CURRICULUM VITAE

Bruce Appel, Ph.D.

**Current Position**

Professor, Department of Pediatrics

Diane G. Wallach Chair of Pediatric Stem Cell Biology

Interim Head, Section of Developmental Biology

Director, Pediatric Stem Cell Biology Program

Director, Graduate Training Program in Cell Biology, Stem Cells and Development

School of Medicine, University of Colorado

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**Education**

McPherson College, McPherson, Kansas B.S., 1983, Biology

University of Utah, Salt Lake City, Utah Ph.D., 1993, Developmental Biology

Department of Human Genetics Dissertation: Homeotic Genes and

 Regional Specification in *Drosophila*

University of Oregon, Eugene, Oregon Postdoctoral, 1993-1998, Developmental

Institute of Neuroscience Neuroscience

**Academic Appointments**

* Undergraduate Research Assistant in Biology, McPherson College, 1981-1983
* Graduate Research Assistant, University of Utah, 1986-1993
* Postdoctoral Research Associate, University of Oregon, 1993-1998
* Assistant Professor, Department of Biological Sciences, Vanderbilt University, 1998-2005
* Associate Professor, with tenure, Department of Biological Sciences, Vanderbilt University, 2005-2008
* Adjunct Associate Professor, Department of Cell and Developmental Biology, Vanderbilt University, 2007-2008
* Visiting Associate Professor, Department of Pediatrics, University of Colorado School of Medicine, 2008-2009
* Associate Professor, with tenure, Department of Pediatrics, University of Colorado School of Medicine, 2009-2011
* Adjunct Associate Professor, Department of Cell and Developmental Biology, University of Colorado School of Medicine, 2009-2011
* Professor, with tenure, Department of Pediatrics, University of Colorado School of Medicine, 2011
* Adjunct Professor, Department of Cell and Developmental Biology, University of Colorado School of Medicine, 2011

**Honors and Awards**

* National Cancer Institute Basic Cancer Research Trainee, 1988-1990
* National Institutes of Health Postdoctoral Fellow, 1993-1996
* Whitehall Foundation Research Award. 1999-2002
* Vanderbilt University Chancellor’s Award for Research, 2007
* Diane G. Wallach Chair of Pediatric Stem Cell Biology, 2008

**Professional Societies**

* Society of Developmental Biology
* Society for Neuroscience
* American Society for Neurochemistry

**Program Affiliations, University of Colorado Anschutz Medical Campus**

* Cell Biology, Stem Cells and Development Graduate Training Program
* Neuroscience Graduate Training Program
* Molecular Biology Graduate Traning Program
* Medical Scientist Training Program
* Biomedical Sciences Program
* Human Medical Genetics and Genomics Graduate Training Program
* Charles C. Gates Center for Regenerative Medicine and Stem Cell Biology
* Developmental Psychobiology Research Group and Postdoctoral Training Program

**Committee and Service Responsibilities**

# Department of Biological Sciences, Vanderbilt University

* Co-Chair of Department of Biological Seminar Series, 1999-2001
* Neurobiology Faculty Search Committee, 1999-2000
* Neurobiology Faculty Search Committee, 2001–2002
* Department of Biological Sciences Graduate Admissions Committee, 2001-2002
* Graduate Curriculum Committee, 2002-2004
* Interdisciplinary Graduate Program representative, 2004-2007

# College of Arts and Science, Vanderbilt University

* Pre-major advisor, 2001-2002
* Major advisor, 2003-2008
* Junior Academic Review Committee, 2006

Graduate School, Vanderbilt University

* Ph.D. standing committee member for ~20 students, 1999-2008

# Vanderbilt University

* Faculty Coordinator of Developmental Biology Program Retreat, 2001
* Stem Cell and Organogenesis Program Leadership Committee, 2001-2002
* Zebrafish Initiative of the Academic Venture Capital Fund Committee, 2001-2008
* Program in Developmental Biology Educational Committee, 2003-2008
* Institutional Animal Care and Use Committee, 2005-2008

University of Colorado School of Medicine

* Chair, CSD Program Graduate Recruitment Committee, 2009, 2010
* The Childrens Hospital Research Strategic Plan Basic Science Committee, 2008-2009
* School of Medicine Research Retreat Microscopy Committee, 2009
* CSD Seminar Committee, 2009-2012
* Associate Director, Cell Biology, Stem Cells and Development (CSD) Program, 2010-2013
* Medical Scientist Training Program Admissions Committee, 2010-2011
* Director, Anschutz Medical Campus Zebrafish Facility, 2011-present
* Associate Director, Biomedical Sciences Program, 2011-2013
* Dept. of Pediatrics Developmental Biology Faculty Search Committee, 2011-2012, 2012-2013
* Intellectual Developmental Disabilities Research Center Advisory Committee, 2011-2014
* K-12 Child Health Research Career Development Advisory Committee, 2011-present
* Human Medical Genetics and Genomics Program Executive Committee, 2012-present
* Research Advisory Committee, 2012-2015
* Department of Pediatrics Tenure and Promotion Committee, 2012-present
* Dean’s Distinguished Seminar Committee, 2013-2016
* Director, Graduate Training Program in Cell Biology, Stem Cells and Development, 2013-present
* Department of Immunology and Microbiology Chair Search Committee, 2016-2018

Graduate School, Thesis Committees, University of Colorado School of Medicine

* Jennifer Ickle (chair), CSD, 2009
* Jera Law (chair), Neuroscience, 2009
* John Schiel, CSD, 2009
* Kate Bercury, Neuroscience, 2010-2014
* Shiri Gutman, CSD, 2010
* Tara Martin, Neuroscience, 2010-2014
* Vanessa Carmean, Neuroscience, 2010-2015
* Bradley Kubic, CSD, 2010-present
* Jinxiang Dai, CSD, 2011-2015
* Brian Bayless, CSD, 2011-2016
* Daniel Raible, Neuroscience, 2011-2014
* Jared Ahrendsen, Neuroscience, 2012-2015
* Chris Knoeckel, Neuroscience, 2012-2015
* Peter Van laarhoven, HMGGP, 2012-2014
* Swati Mishra, CSD, 2014-2018
* Stephanie Bonney, CSD, 2014-2018
* Tanya Brown, CSD, 2015-present
* Caitlin Winkler, CSD, 2015-present
* Colleen Bartman, CSD, 2016-present
* Jessica Hsu, Pharmacology, 2016-present
* Anthony Junker, CSD, 2017-present

Regional, National and International

* Organizer of 2006 Society for Developmental Biology Southeast Regional Meeting
* Zebrafish International Resource Center Advisory Board, 2009-2014
* Co-organizer of 10th International Conference on Zebrafish Genetics and Development, 2012
* Session Chair and Discussion Leader, Gordon Research Seminar, CNS Myelination and Remyelination, Il Ciocco, Italy, 2012
* Co-organizer of the 2014 Southwest Regional Meeting of the Society for Developmental Biology
* March of Dimes Research Advisory Council, 2016-present
* American Society of Neurochemistry Annual Meeting Program Committee and Session Chair, 2016

**Review and Referee Work**

Editorial Board

* *Developmental Dynamics,* 2005-2014

Commentary

* Faculty1000 Prime, Faculty Member, 2016-present

Grant review committees, regular member

* National Multiple Sclerosis Society Committee B, 2011-2014
* March of Dimes Cell Lineage and Differentiation Research Advisory Committee, 2010-present (Chair, 2016-present)
* NIH Neurogenesis and Cell Fate Study Section, 2013-2018 (Chair, 2016-2018)

Grant review committees, ad hoc

* NSF Division of Integrative Organismal Systems Proposal Review Panel for Animal Developmental Systems, 2006, 2007
* NIH MDCN Fellowship Review Council ZRG1 F03A, March 2003, July 2003
* NIH Neural Cell Fate Study Section, 2003, 2004
* NIH ZNS1 SRB-H Specialized Neuroscience Research Program Site Review, 2005
* NIH ZRG1 MDCN-H Axon Growth/Cranial Motorneurons, 2006
* NIH PPG Special Emphasis Panel, 2005, 2006
* NIH ZRG1 MDCN-J, Glial Development, Myelination and Injury, 2007
* NIH ZRG1 MDCN-N, Neurodevelopment and Synaptic Plasticity, 2008
* NIH ZRG1 MDCN6-N02, Neurodevelopment and Neurobiology, 2009
* NIH ZRG1 MDCN-N (02): Molecular Neuroscience, 2010
* NIH ZRG1 CB-N (02) M, Biology of Development and Aging, 2010
* NIH ZRG1 CB-Z(55, 56), Zebrafish Genetic Screens, Tools and Techniques, 2012
* NIH Neurodifferentiation, Plasticity, Regeneration and Rhythmicity SRG, 2013

Mail review, grants

* NSF
* NSF International Research Fellowship Program
* Wellcome Trust
* National University of Singapore
* ELA Research Foundation
* Human Frontier Science Program
* National Multiple Sclerosis Society
* Michael J. Fox Foundation for Parkinson’s Research
* French Research Multiple Sclerosis Association
* Biotechnology and Biological Sciences Research Council
* Fondation Recherche Médicale
* Deutsche Forschungsgemeinschaft
* European Commission

Manuscript review

* *Development*
* *Nature*
* *Journal of Neuroscience*
* *Journal of Neurobiology*
* *Genesis*
* *Developmental Biology*
* *Mechanisms of Development*
* *Experimental Cell Research*
* *Developmental Dynamics*
* *Developmental Brain Research*
* *Biotechnology and Biological Sciences Research Council*
* *Molecular and Cellular Neuroscience*
* *BioTechniques*
* *Developmental Neuroscience*
* *Neural Development*
* *PloS Biology*
* *PloS Genetics*
* *PloS One*
* *Stem Cells*
* *Cell and Tissue Research*
* *Human Molecular Genetics*
* *Neuroscience*
* *Nature Reviews Neuroscience*
* *Scientific Reports*
* *Developmental Cell*
* *Journal of Comparative Neurology*
* *Journal of Cell Biology*
* *Current Biology*
* *Nature Neuroscience*
* *eLife*

**Invited Extramural Lectures and Conference Presentations**

Invited conference platform presentations (since 1999)

**1999**

* Winter Brain Conference, Snowmass, Colorado

**2001**

* Southeast Regional Meeting of Developmental Biology

**2002**

* Southeast Regional Meeting of Developmental Biology

**2003**

* Tennessee Mouse Genome Consortium Retreat

**2005**

* 6th European Meeting on Glial Cell Function in Health and Disease
* 4th European Zebrafish Genetics and Development Meeting (talk selected from abstracts)
* Strategic Conference of Zebrafish Investigators (talk selected from abstracts)

**2006**

* Gordon Research Conference on Myelin
* Society for Neuroscience Annual Meeting Short Course Lecture
* Society for Neuroscience Annual Meeting (talk selected from abstracts)

**2008**

* Gordon Research Conference on Myelin, Il Ciocco, Italy

**2009**

* 2009 MRC International Symposia, Chonnam National University, South Korea
* 9th European Meeting on Glia Cell Function in Health and Disease (plenary talk)

**2010**

* Myelinating Glia: Development, Function and Pathobiology, Fondation des Treilles, France

**2011**

* Strategic Conference of Zebrafish Investigators (plenary talk)
* American Society for Neurochemistry (St. Louis, colloquium presentation)

**2012**

* University of Utah Neuroscience Program Retreat

**2013**

* International Society of Neurochemistry Myelin Satellite Meeting, Cancun, Mexico

**2014**

* Society for Developmental Biology, Seattle, WA
* Neuron Regeneration Symposium, University of Texas at San Antonio
* Cold Spring Harbor Laboratory Meeting on the Blood Brain Barrier

**2015**

* Gordon Conference on Glial Biology: Functional Interactions Among Glia and Neurons, Ventura, CA
* American Society for Neurochemistry, Atlanta, GA
* International Society for Neurochemistry Myelin Satellite Meeting, Cairns, Australia
* Vanderbilt University, Developmental Biology Annual Retreat (keynote)

**2016**

* Gordon Conference on Myelin, Il Ciocco, Italy

Invited academic seminars (since 1999)

**2000**

* St. Louis University School of Medicine, Dept. of Pharmacological and Physiological Science

**2001**

* Murray State University
* The Ohio State University, Department of Neuroscience

**2002**

* University of Kentucky School of Medicine, Department of Neurobiology and Anatomy

**2003**

* University of Utah, Department of Human Genetics
* University of Missouri, Department of Biology
* University of Tennessee Health Science Center
* University of Louisiana Medical School

**2004**

* University of Oregon, Institute of Neuroscience

**2005**

* University of Georgia, Department of Cell and Molecular Biology

**2006**

* Washington University School of Medicine, Department of Genetics
* University of Massachusetts at Amherst, Department of Biology
* SUNY at Stony Brook, Department of Neurobiology and Behavior
* Mayo Cancer Clinic, Rochester
* Lerner Research Institute at Cleveland Clinic

**2007**

* Dana-Farber Cancer Institute, Harvard Medical School
* University of Colorado Health Science Center, Program of Neuroscience
* Environmental Protection Agency, Durham, North Carolina
* Virginia Commonwealth University, Department of Neurobiology and Anatomy
* University of Washington, Program in Neurobiology and Behavior
* University of Michigan, Department of Cell and Developmental Biology
* Notre Dame University, Department of Biology

**2008**

* University of Utah, Department of Neurobiology and Anatomy
* Montreal Neurological Institute, McGill University
* Children’s Hospital of Philadelphia, University of Pennsylvania
* The Miami Project to Cure Paralysis

**2009**

* Colorado State University, Neuroscience Program
* University of Georgia Medical College, Department of Cell Biology and Anatomy
* Korea Research Institute of Bioscience and Biotechnology
* Korea University, School of Medicine
* Korea University, Department of Laboratory Medicine
* Centre de Biologie du Développement, Toulouse, France
* University of Guelph, Department of Cellular and Molecular Biology

**2011**

* Johns Hopkins University
* Carnegie Institution of Washington, Department of Embryology
* St. Jude Children’s Research Hospital
* Washington University, Department of Developmental Biology
* Centre de Recherche de l'Institut du Cerveau et de la Moelle Epinière, Paris, France
* Institute of Neurobiology Alfred Fessard, Gif-sur-Yvette, France

**2012**

* University of Iowa
* University of Cincinnati Children’s Hospital
* University of Toronto Hospital for Sick Children
* University of Oregon Institute of Neuroscience

**2013**

* Fudan University, Shanghai, China
* University of Arkansas

**2014**

* Syracuse University
* University of Wyoming
* University of Wisconsin, Milwaukee
* University of Virginia

**2015**

* University of Minnesota
* University of Pennsylvania, Children’s Hospital
* University of California, Davis

**2016**

* University of Calgary

**2017**

* Institut du Cerveau et de la Moelle épinière – ICM, Paris, France
* Cincinnati Children’s Hospital
* Baylor College of Medicine
* University of Texas San Antonio
* University of California, Los Angeles

Invited lectures: courses

* Embryology: Concepts & Techniques in Modern Developmental Biology, Marine Biological Laboratory, 2009-2012

Community Education

* Genetics of Taste Workshop lecture, July, 2010, 2011, Denver Natural History Museum, “Stem Cells: Biology and Therapy”
* Denver School of Science and Technology 11th grade BioX class. April, 2016, 2017. “CRISPR-Cas9 and You”.

**Teaching Record**

Classroom Teaching, Course Director/Co-Director, Vanderbilt University

* Biological Sciences 210: Principles of Genetics. Spring, Fall 1999; Spring 2000, 2001, 2003, 2006, 2007, 2008. Role: Course Director and Co-Director.
* Biological Sciences 115: Biotechnology and the New GenEthics. Fall 2000, 2001. Role: Course Director.
* Biological Sciences 242/342: Advanced Developmental Biology: Organogenesis. Spring 2002, 2004. Role: Course Co-Director.
* Biological Sciences 275A: Stem Cells and Human Genetic Disease Therapy. Fall 2003, 2004, 2005, 2006, 2007. Role: Course Director.

# Interdisciplinary Graduate Program 300A: Bioregulation 1, Genetics Section. Fall 2000-2007. Role: Lecturer.

Course Director, University of Colorado Anschutz Medical Campus

* CSDV 7605 Stem Cells and Development, 2011-2013
* IDPT 7806 Foundations in Biomedical Sciences, Genetics Block Director

# Contributed Lectures, University of Colorado Anschutz Medical Campus

# CSDV 7670 Advanced Topics, Neural Stem Cells, 2009

* NRSC 7615 Developmental Neurobiology, 2009-present
* CSDV 7605 Stem Cells and Development, 2010-present
* PHCL 7606 Cell Signaling, 2010
* IDPT 7815 Foundations in Biomedical Sciences, Genetics Section, 2011-2015
* NRSC 7614, Biological Basis of Psychiatric and Neurological Disorders, 2014, 2016

**Research Training and Mentorship**

# Undergraduates, Vanderbilt University

* Shondra Aubespin, Vanderbilt Minority Summer Research Program, student from Grambling State University. June-August, 1999.
* Jo Richardson, Women in Science Program, student from Cambridge University, Cambridge England. June-August, 2000.
* Jacob Doll, visiting Stanford undergraduate. June-August 2000.
* Autumn Jackson, Honors Research. September 2000-May 2001.
* Ahmit Mehta, Honors Research. September 2000-May 2001.
* Youlia Markov, Independent Research. June-August 2001.
* Bethany Coppings, Independent Research. June-August 2001.
* Tarek Fakhouri, Independent Research. September, 2001-April, 2002.
* Janene Boyce, Honors Research, June, 2002-May, 2003.
* Charles Williams, Independent Research, September, 2002-December, 2002.
* Sharleen Yuan, Independent Research, September, 2002-May, 2003.
* Patrick Emerson, Independent Research, January, 2003-December, 2003.
* Dwijen Ghandi, Independent Research, April, 2003-May. 2006.
* Justin Poling, Independent and Honors Research, May, 2003-2005. VUSRP fellowship recipient for summer research, 2004.
* Aaron Aday, Independent and Honors Research, June, 2002-2005. VUSRP fellowship recipient for summer research, 2003.
* Caleb Doll, Independent Research, September, 2003-May, 2006.
* Jasmine Patel, Independent Research, January, 2004-December, 2004.
* Justin Gregg, Independent Research, September, 2005-present.
* Justin Holder, Independent Research, September, 2006-May, 2007.
* Jenna Katz, Independent Research, September, 2006-May, 2007.
* Fatmata Daramy, Independent Research, September-December, 2006.
* Matthew Stein, Independent Research, September, 2007-August, 2008. VUSRP fellowship recipient for summer research, 2008.
* Matthew Rabito, Independent Research, September, 2007-May, 2008.
* Alex Wainwright, Independent Research, September, 2007-May, 2008.
* Deidra Dickinson, Independent Research, September-December, 2007.
* Jensen Hart, Independent Research, January-May, 2008.

# Graduate Students, Vanderbilt University

* Chris Lamousin, Ph.D. Student, 1999. Has returned to the medical profession.
* Andrew Latimer, Ph.D. Student, 1999-2004. Currently Staff Scientist, Marine Biological Laboratories, Woods Hole, MA
* Jimann, Shin, Ph.D. Student, 2002-2007. Currently Postdoctoral Fellow Washington University
* Karen McFarland, Ph.D. Student, May, 2003-2007. Currently Associate Professor and Associate Dean, Austin Peay State University, Clarksville TN
* Brandon Kirby, M.S. Student, May, 2004-2007. Currently high school science teacher, Nashville TN
* Denise Zannino, Ph.D. Student, May, 2004-2009. Currently Postdoctoral Fellow, University of Massachusetts.
* Randolph Roberts, Ph.D. Student, May, 2004-2009. Deceased.
* Julia Snyder, Ph.D. Student, May, 2005-2011. Currently Laboratory Manager, Stowers Institute, Kansas City, MO.
* Tim Simmons, Ph.D. Student, May, 2006-2011. Currently lawyer, Colorado Springs, CO.
* Gunnar Kwakye, Ph.D. Student, May, 2007-June, 2008. Supported by Program of Neuroscience Training Grant. Currently Assistant Professor, Oberlin College.

# High School and Undergraduate Students, University of Colorado School of Medicine

* Jared Sokol, Cherry Creek High School, summer 2009.
* Abel Zemichael, UCD undergraduate, LABCOATS Program, 2009-2010.
* Laquesh Matthews, Denver School of Science and Technology intern, 2009-2010.
* Karen Uribe, Denver School of Science and Technology intern, 2010.
* Chloe Bennion, Pediatric Student Research Program, 2011.
* Robin Bendiak, Denver School of Science and Technology intern, 2011-2012 and Pediatric Student Research Program, 2012.
* Jose Valdez, Denver School of Science and Technology intern, 2011-2012.
* Joshua Gaddy, New Mexico State University BRAiN Program summer research, 2012.
* Katie Jensen, Pediatric Student Research Program, 2013.
* Shai Dolin, Pediatric Student Research Program, 2014.
* Elise Warnock, Denver School of Science and Technology intern, 2014.
* Teresa Davis, UCD undergraduate, BRAiN Program, 2013-2014.
* Kristyn Fudge, Pediatric Student Research Program, 2015
* Anna Smith, Denver School of Science and Technology intern, 2016
* Natalie Tanabe, Denver School of Science and Technology intern, 2016
* Racquel Valadez, CU Colorado Springs undergraduate, BRAiN Program, 2016
* Mackenzie, Patarino, MIT undergraduate, Pediatric Student Research Program, 2016

# Graduate Students, University of Colorado School of Medicine

* Alexander Blasky, Ph.D. Student (CSD), May, 2009 – May, 2014. Currently staff scientist, Fischer Scientific.
* Zeljko Dvanajscak, MD/Ph.D. Student (CSD), May, 2009-2011. Currently medical intern, University of California, San Diego.
* Laura Hudish. Ph.D. Student (Molecular Biology), May, 2010-2015. Supported by Molecular Biology Training Grant. Currently postdoctoral fellow, University of Colorado Anschutz Medical Campus.
* Emily Mathews, Ph.D. Student (HMGGP), May, 2012-2016. Supported by Colorado Clinical & Translational Sciences Institute. Currently postdoctoral fellow, Washington University, St. Louis, MO.
* Mellissa Delcont, MSTP Student (CSD), August 2015-2017. Returned to Medical School.
* Alexandria Hughes, Ph.D. Student (Neuroscience Program) 2016-present. Supported by National Science Foundation fellowship.
* Katie Yergert, Ph.D. Student (Molecular Biology Program) 2016-present. Supported by Molecular Biology Training Grant.
* Kayt Scott, Ph.D. Student (CSD) 2017-present.
* Karlie Fedder, Ph.D. Student (Neuroscience Program) 2017-present.

# Postdoctoral Associates

* Lee Anne Given, D.V.M., part-time, 1999. Returned to veterinary practice.
* Hae-Chul Park, Ph.D., April, 2000-May, 2006. Currently Associate Professor at Korea University School of Medicine.
* Xinhong Dong, Ph.D., June, 2000 to October, 2001. Currently Associate Professor, Meharry Medical College, Nashville TN.
* David Mawdsley, Ph.D., October, 2002-March, 2006. Currently staff scientist at Defense Science and Technology Organization, Fishermans Bend, Australia.
* Jolanta Topczewska, Ph.D., January, 2003 to July, 2003. Currently Research Associate Professor, Northwestern University Medical School.
* Bhaskarjyoti Sarmah, Ph.D., October, 2003 to 2008. Shared with Dr. Susan Wente. Currently Staff Scientist, Eli Lilly & Co.
* Casper Groth, Ph.D., April, 2004 – January, 2005. Supported by Kennedy Center Postdoctoral Fellowship. Currently Research Scientist, Thomas Jefferson University, Philadelphia PA.
* Andrew Latimer, Ph.D., May, 2004-January, 2006. Currently Research Scientist, University of Virginia.
* Norio Takada, Ph.D., June, 2004 to 2010. Currently Assistant Professor, Nara Institute of Science and Technology, Japan.
* Sarah Kucenas, Ph.D., 2005-2009. Supported by NIH T32 and F32 Fellowships. Currently Associate Professor, Department of Biology, University of Virginia
* Melissa Langworthy, Ph.D., September, 2008-2012. Currently Technical Writer, SurveyGizmo, Boulder CO.
* Macie Walker, Ph.D., December, 2010 – June, 2014. Currently Research Associate, University of Colorado School of Medicine.
* Andrew Ravanelli, Ph.D., January, 2011 to 2016. Supported by T32 Cancer Training Grant. Currently Staff Scientist, Sigma, St. Louis MO.
* Yuying Wang, Ph.D., January, 2011 – August 2015. Currently Research Scientist, ArcherDX, Boulder, CO.
* Jacob Hines, Ph.D. April, 2011 to August, 2014. Supported by NIH T3 DPRG Training Grant and NMSS Postdoctoral Fellowship. Currently Assistant Professor, Winona State University, Winona, MN.
* Anita Quintana, Ph.D. June, 2012 – July, 2015 (co-mentored with Tamim Shaikh). Supported by NIH T32 DPRG Training Grant. Currently Assistant Professor, University of Texas El Paso.
* Michele Yang, M.D. January, 2011 – December, 2014. Currently Assistant Professor, University of Colorado School of Medicine.

Faculty Mentorship, University of Colorado School of Medicine

* Rajeev Vibharkar, Assistant/Associate Professor, 2009 – 2014
* Geeta Sharma, Instructor, 2009 – 2013
* Ashley Jones, Pediatric Oncology Fellow, 2009 – 2011
* Michele Yang, Assistant Professor, 2011 – 2014
* Santos Franco, Assistant Professor, 2013 – present
* Matt Talia ferro, Assistant Professor, 2017-present

**Grant Support**

Current extramural grant support

National Institutes of Health 2R01 NS046668-12

“Genetic Analysis of Oligodendrocyte Specification”

Role: Principal Investigator, 25% effort

Awarded April 1, 2015 - March 31, 2020.

$218,750 annual direct costs, $1,093,750 total direct costs.

National Institutes of Health 1R01 NS089046-02

“Mechanisms guiding axon selection for myelination in vivo”

Role: Principal Investigator, 30% effort

Awarded September 15, 2015 – May 31, 2020

$218,750 annual direct costs, $1,093,750 total direct costs.

National Institutes of Health 2R01DK064380-11

“Molecular Mechanisms of Polarized Endocytic Traffic in Epithelial Cells” (P.I.: R. Prekeris)

Role: Co-Investigator, 2% effort

Awarded September 15, 2014 – August 31, 2019. $225,000 annual direct costs, $1,125,000 total direct costs.

Completed grant support

Whitehall Foundation, Inc.

“Neuronal Specification in the Ventral Spinal Cord of Zebrafish”

Role: Principal Investigator

November 1, 1999-October 31, 2002, $150,000 total direct costs

Christopher Reeve Paralysis Foundation

“Genetic Analysis of Oligodendrocyte Migration”

Role: Principal Investigator

January 1, 2003-December 31, 2004, $150,000 total direct costs

National Institutes of Health R01 HD38118

“Genetic Analysis of Midline Cell Fate Specification”

Role: Principal Investigator

July 1, 1999-June 30, 2004, $718,716 total costs

National Multiple Sclerosis Society

“Control of Oligodendrocyte Proliferation and Differentiation by Notch Signaling”

Role: Principal Investigator: B. Appel

April 1, 2003-March 31, 2007, $385,761 total direct costs

National Institutes of Health R03 MH07634

“A Screen for Drugs that Promote Oligodendrocyte Formation”

Role: Principal Investigator

September 15, 2005 – September 14, 2006, $3,000 total direct costs

National Multiple Sclerosis Society

“A Screen for Drugs that Influence Oligodendrocyte Differentiation in Zebrafish”

Role: Principal Investigator

February 1, 2005 – January 31, 2007, $40,000 total direct costs

National Institutes of Health R01 GM075790

“Identification and Functional Characterization of Zebrafish microRNAs”

Role: Co-Principal Investigator (P.I., James Patton), 5% effort

National Multiple Sclerosis Society RG 3420B3

“Genetic Analysis of Oligodendrocyte Differentiation”

Role: Principal Investigator

Awarded April 1, 2007 – September 30, 2010. $405,346 total direct costs

National Institutes of Health 1R01 NS065788-05

“Genetic Screen for Zebrafish Neural Defect Mutants”

Role: Principal Investigator

August 1, 2009 – July 31, 2014. $1,031,250 total direct costs

National Institutes of Health 1R01 NS065788-03S1

“Genetic Screen for Zebrafish Neural Defect Mutants”

Role: Principal Investigator

Awarded August 1, 2011 – July 31, 2012. $50,000 direct costs.

National Institutes of Health 1R01 NS062717

“Genetic Analysis of Peripheral Nerve Development”

Role: Principal Investigator

May 1, 2009 – April 30, 2014. $1,093,750 total direct costs

Intramural grant support, Vanderbilt University

Natural Science Committee Award; 1998; $7,600.

Discovery Grant Award; 2001-2002; $25,000 per year.

Discovery Grant Award; 2005-2007; $25,000 per year.

**Bibliography**

Manuscripts, peer reviewed

1. **Appel, B**., and Sakonju, S. (1993). Cell-type-specific mechanisms of transcriptional repression by the homeotic gene products UBX and ABD-A in *Drosophila* embryos. *EMBO Journal* 12, 1099-1109.

2. **Appel, B**., Korzh, V., Thor., S., Glasgow, E., Edlund, T, Dawid, I.B., and Eisen, J.S. (1995). Motoneuron fate specification revealed by patterned LIM homeobox gene expression in embryonic zebrafish. *Development*121, 4114-4125.

3. Moens, C. B., Yan, Y-L., **Appel, B**., Force, A.G., and Kimmel, C.B. (1996). *valentino*: a zebrafish gene required for normal hindbrain segmentation. *Development* 122, 3981-3990.

4. **Appel, B**. and Eisen, J. S. (1998) Regulation of neuronal specification in the zebrafish spinal cord by Delta function. *Development* 125, 371-380.

5. **Appel, B**., Fritz, A., Westerfield, M., Grunwald, D.J., Eisen, J. S., and Riley, B. (1999) Delta-mediated specification of midline cell fates in zebrafish embryos. *Current Biology* 9, 247-256.

6. **Appel, B**., Givan, L., and Eisen, J.S. (2001) Delta-Notch mediated lateral inhibition regulates specification of zebrafish spinal neurons. *BioMed Central Developmental Biology* 1, 13.

7. Latimer, A. J., Dong, X., Markov, Y. and **Appel, B**. (2002) Delta-Notch signaling

induces hypochord development in zebrafish. *Development* 129, 2555-2563. *Cited as “Recommended” by Faculty of 1000.*

8. Park, H.-C., Mehta, A., Richardson, J, and **Appel, B**. (2002) *olig2* is required for zebrafish primary motor neuron and oligodendrocyte development. *Developmental Biology* 248, 356-368.

9. Park, H.-C. and **Appel, B.** (2003) Delta-Notch signaling regulates oligodendrocyte specification. *Development* 130, 3747-3755. *Cited as “Recommended” by Faculty of 1000.*

10. **Appel, B**., Marasco, P., McClung, L.E. and Latimer, A.J. (2003) *lunatic fringe* regulates Delta-Notch induction of hypochord in zebrafish. *Developmental Dynamics* 228, 281-286.

11. Shin, J., Park, H.-C., Topczewska, J.M., Mawdsley, D.J. and **Appel, B.** (2003) Neural cell fate analysis in zebrafish using *olig2* transgenics. *Methods in Cell Science*. 25, 7-14.

12. Garg, R, Geng, C-D., Miller, J.L., Callens, S., Tang, X., **Appel, B.** and Xu, B. (2004) Molecular cloning and characterization of the catalytic domain of zebrafish homolog of the Ataxia-Telangiectasia-Mutated. *Molecular Cancer Research* 2, 348-353.

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