 1973
Ph.D. with Distinction, UCLA, 1970 (Dr. Donald B. Lindsley, advisor)
N.I.H. Postdoctoral Fellow, 1970-72 (Dr. James M. Sprague, sponsor)
Alfred P. Sloan Foundation Research Fellow, 1973-75
Visiting Professor, Institut für Anatomie, Fribourg, Switzerland, June - September, 1982
Fellow, American Academy of Optometry, 1997-**present**
Recipient, UAB President's Award for Excellence in Teaching, 1998
Amcon Visiting Professor, School of Optometry University of Missouri, St. Louis, 2001
Recipient, Basic Science Teaching Award, UAB Chapter, Am. Optometric Student Association,
2003
Speaker at Univ. of Calgary, funded by the Heritage Foundation of Alberta, Canada, September,
2003
Keynote Speaker, 10th International Myopia Conference, Cambridge, UK, August 2004
Fellow (silver), Association for Research in Vision and Ophthalmology, 2009- **present**

Keynote speaker, Sek Jin Chew memorial lecture, 13th Intl. Myopia Conf., Tübingen, Germany, 2010

Invited speaker, 2011 Monroe Hirsch Memorial Symposium, Am. Acad. of Optometry, Boston, MA

Honors (continued):

Invited speaker, 2012 ARVO glaucoma minisymposium, "*Lessons from Remodeling Sclera in Myopia*"

Professor *emeritus*, awarded by the Board of Trustees, University of Alabama System

Invited speaker, 2014 Irving Borish Symposium, Indiana University School of Optometry

Invited speaker, ARVO Symposium, "mRNA expression in the retina-scleral pathway during myopia development." May 7, **2015**

Membership in Scientific Societies:

Association for Research in Vision and Ophthalmology (Silver Fellow)

International Society for Eye Research

Society for Neuroscience

American Academy of Optometry

Focus of Research Program:

As Professor emeritus, I am using my accumulated knowledge of the emmetropization mechanism and an animal model, tree shrew (a small mammal closely related to primates), to help colleagues to develop funded studies of the emmetropization mechanism that operates in the developing juvenile eye to match the axial length to the eye's optical power, producing an eye that is in good focus (emmetropia.) This mechanism involves retinally-generated signals that control the biochemistry and biomechanics of the sclera to regulate the axial length of the eye. The goal of this research is to learn how emmetropia is normally produced and how the emmetropization mechanism is disrupted to produce myopia or hyperopia in humans.

Research Support:

9/70 to 8/72: N.I.H. Postdoctoral Fellowship.

1/73 to 12/75: N.I.H. Grant RO1 EY01085. Neural Mechanisms of Developing Vision, \$67,763

9/73 to 9/75: Alfred P. Sloan Foundation Research Fellowship, \$15,804

9/76 to 2/81: N.S.F. Grant BNS76-18334. The Extrastriate Visual Pathway, \$53,300

5/78 to 11/83: N.I.H. Grant RO1 EY02909 (years 1-5). Neural Mechanisms of Extrastriate and Striate Vision, \$238,537

7/82 to 6/83: N.I.H. Small Grant for Pilot Research, EY04507. Mechanisms of Myopia Development, \$6,037

12/83 to 3/91: Renewal of RO1 EY02909 (years 6 – 13), \$389,143

4/86 to 3/89: N.I.H. Grant RO1 EY005922 (years 1 – 3). Mechanisms of Ocular Development, \$212,293

4/89 to 3/94: Renewal of RO1 EY005922 (years 4 – 9), \$478,099

7/92 to 6/93: N.I.H. Small Instrumentation Grant EY09983. Biological Materials Testing Device for Scleral Tissue, \$11,083

4/94 to 3/99: Renewal of RO1 EY005922 (years 10 – 15), \$820,626 (total with indirect cost = \$1,176,294)

10/98 to 9/99: UAB Provost's Faculty Development Grant (\$10,000)

4/99 to 3/02: Renewal of RO1 EY005922 (years 16 – 18), \$662,941 (total with indirect cost = \$931,922)

4/02 to 7/08: Renewal of RO1 EY005922 (years 17 – 22), \$1,150,000 (total with indirect cost = \$1,666,711)

7/06 to 12/08: EyeSight Foundation of Alabama, Proteomic Analysis of Retinal and Scleral Protein Changes during Myopia Development, \$155,342 total cost.

8/08 to 7/14: Renewal of RO1 EY005922 (years 22 – 25), \$1,089,762 (total with indirect cost = \$1,539,762)

10/07 to 9/08: UAB Provost's Faculty Development Grant (\$10,000)

7/09 to 6/10: EyeSight Foundation of Alabama, Protein Changes that Signal Eye enlargement during Myopia Development, \$75,409 total cost.

09/09 to 8/11: R01EY005922-23S1 ARRA administrative supplement to parent grant \$260,621,
(total with indirect costs = \$381,789)

07/2010 RO1EY005922-23S2 Equipment supplement, \$42,465

09/2010 RO1EY005922-24S1 Equipment supplement, \$25,900

09/2012 RO1EY005922-25S1 administrative supplement, direct: \$98,251; Total: \$143,938

12/2014 National Space Biomedical Research Institute (NSBRI), SMST00004
ICP Measurement and Acute Modulation in Tree Shrews, \$5,300 direct cost,
\$7,791 total cost

Teaching:

Professional Program, School of Optometry:

1978-1981: Visual Perception (shared), Visual Psychophysics and Physiology II (shared)

1981-1988: Visual Psychophysics and Physiology I - Course Master

1983-1985: Current Topics in Physiological Optics (shared participation)

1993 -2011(except 2006-2007): Visual Psychophysics (entire course) – current title:
Psychophysical Assessment of Visual Function

2008-2013 OPVS 111 Basic Sciences and Clinical Optometry (BaSCO) – co coursemaster

Vision Science Graduate Program:

Visual Information Processing (with E. Takahashi, 1978-1991; with T. Gawne, 1997 & 99) (1978-1999)

Introduction to Vision Science (Course Master and 2 seminars - 1982-1988; annual participation 1988-1998)

Visual Perception (with M. Loop) (1978-1993)

Vision Science Journal Class (VIS 700) 2001-2002

Special Topics in Vision Science, 2008

Central Visual Mechanisms II, Vision Science 748, Course Director (18 contact hrs), 1999-2012

VIS 745 lecture on Sclera 2012 - **2015**

VIS 756 Visual Neuroscience. 3.5 2 hr lectures and 1 2 hr lab, 2013-**2015**

VIS 763 Central Visual Mechanisms, 6 2 hr lectures, 2013

Teaching (continued):

UAB Neuroscience Curriculum:

Integrative Neuroscience I - 14 hours lecture (1988-1989); 2 hours (1993-95)

Integrative Neural Systems - 16 hours lecture and co-Course Master (1990-1991); 2 hrs, 1994

Biochemistry and Molecular Genetics Curriculum

Connective Tissue Biochemistry (BMG-747) (E. Miller, coursemaster) one lecture "The sclera – a specialized connective tissue of the eye." 1998

Biomedical Engineering Curriculum

Tissue engineering BME535, 1 lecture: "Intrinsic Tissue Remodeling in the Sclera" 2012 – 2014

Students Supervised:

Laboratory Research Rotations

Undergraduate Students (9)

Thomas Streeter – UAB (Summer, 2000)

Kristen Sullins – Furman Univ. (Summer, 2002)

Stephanie Bryant – UAB (Spring 2005)

Vinuta Mayakonda – UAB Science and Technology Honors Program (Summer, 2009)

Drew Gann – UAB, Biology (Spring 2011)

Raj V. Vachhani – UAB Science and Technology Honors Program (Spring, 2011)

Brent Dane – UAB, Biology (spring, 2012)

Sarah Terry - UAB Science and Technology Honors Program (Spring, 2012)

Saadia Miran - UAB Science and Technology Honors Program (Spring, 2012)

Graduate Student Rotations (15)

Thomas Rotolo – Neuroscience Program (Winter, 1996)

Jonathan Shelton – Neuroscience Program (Winter, 1996)

Edward Clark – Behavioral Neuroscience Program – Psychology (1996)

Yi Pang – Vision Science – (Fall, 1999)

Laura Brockway – Vision Science – (Winter, 1999)

Crystal Gardiner – Vision Science – (Summer, 2002)

Weiming Mao – Vision Science – (Fall, 2003)

Stephanie Bryant – Vision Science – (Fall, 2005)

Christy Tower – Cell Biology (Spring, 2006)

Carey Montgomery – Vision Science (Fall, 2008)

Li He – Vision Science (Winter, 2008-2009)

Lin Guo – Vision Science (Fall, 2009, spring, 2010)

Stephen Filios – GBS, Pathobiology Theme (Fall, 2010)

Alex Ward – GBS, Genetics Theme (Winter, 2010)

Karen Ross – GBS, CMDDB theme (Spring 2011)

Students Supervised:

Masters (7) *combined OD/MS degree

Wendy L. Marsh – 1985, Physiological Optics*, UAB
John A. Essinger, II – 1993, Physiological Optics*, UAB
John T. Siegart, Jr. – 1996, Vision Science, UAB
Adam W. Shaikh – 1997, Vision Science*, UAB
Wende Waggoner Wu – 2002, Vision Science*, UAB
Karen Ross –2012 – UAB Biology (type II, non-thesis)
Drew Gann – 2013 – UAB Biology

Students Supervised: (continued)

Doctoral (12)

Joanne E. Albano, 1973 – 1977, Psychology, Duke University
Jean Bullier, 1974 – 1978, Biomedical Engineering, Duke University
Allen L. Humphrey, 1974 – 1978, Psychology, Duke University
Dwayne W. Godwin, 1986 – 1992, Psychology, UAB
Robert N. Kang, 1990 – 1994, Physiological Optics, UAB
John T. Siegart, Jr., 1991 – 1997, Vision Science, UAB
Anisha J. German (Moring), 1996 – 2002, Psychology, UAB
Angela O. Amedo, 2002 – 2005, Vision Science, UAB
Hong Gao 2006 – 2009, Vision Science, UAB
Lin Guo, 2010 – 2014, Vision Science, UAB
Li He, 2009 – 2014, Vision Science, UAB
Alexander H. Ward, **2016**, Graduate Biomedical Sciences, GGB Theme, UAB

Postdoctoral (UAB only) (6)

Thomas K. Kuyk, Ph.D. – 1979-1984
Currently working in San Antonio, TX
Gregg E. Irvin, Ph.D. – 1981-1985
Presently, Director of Operations, Mobium Enterprises, Inc., Dayton, OH
Robert N. Holdefer, Ph.D. – 1985-1988
Presently, Diagnostic Electrophysiologist, Milwaukee, WI
Neville A. McBrien, O.D., Ph.D. – 1986-1988
Presently, Professor emeritus, Department of Optometry and Vision Sciences,
University of Melbourne, Melbourne, Australia
Margot E. Andison, Ph.D. – 1996-1998
Presently, Neuro ICU Nurse, UAB Hospital
Michael R. Frost, Ph.D. – 2004– 2009
Presently, Researcher V, UAB Allergy/Critical Care

Service on Student Committees

Undergraduate (1)

Meredith Hubbard, Science and Technology Honors –2012

Masters (8)

Michael Wesson - Physiological Optics (1981)
Myong-Suk Lee - Physiological Optics (1983)
Kelly Singleton - Vision Science (1995)
Troy Tevis - Vision Science (1995-1996), transferred to OD/Ph.D. program

Jerry Grissom - Mechanical Engineering (1996)
Raleshea Nix - Vision Science (1997)
Andrea Simpson – Mechanical Engineering (1998)
Sarah Baldivia – Biomedical Engineering (**2016**)

Doctoral (26)

Phillip Hendrickson - Physiological Optics (1982)
Peter Hitchcock - Physiological Optics (1983)
Mark Zagrod - Physiological Optics (1984)

Service on Student Committees

Doctoral (continued)

Martha Jay - Physiology and Biophysics (1985)
Ratneshwar Lal - Physiology and Biophysics (1987)
Jacqueline Goldstein - Psychology (1991)
Gregory Steele - Psychology (1993)
Kate Hanson Shows - Vision Science (2001)
Goldis Malek – Vision Science (2002)
Thomas Rotolo – Vision Science (2002)
Diana Niculescu – Vision Science (2004)
Julio DeLeon-Ortega – Vision Science (2005)
Quintus Ngumah – Vision Science (2005)
Sean Lee – Biomedical Engineering (2006)
Ramkumar Ramamirtham – U. of Houston, Physiological Optics (2007)
Portia McCoy – Neurobiology (2008)
Brian Mahalak – Vision Science (2005 –)
Laxmikanth Kankipati – Vision Science (2009)
Kevin Shultz, Vision Science (2010)
David Walsh, Vision Science (2012)
Mack Nowak, Neuroscience (2012)
T.J. Hollingsworth, Vision Science (2013)
Lesley McCollum, Neuroscience (**2015**)
Vishal Shinde, Vision Science (**2015**)
Kevin Chang, Vision Science (2013 - **present**)
Katie Bales, Vision Science (2014 - **present**)

Other Teaching

Mentor, Minority High School Student Research Apprentice Program (Anil Saini), 1990
Mentor, Alabama AMP minority college program, (Virginia Scott, 2nd place winner, Life Sci.), 1993
Mentor, UAB/NASA SHARP High School program (Andrew Ju) 1999
Mentor, T-35 Short-term training grant – Cheryl Storer (Summer, 2004)
Mentor, T-35 Short-term training grant – Kristen Bowles (Summer, 2005)

Service:

Department of Optometry and Vision Science (formerly, Physiological Optics and then Vision Sciences; now, Optometry and vision Science):

Graduate Curriculum Review Committee, 1978-1979
Graduate Admissions Committee, 1978-1982
Vision Science Graduate Program Admissions/Advisory Committee, 1998-2013

Faculty Affairs Committee, 1981-1982, 1984-1985, 1987-1991 (Chairman), 1995 -1996
Ad hoc Faculty Evaluation Committee (Chair), 1997
ad Hoc Tenure and Promotions Committee (Chair) 1997-2002, 2004, 2010-12
Vision Science Faculty Advisory Committee 2004 – 2008, (Chair, 2004-2007)
2009-2013 (Chair, 2013)
Faculty Position Search Committee, 1998 & 1999 & 2003, 2004, 2005, 2010, 2012
Combined Degree Programs Committee, 1997-1998

Service:

School of Optometry:

School of Optometry Faculty Senate Executive Committee, 1982-1986
Admissions Committee, 1983-1984; 1985-1986; 1993-1995, 2001- 2002
Member, Self-study Committee, 1983-1984
Chair, Self-study Subcommittee on Methods of Teaching
Member, ACOE Self-Study Steering Committee, 2007-2008
Curriculum Revision Subcommittee-Basic Science I, 1986-1987
Director, Vision Science Research Center, 3/6/89 - 6/10/91
Executive Committee, 1989-1991
Dean's Policy Committee, 1989-1991
Space Committee, 1989-1991
Chair, Self-study Subcommittee on Goals and Objectives, 1990-1991, and 1993-1994
Chair, Self-study Subcommittee on Informational Services and Library Services, 2001
Clinical Research Advisory Committee, 1995-2003; 2011- 2013
Information Systems Committee, 1995
Research Advisory Committee, 1995-2012
Clinic Council, 1996-1998
First-year student orientation, lab tour, August, 1996-1999, 2001
"Myopia Research" brief lecture at UABSO Open House 1997- 2001
Student-Faculty Liaison Committee, 1998 – 2009
Faculty Advisory Committee (SOFAC), 2000 – 2004 (Chair, 2002-2004)
and 2009-2013 (Chair, 2010-2012)
Strategic Planning Committee, 2006 – 2009; 2011-2013
– Subcommittee on Faculty, 2001 – 2002
Awards Committee, President's Award for Teaching Excellence, 1998-2002
Member, Search Committee for Optometry Dept. Chair, 2003-2004
"Vision Research at UAB" presentation at "Spring Visit" for incoming optometry students, 2004
Chair, subcommittee on Research and Scholarly Activities, ACOE self-study, 2008-2009

Service

University:

NEI Core grant Electronics Module Director, 1979-1989; 1994-2000
NEI Core grant Histology Module Director, 2005 – 2007
Birmingham Chapter, Society for Neuroscience; Secretary, 1981-1982; Vice President, 1982-1983;
President, 1983-1984
Chair, 1985 Southeastern Regional Neuroscience Meeting Organizing Committee, 1984-1985
Member, Graduate School Committee on Medical Center Fellowships and Faculty Research
Grants, 1980-1986

Member, Advisory Committee, Shared Instrumentation Grant, "Analysis of Cell Structure with Computerized Graphics", 1984-1988

Member, Psychology Department Senior Position Search Committee, 1984-1985

Member, Animal Resources Advisory Committee: Animal Finance Subcommittee, 1986-1990

Member, Search Committee for Dean, School of Optometry, 1993

Vision Science Graduate Program Curriculum Revision Committee, 1998-2000

Alternate Senator (Optometry), UAB Faculty Senate, 1999-2003

VSRC Visiting Scholars Committee, 1990-2000

Director, VSRC Visiting Scholars Program, 2004-2007

Member, Vision Science Research Center Advisory Committee, 1979-1989, 1994-2010

VSRC National Eye Institute Core Grant Advisory Committee, 1998-2007

Service

University (continued):

Member, UAB Distinguished Faculty Lecturer Committee, 2006 - 2008

Member, Council on Postdoctoral Education, 2006- 2014

Postdoctoral Grievance Panel, 2012

GAF Graduate School fellowship review committee 2008 - 2009

Member (elected), UAB-wide Grievance and Termination Hearing Panel, 2008-2012

Conflict of Interest Review Board, member, 2009 – 2012

Interviewer, admissions, Undergraduate Science and Technology Program, 2011

Consultant, R21 EY-025254, **2016-2018**

Service

National and International:

Member, Program Planning Comm., Assn. for Res. in Vision and Ophthalmol. (ARVO), 1994 -1996
ARVO Annual Meeting Program Committee (AMPC) 2013 - **2016**

Member, Steering Committee and Full Investigators Group, and consultant to the Chair, Correction of Myopia Evaluation Trial (COMET), continued as COSMICC, 1996 - **2015**

Member, National Eye Institute Special Evaluation Panel, 1992 - 1995

Member, Board of Directors, Helen Keller Eye Research Foundation, 1989 - 1995

Peer Review Committee, 1990 - 1996

Editorial Board member, *Optometry and Vision Science*, January, 2000 – 2005

Associate Topical Editor *Optometry and Vision Science*, 2011- **present**

Feature editor (with C. Wildsoet and D. Mutti) of myopia feature issues (May, June, 1999),
Optometry and Vision Science

Feature editor (with B. Gilmartin and K. Zadnik) of myopia feature issues (Jan/Feb, 2004),
Optometry and Vision Science

Feature editor (with R. Manny and D. O'Leary) of myopia feature issue April, 2005 *Optometry and Vision Science*

Feature editor (with D. Mutti, E. Smith, J. Gwiazda, F. Schaeffel, C.-H. To) of myopia feature issue November, 2013 *Optometry and Vision Science*

Guest Editorial Board Member, *Investigative Ophthalmology and Visual Science*, 2000-2007

ad Hoc reviewer for Special Review Panels, Center for Scientific Review, NIH, 1998, 1999, 2002

ad Hoc reviewer for National Science Foundation (Neurobiology Program and Sensory Physiology and Perception Program)

ad Hoc reviewer for *Optometry and Vision Science, Invest. Ophthalmol. & Vis. Sci.,*

Visual Neurosci., Exp. Eye Res., Vision Res., Matrix Biology,

ad Hoc reviewer for Research Grants Council of Hong Kong, 1993 -2001

ad Hoc reviewer for Biotechnology and Biological Sciences Research Council (UK), 1998, 1999

ad Hoc reviewer for The Wellcome Trust (UK), 2001

Consultant, CibaVision Ophthalmics, 1995 – 1996

Invited moderator of paper/poster sessions, ARVO, 1992, 1993, 1994, 1998, 2002, 2012, 2013, **2015, 2016**

Invited moderator of paper session, VIII International Conference on Myopia, Boston, 2000

Invited discussant of paper, VIII International Conference on Myopia, Boston, 2000

Invited Participant, ARVO Diversity Issues Committee Forums, ARVO, 1998, 2000

Outside Examiner, Ph.D. Dissertation, Australian National University, 1998

Co-Chair, ICER symposium “Signaling Mechanisms in Myopia”, Geneva, Switzerland, 2002

External Examiner, Ph.D. Dissertation, Singapore Eye Research Institute, 2002

Co-Chair, ICER symposium “Control of Eye Growth (Myopia)”, Sydney, Australia, 2004

Organizer and moderator, ARVO Special Interest Group, “Myopia Control: What Can be Done to get Larger Treatment Effects? Ft. Lauderdale, FL April 28, 2004

Service

National and International (continued):

Member, Organizing Committee, International Myopia Conference,

9th Conference (Hong Kong), 2002

10th Conference (Cambridge, UK), 2004

11th Conference (Singapore), 2006

12th Conference (Palm Cove, Australia), 2008

13th Conference (Tübingen, Germany), 2010

15th Conference (Wenzhou, China), 2015

Member, ZRG1 CB-G Physiology and Pathology of the Retina Study Section, Center for Scientific Review, NIH, March 18, 2005

Member, ZRG1 CB-G ZGM1 SRC(gg) Study Section, MBRS SCORE Program, Center for Scientific Review, NIH, October 18, 2005

Member, Special Emphasis Panel/Scientific Review Group 2007/10 ZEY1 VSN (08) (1), NIH/NEI, May 1, 2007

Consultant, Wenzhou Medical College, Wenzhou, China, 2006-**present**

External Examiner, Ph.D. Dissertation, University of Melbourne, 2008

External Examiner, Ph.D. Dissertation, University of Auckland, 2008

Member, Special Emphasis Panel ZRG1 BDCN T(03)S “Myopia and Vision Technology”, October 15, 2008.

Member, Special Emphasis Panel 2009/10 ZRG1 ETTN-E (92) S, Vision Sciences and Technology, June 2, 2009

Member, Special Emphasis Panel 2009/10 ZRG1 MDCN-F (50) R, Stem Cell and Animal Models, August 5, 2009

Editorial Board Member, *Ophthalmic and Physiological Optics*, 2010- **present**

[http:// www.college-optometrists.org/opo](http://www.college-optometrists.org/opo)

ad Hoc member (mail reviewer) Central Visual Processing Study Section, February, 2011

ad Hoc member (mail reviewer) Bioengineering of Neuroscience, Vision and Low Vision Technologies (BNVT), May, 2013.

ad Hoc member (mail reviewer) Genetics of Health and Disease Study Section, June, 2013.

Member, Organizing Committee, 15th International Myopia Conference, Wenzhou, China, **2015**

Recent Invited Presentations (2015 – present): (total invited presentations: 148)

144. ARVO symposium: Myopia genetics: building up from animals and drilling down from humans, will we meet in the middle? “mRNA expression in the retina-scleral pathway during myopia development.” May 7, **2015**.

145. UAB Comprehensive Neuroscience Center, "Tree Shrews: A better animal model for your research?" April 10, **2015**
146. 15th International Myopia Conference, Wenzhou, China, "What do animal models tell us about the mechanism of myopia, protection by light?" Sept. 27, **2015**
147. UAB Animal Resources Program, "Tree Shrews: a Unique Animal Model" June 8, **2016**.
148. Vanderbilt University "A Lifetime of Vision" Symposium Honoring Vivien Casagrande "Seeing Clearly: from LGN to Myopia" Nov. 18, **2016**.

Publications

Peer-reviewed Journal Articles: (83)

1. Galambos, R., T. T. Norton, and G. P. Frommer. Optic tract lesions sparing pattern vision in cats. *Exp. Neurol.*, 18: 8-25, 1967.
2. Norton, T. T., R. Galambos, and G. P. Frommer. Optic tract lesions destroying pattern vision in cats. *Exp. Neurol.*, 18: 26-37, 1967.
3. Wagner, A. R., E. Thomas, and T. Norton. Conditioning with electrical stimulation of motor cortex: Evidence of a possible source of motivation. *J. Comp. Physiol. Psychol.*, 64: 191-199, 1967.
4. Frommer, G. P., R. Galambos, and T. T. Norton. Visual evoked responses in cats with optic tract lesions. *Exp. Neurol.*, 21: 346-363, 1968.
5. Norton, T. T. Receptive-field properties of superior colliculus cells and development of visual behavior in kittens. *J. Neurophysiol.*, 37: 674-690, 1974.
6. Sherman, S. M., T. T. Norton, and V. A. Casagrande. X- and Y-cells in the dorsal lateral geniculate nucleus of the tree shrew (*Tupaia glis*). *Brain Res.*, 93: 152-157, 1977.
7. Bullier, J. H., and T. T. Norton. Receptive-field properties of X-, and Y- and intermediate cells in the cat lateral geniculate nucleus. *Brain Res.*, 121: 151-156, 1977.
8. Sherman, S. M., T. T. Norton, and V. A. Casagrande. Myopia in the lid-sutured tree shrew (*Tupaia glis*). *Brain Res.*, 124: 154-157, 1977.
9. Norton, T. T., V. A. Casagrande, and S. M. Sherman. Loss of Y-cells in the lateral geniculate nucleus of monocularly deprived tree shrews. *Science*, 197: 784-786, 1977.
10. Humphrey, A. L., J. E. Albano, and T. T. Norton. Organization of ocular dominance in tree shrew striate cortex. *Brain Res.*, 134: 225-236, 1977.
11. Skeen, L. C., A. L. Humphrey, T. T. Norton, and W. C. Hall. Deoxyglucose mapping of the orientation column system in the striate cortex of the tree shrew (*Tupaia glis*). *Brain Res.*, 142: 538-545, 1978.

12. Albano, J. E., A. L. Humphrey, and T. T. Norton. Laminar organization of receptive-field properties in tree shrew superior colliculus. *J. Neurophysiol.*, 41: 1140-1164, 1978.
13. Albano, J. E., T. T. Norton, and W. C. Hall. Laminar origin of projections from the superficial layers of the superior colliculus in the tree shrew, *Tupaia glis*. *Brain Res.*, 173: 1-11, 1979.
14. Bullier, J., and T. T. Norton. X and Y relay cells in cat lateral geniculate nucleus: Quantitative analysis of receptive-field properties and classification. *J. Neurophysiol.*, 42: 244-273, 1979.
15. Bullier, J., and T. T. Norton. Comparison of receptive-field properties of X and Y ganglion cells with X and Y lateral geniculate cells in the cat. *J. Neurophysiol.*, 42: 274-291, 1979.
16. Humphrey, A. L., and T. T. Norton. Topographic organization of the orientation column system in the striate cortex of tree shrew (*Tupaia glis*). I. Microelectrode recording. *J. Comp. Neurol.*, 192: 531-547, 1980.
17. Humphrey, A. L., L. C. Skeen, and T. T. Norton. Topographic organization of the orientation column system in the striate cortex of tree shrew (*Tupaia glis*). II. Deoxyglucose mapping. *J. Comp. Neurol.*, 192: 549-566, 1980.
18. Norton, T. T., and V. A. Casagrande. Laminar organization of receptive-field properties in lateral geniculate nucleus of bush baby (*Galago crassicaudatus*). *J. Neurophysiol.*, 47: 715-741, 1982.
19. Sesma, M. A., G. E. Irvin, T. K. Kuyk, T. T. Norton, and V. A. Casagrande. Effects of monocular deprivation on the lateral geniculate nucleus in a primate. *Proc. Natl. Acad. Sci., U.S.A.* 81: 2255-2259, 1984.
20. Norton, T. T., G. Rager, and R. Kretz. ON and OFF regions in layer IV of striate cortex. *Brain Res.*, 327: 319-323, 1985.
21. Irvin, G. E., T. T. Norton, M. A. Sesma, and V. A. Casagrande. W-like response properties of interlaminar zone cells in the lateral geniculate nucleus of a primate (*Galago crassicaudatus*). *Brain Res.*, 362: 254-270, 1986.
22. Kretz, R., G. Rager, and T. T. Norton. Laminar organization of ON and OFF regions and ocular dominance in the striate cortex of the tree shrew (*Tupaia belangeri*). *J. Comp. Neurol.*, 251: 135-145, 1986.
23. Bonds, A. B., V. A. Casagrande, T. T. Norton, and E. J. DeBruyn. Visual resolution and sensitivity in a nocturnal primate (*Galago*) measured with visual evoked potentials. *Vision Res.*, 27: 845-857, 1987.
24. Holdefer, R. N., T. T. Norton, and R. R. Mize. Laminar organization and ultrastructure of GABA-immunoreactive neurons and processes in the dorsal lateral geniculate nucleus of the tree shrew (*Tupaia belangeri*). *Vis. Neurosci.*, 1: 189-204, 1988.
25. Wilson, J. R., J. Bullier, and T. T. Norton. Signal-to-noise comparisons for X and Y cells in the retina and lateral geniculate nucleus of the cat. *Exp. Brain Res.*, 70: 399-405, 1988.

26. Norton, T. T., V. A. Casagrande, G. E. Irvin, M. A. Sesma, and H. M. Petry. Contrast sensitivity functions of W-, X-, and Y-like relay cells in the lateral geniculate nucleus of bush baby (*Galago crassicaudatus*). *J. Neurophysiol.*, 59: 1639-1656, 1988.
27. Wong-Riley, M. T. T., and T. T. Norton. Histochemical localization of cytochrome oxidase activity in the visual system of the tree shrew: Normal patterns and the effect of retinal impulse blockage. *J. Comp. Neurol.*, 272: 562-578, 1988.
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COMET Group papers: (founding member of the COMET Group since 1996; **Not** a member of the writing committee on these papers, but participated in guiding the research as a member of the Steering committee.)

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