

Revised: July 1, 2011

## **CURRICULUM VITAE**

**DATE: July 31, 2015**

**NAME: Ellen Townes-Anderson**

**PRESENT TITLE: Professor**

**HOME ADDRESS:**

**OFFICE ADDRESS: Department of Pharmacology, Physiology and Neurosciences,  
New Jersey Medical School  
185 South Orange Avenue, Medical Sciences Building H-592  
Rutgers. The State University of New Jersey, Newark, New Jersey 07103**

**TELEPHONE NUMBER/E-MAIL ADDRESS: 973-972-7392/ andersel@njms.rutgers.edu**

**CITIZENSHIP: USA**

**EDUCATION:**

- A. Undergraduate Graduate and Professional  
Connecticut College  
New London, Connecticut  
B.A. (Zoology) 1968
  
- B. Graduate and Professional  
University of California at Berkeley  
Berkeley, California  
M.S. (Zoology) 1971  
  
Boston University School of Medicine  
Boston, Massachusetts  
Ph.D. (Anatomy) 1980

**POSTGRADUATE TRAINING:**

- A. Internship and Residencies  
NA
  
- B. Research Fellowships  
NA
  
- C. Postdoctoral Appointments  
Boston University School of Medicine, Boston, Massachusetts  
Anatomy  
1/1980-1/1981  
  
Harvard Medical School, Boston, Massachusetts  
Anatomy  
1/1981-2/1985

**MILITARY: NA**

**ACADEMIC APPOINTMENTS:**

Physiology and Biophysics

Weill Medical School, Cornell University  
Assistant Professor  
3/1985-6/1990

Physiology and Biophysics, and Ophthalmology  
Weill Medical School, Cornell University  
Associate Professor, tenured 1994  
7/1990-6/1994

Physiology and Biophysics  
Weill Medical School, Cornell University  
Adjunct Associate Professor  
7/1994-6/2002

Neurology and Neurosciences  
New Jersey Medical School, University of Medicine and Dentistry of New Jersey  
Associate Professor  
7/1994-6/1999

Ophthalmology and Visual Science  
New Jersey Medical School, University of Medicine and Dentistry of New Jersey  
Associate Professor  
6/1994-present

Neurology and Neurosciences  
New Jersey Medical School, University of Medicine and Dentistry of New Jersey  
Director of the Graduate Program in Neurosciences  
1996-2004

Neurology and Neurosciences  
New Jersey Medical School, University of Medicine and Dentistry of New Jersey  
Co-Founder and Co-Director of the Joint Integrative Neuroscience Program,  
1999-2004

Neurology and Neurosciences  
New Jersey Medical School, University of Medicine and Dentistry of New Jersey  
Professor  
7/1999-present

New Jersey Medical School, University of Medicine and Dentistry of New Jersey  
Director of Faculty Mentoring Program  
2007-2014

New Jersey Medical School, University of Medicine and Dentistry of New Jersey  
Advisor to the Postdoctoral Association at NJMS  
2010-present

New Jersey Medical School, University of Medicine and Dentistry of New Jersey  
Director of Research Development and Initiatives  
2013-present

**HOSPITAL APPOINTMENTS:**

NA

**OTHER EMPLOYMENT OR MAJOR VISITING APPOINTMENTS:**

General Science and Geometry Teacher at Mizpah High School for the United Church of Christ  
Micronesia  
8/1971-6/1972

Senior Research Assistant, Howe Laboratory of Ophthalmology  
Harvard Medical School, Boston, Massachusetts  
9/1972-1/1974

Research Technician, Department of Anatomy  
Boston University of Medicine, Boston, Massachusetts  
2/1974-9/1975

**PRIVATE PRACTICE:** NA

**LICENSURE:** NA

**DRUG LICENSURE:**  
NA

**CERTIFICATION:** NA

**MEMBERSHIPS, OFFICES AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES:**

American Society for Cell Biology  
Member-Not Current

Association for Research in Vision and Ophthalmology  
Member-current  
Co-moderator, Retinal Cell Biology Session, Annual Meeting, 1989  
Co-moderator, Retinal Cell Biology Session, Annual Meeting, 1997  
Moderator, Retinal Cell Biology Session, Annual Meeting, 2013

New York Society of Electron Microscopy  
Member-Not current  
Director, 1990-1993

Society for Neuroscience  
Member-Not current  
Minority Education, Training, and professional Advancement Committee, 2004-2007

**HONORS AND AWARDS:**

Nominated for a Golden Apple Award  
New Jersey Medical School  
2019

Award for Innovation in Translational Research  
ARVO-Asia  
Association of Researchers in Vision and Ophthalmology  
2017

Nominated for a Golden Apple Award  
New Jersey Medical School  
2017

Basic Science Faculty of the Year  
New Jersey Medical School  
2013

Senator to the UMDNJ Faculty Senate  
Graduate School of Biomedical Sciences in Newark  
2011-2013

President of the NJMS Faculty Organization  
New Jersey Medical School  
2011

President of the NJMS Faculty Organization  
New Jersey Medical School  
2008

Secretary/Treasurer of the NJMS Faculty Organization  
New Jersey Medical School  
2007 (elected for 2 yr term)

Faculty Member of the Year  
Neurosciences Graduate Program, New Jersey Medical School  
2003

Master Educator Award  
University of Medicine and Dentistry of New Jersey  
2002, renewed membership in Guild 2006

Faculty Member of the Year  
Neurosciences Graduate Program, New Jersey Medical School  
2000

Faculty Member of the Year  
Neurosciences Graduate Program, New Jersey Medical School  
1998

Finalist, University Excellence Award in Service and Outreach to the External Community  
University of Medicine and Dentistry of New Jersey  
1997

The Giuseppina Raviola Memorial Lecturer  
Boston University Medical School  
1990

Invited Junior Investigator  
Association for Research in Vision and Ophthalmology, Western Conference  
1988

Travel Award for Annual Meeting  
Association for Research in Vision and Ophthalmology  
1980

Travel Award for Annual Meeting  
Association for Research in Vision and Ophthalmology  
1979

Predoctoral Trainee  
National Institutes of Health Training Grant  
9/1975-1/1980

**BOARDS OF DIRECTORS/TRUSTEES POSITIONS:**

Board of Directors, New York Society of Electron Microscopy, 1990-1993

**SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES:**

NIH- Member, Special Emphasis Panel for Biophysics of Neural Systems, December, 2014

NIH- Member, Special Emphasis Panel for Member Conflict: Cell Biology, February, 2013

NIH- Member, Special Emphasis Review Group on NEI Career Development Training Grants, October, 2012

NIH- Member, Special Emphasis Panel/Scientific Review Group on Institutional Pre-doctoral Training Grants, November 2009

NIH- Member, Center for Scientific Review Special Emphasis Panel, Neurotechnology and Engineering, November 2005

NIH- Member, National Eye Institute Study Section, Special Emphasis Panel, March 2004, November 2004

New Hampshire Agricultural Station – Reviewer for Grant, 2003

Wellcome Trust – Reviewer for Grant, 2002

NSF- Reviewer for Grants, 1992, 1993

NIH- Ad hoc Member, National Eye Institute Study Section V2, 1990

**SERVICE ON MAJOR COMMITTEES:**

A. International NA

B. National

External Steering Committee for NSF-funded ADVANCE Program at New Jersey Institute of Technology, 2011-2013  
 Committee for Neuroscience in Newark, 1997-1999

C. Medical School/University

**New Jersey Medical School-**

Faculty Representative on the Faculty Council, 2019-  
 Faculty Affairs Committee, 2013-2015  
 Committee on Salary Equity, 2005-present  
 Faculty Council, 2007-2013  
 Dean's Committee on Disciplinary procedures, 2009-2010  
 Faculty Forward, AAMC Initiative, 2011-2012  
 Post-tenure Review Taskforce, 2011-2013  
 Cultural Arts Committee, 2012-2013  
 Committee on Committees, 2011-2013  
 Research Development Advisory Committee 2012-2013  
 Committee to form Rutgers Biomedical Health Sciences Faculty Council 2013  
 Search Committee for the Chair of Pharmacology and Physiology 1995-1997  
 LCME Self-Study Committee on Resources for Educational Programs 1996  
 Committee on Institutional Planning & Development 1996, 1999-2000  
 Scientific Advisory Committee of the Neurological Institute of New Jersey, Acting Chair 2001-2004  
 Brain Cell Regeneration Program, Co-Director, 2002-2004  
 Faculty Committee on Appointments and Promotions, 2004-2006  
 Advisory Committee to the Dean on the Graduate School 2006  
 Confocal Microscope Facility Committee 1994-2006  
 Faculty Search Committee for the Quantitative Neuroscience Program, 2006-2007

Dean's Search committee, 2010-2011  
Faculty Senate Development and Implementation Committee, 2008-2011  
Faculty Affairs Committee, Chair, 2009- 2011  
Taskforce on Budget Transparency, Chair, 2006-2011  
Strategic Planning Committee, Co-chair of the Faculty Recruitment, Retention, and Leadership  
Work Group, 2011-2012

**Weill Medical School, Cornell University-**

Faculty Search Committee for Cell Biology and Anatomy Department 1990  
Faculty Search Committees for Ophthalmology Department 1990, 1993  
Student/Faculty/Administration Retreat 1990

D. Hospital NA

E. Department

**New Jersey Medical School-**

Neurosciences Department, Symposium Steering Committee 1995-1996  
Neurosciences Department, Steering Committee for Neuroscience Graduate Program 1994-2004  
Neurosciences Department, Committee for Appointments and Promotions 2005-2015

**Weill Medical School, Cornell University-**

Physiology and Biophysics Department, Seminar Program, Chair 1986

F. Editorial Boards NA

G. *AdHoc* Reviewer- *ongoing but periodic*

Investigative Ophthalmology and Visual Science  
Experimental Eye Research  
Current Eye Research  
Neuroscience Letters  
Journal of Neurobiology  
Journal of Neuroscience  
Journal of Neuroscience Methods  
Journal of Neurochemistry  
Visual Neuroscience  
European Journal of Neuroscience  
Journal of Neurocytology  
Vision Research  
Molecular Brain Research  
Molecular Vision  
Journal of Comparative Neurology  
BioMed Central-Neuroscience  
Developmental Neurobiology  
PLoS One  
Brain Structure and Function  
Br. J. of Ophthalmology  
J. Mol. Cell Biology  
Am. Journal of Pathology and Anatomy

**SERVICE ON GRADUATE SCHOOL COMMITTEES:**

**University of Medicine and Dentistry of New Jersey/Rutgers University**

Postdoctoral Advisory Council, 2017-  
Ombudsman for the Graduate School of Biomedical Sciences in Newark, 2010-2017  
Graduate School Graduate Council for University of Medicine and Dentistry of New Jersey, 2007-2014  
Admissions Committee of the Integrative Neuroscience Program, 2006-2007

Academic Committee for the New Jersey Institute of Technology/ Graduate School of Biomedical School  
in Newark Biomedical Engineering Program, 2005- 2007  
Executive Committee of the Rutgers/ Graduate School of Biomedical Sciences in Newark, Integrative  
Neuroscience Program, 1999-2004  
Graduate School Curriculum Evaluation Committee, 1997-1998  
Executive Council of the Graduate School of Biomedical Sciences in Newark, 1996-2004  
Departmental Representative to the MD/PhD Program Committee, 1996

**Weill Medical College Graduate School**

MD/PhD Admissions Committee 1988-90  
Curriculum Committee for the Neuroscience Graduate Program, Chairperson 1989-93  
Curriculum Committee for the Physiology Graduate Program 1993

**SERVICE ON HOSPITAL COMMITTEES:** NA

**SERVICE TO THE COMMUNITY:** NA

**SPONSORSHIP (Primary Mentorship) OF CANDIDATES FOR POSTGRADUATE DEGREE:**

Weiwei Wang, Pharmacology/Physiology Program, PhD 2015, GSBS award for poster, awarded a travel stipend to FASEB mtg, 2013  
Frank Kung, Biomedical Engineering Joint Program, PhD 2014  
Emily Cameron, Integrative Neuroscience Program, MS 2007, summer fellow in the NSF-NIH BioMEMS program at NJIT  
Aurora Fontainhas, Integrative Neuroscience Program, PhD 2007  
Mohamad Khodair, PhD 2002, awarded ARVO travel fellowship, 2000; best poster at the Newark Neuroscience Minisymposium, 2000; third and first place poster at the Graduate Student Association Conference, 2000, 2001  
Peter Alfinito, PhD 2000, awarded ARVO travel fellowship, 1998; shared first prize for Best poster at the Newark Neuroscience Minisymposium, 1998; Stanley S. Bergen Jr. Award in Excellence, 2000  
Michele Nachman-Clewner, PhD 1999, awarded an ARVO travel fellowship, 1996; shared first prize for best poster at the Newark Neuroscience Minisymposium, 1998  
Doug Steinberg, PhD 1997  
Jim Mandell, MD/PhD 1991, awarded the Pitts Award for excellence in thesis research

**SPONSORSHIP (Primary Mentorship) OF POSTDOCTORAL FELLOWS:**

Weiwei Wang, PhD  
Eva Halasz, MD  
Anil Shrirao, PhD  
Mohammed Alabdulghani, MD, postdoctoral fellow in Physician Scientists Skills Program  
Jianzhong Han, MD/PhD  
Jianfeng Wang, PhD  
Robert Clarke, PhD  
Amy Lindsey, PhD  
Nan Zhang, MD/PhD  
Peter Alfinito, PhD  
David M. Sherry, PhD, awarded a David Warfield Fellowship

**TEACHING RESPONSIBILITIES:** (Teaching effectiveness should be addressed in nominating letter)  
A. Lectures or Course Directorships

**New Jersey Medical School -**

Mind, Brain and Behaviour (now Neurology and Psychiatry), lecture 1-2 hr, 1996-2000, lecture 3hr, 2004-present plus lab 6-8hrs 2006-present

**Graduate School of Biomedical Sciences in Newark-**

Foundations in Neuroscience, course co-director, lecture, 1.5 hr, 2001, 2-3 hrs, 2002-2009, 6 hrs- 2010-2014 (now in 2 separate courses)  
Ethics in Science, Research, and Teaching, 2hrs, 2008-2014  
Graduate School Summer Program, lecture 1 hr, 1996, 1998-2000  
Molecular and Cellular Mechanisms in Physiology, lecture 3 hrs, 1998-2000  
Graduate Physiology, lecture 2hrs, 2001-2002  
Ethics in Science, 2hrs, 2003-2004  
Methods in Neuroscience, lecture 2 hr, 1995-2006  
Developmental Neurobiology, course director, lecture 12-14 hrs, 1995-2006 (every other year),  
Molecular and Cellular Biology, module director, lecture 3hr, 2001-2002, 2005-2006, lecture 1 hr, 2007-2009  
Rutgers Developmental Neurobiology, lecture 3 hrs, 2006-2009

**Weill Medical School, Cornell University-**

Neuroscience Course, lectures 4hrs, laboratories 8hrs 1985-94  
Physiology Course, laboratories 24hrs, conference 4hrs 1985-90  
Microanatomy Course, lecture 1hr 1986-91  
Surgical Assistants Program, lectures 2hrs 1990-91

**Cornell University Graduate School-**

Frontiers in Biomedical Research, MD/PhD Program, lecture 1hr 1991  
Cellular Neuroscience Course, course director, lectures 3hrs, laboratories 4hrs 1991-94  
Channels, Pumps, and Receptors, lecture 1hr 1993

**B. Research Training (other than Primary Mentorship)**  
Post Doctoral Fellows: NA

Pre Doctoral Students:

University of Medicine and Dentistry of New Jersey-  
Laboratory Rotation- Peter Alfinito, PhD program  
Mohamad Khodair, PhD program  
Mohammed Hassanain, PhD program  
Jianping Cui, PhD program  
Ling Kang, PhD program  
Roshni Alli, MSBS program  
Sami Qazi, PhD program  
Ligia Westrich, PhD program  
Aurora Fontainhas, PhD program  
Suzanne Micheals, MS program  
Roma Chawla, MS program  
Emily Cameron, PhD program  
Amber Ziegler, PhD program  
Frank Kung, PhD program  
Priyanka Shah, PhD program  
Rob Gosine, PhD program  
Weiwei Wang, PhD program  
Lauren Mursch, PhD program  
Mahamaya Bhattacharyyya, PhD program  
Viny Capazzi, MS program  
Viola Spahiu, MS program

Summer Research Students-

Albert Su, 1st yr medical student, Outstanding Student Achievement 2nd place  
John Santiago, 1st year medical student  
Joshua Lichtenberger, junior Univ. of Penn.  
Sam Frank, Hunter College High School, NY Acad. Sci. Science  
Research Training Program  
Joshua Reimer, 7-year medical student, Stevens Tech. Institute  
Christian Lothes, 1st year medical student



Suffiyah Webb, Chad Science Academy, SMART Initiative  
George Apostolopoulos, 7-year med student, College of NJ, award for best poster  
Linda Huang, 2<sup>nd</sup> year medical student  
Eman Rashed, MD/PhD program  
Jackie Weiss, junior Dartmouth College  
Cathy Jin, High School junior

Thesis Advisory or Examining Committee-

Diane Chuback, PhD program  
Nan Zhang, PhD program  
Vamsi Gullipalli, PhD program  
Kommakur Hognason, PhD program  
Debbie Cinco, PhD program  
Ligia Westrich, PhD program  
Anton Kolomeyer, MD/PhD program  
Micheal Kurnellas, PhD program  
Audrey Le, PhD program  
Mevin Siriwardane, PhD program, NJIT  
Chike Cao, PhD program  
Eun Kim, PhD program, NJIT

Cornell University-

Minor Sponsor- Anne Maddock, PhD 1992

Micheal Wiser, PhD 1993

Sponsor- Nita Mehta, NIH fellow, medical student, awarded a David Barr Summer  
Research Fellowship

John Olyarchuk, NIH fellow, medical student

Kathy Purnell, Westinghouse Science Project, Stuyvesant High School Student

Laboratory Rotation-

Thomas White, MD/PhD program

Doug Steinberg, PhD program

Bibo Li, PhD program

Michele Nachman, PhD program

Chair of Advancement to Candidacy Examining Committee-

Rami Zananiri, PhD program

Zeynap Altun, PhD program

Melissa Nirenberg, MD/PhD program

Doug Steinberg, PhD program

Connie Zhang, PhD program

Chair of Thesis Examining Committee-

Virginia Bayer, PhD program

Lizabeth Romanski, PhD program

Midori Yokoyama, PhD program

Edward O'Malley, PhD program

First Year Advisor-

Juliette Charles, medical student

Rami Zananiri, PhD program

George Brown, PhD program

**CLINICAL RESPONSIBILITIES:** (Clinical effectiveness should be addressed in nominating letter)

NA

**GRANT SUPPORT:** (*Please list newest or most current first*)

A. Principal Investigator

1. Investigator-Initiated Research Award- Vision Research program, CDMRP, DoD

Total award \$500,000, 9/19-8/22

PI Townes-Anderson, with M. Zarbin Co-PI, 50% Effort

2. Research Support from Aerie Pharmaceuticals Inc.  
Total Award \$110,000, 7/17-6/19  
Co-PIs Townes-Anderson, E. and Zarbin, M.
3. Kirby Foundation  
Total Award \$50,000, May, 2016  
Project Co-Director
4. Kirby Foundation  
Total Award \$160,000, May, 2015  
Project Co-Director
5. Supplement to RO1 NIH-NEI  
Total award \$42,150, 08/2014-02/2017  
P.I. Townes-Anderson, with M. Zarbin & I. Whitehead
6. Kirby Foundation  
Total Award \$225,000, 01/13  
Project Director, Townes-Anderson,E
7. Kirby Foundation  
Total Award \$225,000, 01/12  
Project Director, Townes-Anderson,E
8. Individual Grant Award, RO1, NIH-NEI  
Total Direct Award 1,250,000, 2/12-2/17  
No cost extension to 2/18  
P.I. Townes-Anderson, with M. Zarbin & I. Whitehead, 15% Effort
9. Kirby Foundation  
Total Award \$225,000, 05/11  
Project Director, Townes-Anderson,E
10. Kirby Foundation  
Total Award \$200,000, 05/10  
Project Director, Townes-Anderson,E
11. Continuation of Individual Grant Award, R01, NIH-NEI  
Total Direct Award 450,000, 8/09-7/11  
No cost extension to 7/12  
P.I. Townes-Anderson, E., 30% Effort
12. Kirby Foundation  
Total Award \$200,000, 10/08  
Project Director, Townes-Anderson,E
13. Association of Neuroscience Departments and Programs  
Society for Neuroscience  
Travel Award \$500, 6/08  
To Townes-Anderson, E.
14. Supplement to R21, NIH-NEI  
Total Direct Award \$38,000, 9/09-9/10
15. Individual Grant Award, R21, NIH-NEI  
Total Direct Award \$275,000, 4/08-3/10  
No cost extension to 3/12  
P.I. Townes-Anderson, E. 10% Effort

16. Kirby Foundation  
Total Award \$200,000, 10/07  
Project Director, Townes-Anderson,E
17. Training Grant, NIH-NINDS  
Total Direct Award \$805,645 7/07- 6/12  
Program Director, Townes-Anderson, E. with 36 faculty participants
18. Kirby Foundation  
Total Award \$150,000, 10/06  
Project Director, Townes-Anderson,E
19. Kirby Foundation  
Total Award \$100,000, 10/05  
Project Director, Townes-Anderson,E
20. Kirby Foundation  
Total Award \$100,000, 10/04  
Through NINJ, one of two Project Directors, Townes-Anderson,E
21. Kirby Foundation  
Total Award \$175,000, 10/03  
Through NINJ, one of two Project Directors, Townes-Anderson, E
- 22 Kirby Foundation  
Total Award \$150,000, 10/02  
Through NINJ, one of three Project Directors, Townes-Anderson, E
23. Continuation of Individual Grant Award,R01, NIH-NEI  
Total Direct Award \$1,125,000, 6/02-6/07  
P.I. Townes-Anderson, E., 30% Effort
24. Brain Injury Coalition  
Total Award \$25,000  
P.I. Townes-Anderson, E
25. Kirby Foundation  
Total Award \$100,000, 10/01  
Through NINJ, one of two Project Directors, Townes-Anderson, E
26. Supplement to R01, NIH-NEI  
Total Direct Award \$191,301, 7/99-6/02
27. Individual Grant Award,R01, NIH-NEI  
Total Direct Award \$574,504, 7/98-6/02  
P.I. Townes-Anderson, E., 33% Effort
28. Fund for the New Jersey Blind, Inc.  
Total Award \$500  
P.I. Townes-Anderson, E.
29. Research Training Initiative, VA  
Total Direct Award \$180,000, 10/95-9/98  
Co-P.I.'s Townes-Anderson, E. and P. Dowling, 25% Effort
30. Departmental Associates, Cornell University Medical School  
Total Direct Award \$9,484, 6/92  
P.I. Townes-Anderson, E.

31. Continuation of Individual Grant Award,R01, NIH-NEI  
Total Direct Award \$518,804, 6/92-6/96  
no cost extension to 6/98  
P.I. Townes-Anderson, E., 75% Effort

32. Fight for Sight Award, Fight for Sight Inc.  
Total Award \$7,000, 7/90-6/91  
P.I. Townes-Anderson, E.

33. Biomedical Research Support Grant, NIH  
Total Direct Award \$5,000, 1/88-12/89  
P.I. Townes-Anderson, E., 10% Effort

34. Individual Grant Award, R01, NIH-NEI  
Total Direct Award \$459,478, 6/87-6/92  
P.I. Townes-Anderson, E., 75% Effort

35. New Investigator Research Award, R29, NIH-NEI  
Total Direct Award \$107,500, 6/84-6/87  
P.I. Townes-Anderson, E., 75% Effort

36. National Research Service Award (Individual), NIH-National Eye Institute  
Total Award \$59,244, 6/81-6/84  
Townes-Anderson, E., 95% Effort

1. Co-Investigator

1. Quantitative Neurosciences Doctoral Training Program, Howard Hughes Medical Institute  
Total Award \$1,000,000, 11/05-10/08  
Program Directors R. Muira, J. Tepper, J. Berlin, Participants E. Townes-Anderson and 20 others

2. Training Grant, NEI  
Total Direct Award \$1,341,382, 5 year award, 5/94  
Program Directors MacLeish, P.R. and Victor, J., Faculty, Townes-Anderson, E. and 25 others

3. Core Support Grant, NIH-NEI  
Total Direct Award \$550,000, 4/90-3/95  
P.I. Wiesel, T., Co-Investigators Townes-Anderson, E., Gilbert, C., MacLeish, P., Chang, S., Katz, L.,  
Macguire, B., Sparrow, J., Szapiel, S.

4. Shared Instrumentation Grant, NIH  
Total Award \$150,996, 12/88-11/89  
P.I. Fischman, D., Co-Investigators Townes-Anderson, E., Rodriguez-Boulan, E., Wall, D.

5. Small Instrumentation Grant, NIH  
Total Award \$43,000, 8/87-7/88  
P.I. Windhager, E., Co-Investigators Townes-Anderson, E., Andersen, O., Grafstein, B., Lin, C., Maack, T.,  
Rayson, B., Urban, B.

C. Pending  
NA

**PUBLICATIONS:**

A. Refereed Original Article in Journal

1. **Townes-Anderson, E.** and G. Raviola. Giant nerve fibers in the ciliary muscle and iris sphincter of Macaca mulatta. Cell Tiss. Res. 169:33-40, 1976.

2. **Townes-Anderson, E.** and G. Raviola. Degeneration and regeneration of autonomic nerve endings in the anterior part of rhesus monkey ciliary muscle. *J. Neurocytol.* 7:583-600, 1978.
3. Freddo, T., **Townes-Anderson, E.** and G. Raviola. Rod-shaped bodies and crystalloid inclusions in ocular vascular endothelia of adult and developing *Macaca mulatta*. *Anat. and Embryol.* 158:121-131, 1980.
4. **Townes-Anderson, E.** and G. Raviola. The formation and distribution of intercellular junctions in the rhesus monkey optic cup: The early development of the cilio-iridic and sensory retinas. *Develop. Biol.* 85:209-232, 1981.
5. **Townes-Anderson, E.** and G. Raviola. Morphology and permeability of blood vessels in the prenatal rhesus monkey eye: How plasma components diffuse into the intraocular fluids during development. *Exp. Eye Res.* 35:203-230, 1982.
6. MacLeish, P., Tachibana, M. and **E. Townes-Anderson.** Morphological and electrophysiological properties of dissociated retinal neurons. In: *Advances in Pharmacology and Therapeutics II*, eds. H. Yoshida, Y. Hagihara and S. Ebashi, Vol. 2, pgs. 245-253, Pergamon Press, New York, 1982.
7. MacLeish, P.R., Barnstable, C.J. and **E. Townes-Anderson.** Use of a monoclonal antibody as a substrate for mature neurons in vitro. *P.N.A.S.* 80:7014-7018, 1983.
8. **Townes-Anderson, E.,** MacLeish, P.R. and E. Raviola. Rod cells dissociated from mature salamander retina: Ultrastructure and uptake of horseradish peroxidase. *J. Cell Biol.* 100:175-188, 1985.
9. Vogt, B.A., **Townes-Anderson, E.** and D.L. Burns. Dissociated cingulate cortical neurons: Morphology and muscarinic acetylcholine receptor binding properties. *J. Neurosci.* 7:959-971, 1987.
10. **Townes-Anderson, E.,** Dacheux, R.F. and E. Raviola. Rod photoreceptors dissociated from the adult rabbit retina. *J. Neurosci.* 8:320-331, 1988.  
cover photo
11. MacLeish, P.R. and **E. Townes-Anderson.** Growth and synapse formation among major classes of adult salamander retinal neurons in vitro. *Neuron* 1:751-760, 1988.
12. **Townes-Anderson, E.** and B.A. Vogt. Distribution of muscarinic acetylcholine receptors on processes of isolated retinal cells. *J. Comp. Neurol.* 290:369-383, 1989.
13. DiCicco-Bloom, E., **Townes-Anderson, E.** and I.B. Black. Neuroblast mitosis in dissociated culture: Regulation and relationship to differentiation. *J. Cell Biol.* 110:2073-2086, 1990.
14. Mandell, J.W., **Townes-Anderson, E.,** Czernik, A.J., Cameron, R., Greengard, P. and P. DeCamilli. Localization of the synapsins in the vertebrate retina: Absence from ribbon synapses and heterogeneous distribution among conventional synapses. *Neuron* 5:19-33, 1990.
15. Mandell, J.W., Czernik, A.J., DeCamilli, P., Greengard, P. and **E. Townes-Anderson.** Differential expression of synapsins I and II among rat retinal synapses. *J. Neurosci.* 12:1736-1749, 1992.
16. Mandell, J.W., MacLeish, P.R. and **E. Townes-Anderson.** Process outgrowth and synaptic varicosity formation by adult photoreceptors in vitro. *J. Neurosci.* 13:3533-3548, 1993.
17. **Townes-Anderson, E.** Intersegmental fusion in vertebrate rod photoreceptors. Rod cell structure revisited. *Invest. Ophthalm. Vis. Sci.* 36:1918-1933, 1995.
18. Sherry, D.M., St. Jules, R.S. and **E. Townes-Anderson.** Morphological and neurochemical target selectivity of regenerating adult photoreceptors in vitro. *J. Comp. Neurol.* 376:476-488, 1996.

19. Nachman-Clewner, M. and **E. Townes-Anderson**. Injury-induced remodeling and regeneration of the ribbon presynaptic terminal in vitro. *J. Neurocytol.* 25:597-613, 1996.  
cover photo
20. **Townes-Anderson, E.**, Colantonio, A. and R. S. St. Jules. Age-related changes in the tiger salamander retina. *Exp. Eye Research* 66:653-667, 1998.
21. **Townes-Anderson, E.**, R.S. St. Jules, D.M. Sherry, J. Lichtenberger, and M. Hassanain. Micromanipulation of retinal neurons by optical tweezers. *Molecular Vision* 4:12<<http://www.molvis.org/molvis/v4/p12>>, 1998.
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C. Patents Held

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D. Other Articles (Reviews, Editorials, etc.) In Journals; Chapters; Books; other Professional Communications

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F. Reports- NA

**PRESENTATIONS:**

A. Scientific (*Basic Science*): Did not keep records

B. Professional (*Clinical*): NA