

**CURRICULUM VITAE**

Name: James Gerard Patton  
Birth: June 13, 1958 Adrian, Michigan  
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Vanderbilt University  
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**Education**

1976-1980 B.A., Chemistry  
College of St. Thomas, St. Paul, Minnesota  
1983-1988 Ph.D., Molecular Biology and Biochemistry  
Mayo Clinic, Rochester, Minnesota

**Research Employment**

1980-1983 Atherosclerosis Research Unit, Mayo Clinic, Rochester, MN  
1988-1992 Post-doctoral Fellow  
Department of Molecular and Cellular Physiology, Harvard Medical School  
Department of Cardiology, Children's Hospital, Boston, MA  
1993-1999 Assistant Professor, Department of Biological Sciences, Vanderbilt University  
1999-2005 Associate Professor, Department of Biological Sciences, Vanderbilt University  
2000-present Director, Interdisciplinary Graduate Program, Vanderbilt University  
2005-present Professor, Department of Biological Sciences, Vanderbilt University  
2005-present Director, Honors Program, Department of Biological Sciences  
2011-present Stevenson Professor of Biological Sciences

**Awards and Honors**

1988-1990 Recipient, Muscular Dystrophy Association Fellowship.  
1990-1992 Recipient, National Institutes of Health National Research Service Award.  
2009 Chancellors Award for Research, Vanderbilt University  
2011 Stevenson Professor of Biological Sciences  
2013 Fellow, American Association for the Advancement of Science for Distinguished Contributions to RNA Biology and Leadership in Graduate Education

**Current Funding**

**U01 EY027265** Patton, Levine, Calkins, multi PIs 9/01/16-8/31/19  
NIH/ NEI Novel Activators of Regeneration in Muller Glia

**RO1 EY024354** Patton (PI) 4/1/14-3/31/17  
NIH/NEI  
A newly discovered feed forward mechanism controls photoreceptor fate

**U19 CA179514**  
NIH/NCI Coffey, Weaver and Patton 7/1/13-6/31/18  
Secreted RNA during CRC progression: Biogenesis, Function and Clinical Markers

**5 T32 GM008554-18** Patton (PI) 7/01/12-6/30/17  
NIH/NIGMS  
Cellular, Biochemical, and Molecular Sciences Training Grant

**R25 HL 118679** Patton (PI) 9/30/01-8/31/07  
NIH/NHLBI  
Short Term Research Training to Increase Diversity in Health-Related Research

**Completed**  
R21EY019759 Patton (PI) 7/1/09-6/31/13  
NIH/NIE  
Analysis of miRNA Function During Eye Development and Retinal Regeneration

RO1 GM 075790 Patton (PI) 7/01/05-6/31/13  
NIH/NIGMS  
Identification and Characterization of Zebrafish microRNAs.  
Role: PI

RO1 DK35592 Phillips (PI) 4/1/05--3/31/10  
NIH/NIDDK  
GH Alternative Splicing: Mechanisms and Diseases  
Role: Co-PI  
Currently in a no-cost extension

RO1 GM62487 Patton (PI) 8/01/02-1/31/10  
NIH/NIGMS  
Mechanisms and Regulation of Alternative pre-mRNA Splicing  
Role: PI

NSF 9974542 Patton (PI) 8/01/99--7/31/03  
NSF/MCB  
Characterization of the Role of PSF During pre-mRNA Splicing.  
Role: PI

NIH-Vanderbilt Mouse Metabolic Phenotyping Center 10/1/03-9/31/05

Role: PI

Therapeutic RNAi to Rescue Isolated Growth Hormone Deficiency (II) in a Transgenic Mouse Model

**Publications:**

Patton, J.G., Dinh, D.M., and Mao, S.J.T. (1982) Phospholipid Enhances Triglyceride Quantitation Using An Enzyme Kit Method, *Clinica Chimica Acta* 118:125-128.

Patton, J.G., Alley, M.C., and Mao, S.J.T. (1982) Evaluation of Monoclonal Antibodies to Human Plasma Low-Density Lipoproteins. A Requirement for Lipids to Maintain Antigenic Structure *J. Imm. Meth.* 55:193-203.

Mao, S.J.T., Patton, J.G., Badimon, J.J., Kottke, B.A., Alley, M.C., and Cardin, A.D. (1983) Monoclonal Antibodies to Human Plasma Low-Density Lipoproteins. I. Enhanced Binding of <sup>125</sup>I-Labeled Low Density Lipoproteins by Combined Use of Two Monoclonal Antibodies, *Clin. Chem.* 29: 1890-1898.

Patton, J.G., Badimon, J.J., and Mao, S.J.T. (1983) Monoclonal Antibodies to Human Plasma Low-Density Lipoproteins. II. Evaluation for use in Radioimmunoassay for Apolipoprotein B in Patients with Coronary Artery Disease, *Clin. Chem.* 29: 1898-1902.

Hurt, R.D., Briones, E.R., Offord, K.P., Patton, J.G., Mao, S.J.T., Morse, R.M., and Kottke, B.A. (1986) Plasma Lipids and Apolipoproteins A-I and A-II Levels in Alcoholic Patients, *Am. Jo. Clin. Nutr.* 43: 521-529.

Badimon, J.J., Fleming, C.R., and Patton, J.G., and Mao, S.J.T. (1986) Changes of plasma levels of apolipoproteins A-I, A-II, and B and their isoforms in patients with intestinal failure receiving long-term parenteral nutrition. *Am. Jo. Clin. Nutr.* 45: 414-422.

Patton, J.G., and Wieben, E.D. (1987) U1 Precursors: Variant 3' Flanking Sequences are Transcribed in Human Cells. *J. Cell Biol.* 104: 175-182.

Smith, C.W.J., Porro, E.B., Patton, J.G., and Nadal-Ginard, B. (1989) Scanning from an independently specified branch point defines the 3' splice site of mammalian introns. *Nature* 342: 243-247.

Smith, C.W.J., Patton, J.G., and Nadal-Ginard, B. (1989) Alternative splicing in the control of gene expression. *Ann Rev Genetics* 23: 527-577.

Mullen, M.P., Smith, C.W.J., Patton, J.G., and Nadal-Ginard, B. (1991) Alpha-tropomyosin mutually exclusive exon selection: competition between branchpoint/polypyrimidine tracts determines exon choice. *Genes and Development* 5: 642-655.

Nadal-Ginard, B., Smith, C.W.J., Patton, J.G., and Breitbart, R. (1991) Alternative splicing is an efficient mechanism for the generation of protein diversity: Contractile protein genes as a model system. *Advances in Enzyme Regulation*, Vol. 31 pp. 261-286.

Patton, J.G., Mayer, S.A., Tempst, P., and Nadal-Ginard, B. (1991) A polypyrimidine binding complex necessary for pre-mRNA splicing: Identification, characterization, and molecular cloning of the 57kD subunit. *Genes and Development* 5: 1237-1251.

Nadal-Ginard, B., Smith, C.W.J., and Patton, J.G. (1991) Regulation of alternative splicing of contractile protein genes. *Frontiers in Muscle Research*. Ozawa et al. (eds.) pp. 151-165. Elsevier Press.

Zamore, P.D., Patton, J.G., and Green, M.R. (1992) Cloning and domain structure of the mammalian splicing factor U2AF. *Nature* 355: 609-614.

Patton, J.G., Porro, E.B., Galceran, J., Tempst, P. and Nadal-Ginard, B. (1993) Cloning and characterization of PSF, a novel pre-mRNA splicing factor. *Genes and Development* 7: 393-406.

Borman, A., Howell, M.T., Patton, J.G., and Jackson, R.J. (1993) The involvement of a spliceosome component in internal initiation of human rhinovirus RNA translation. *J. General Virology* 74: 1775-1788.

Gozani, O., Patton, J.G., and Reed, R. (1994) A novel set of spliceosome-associated proteins (SAPs) and the essential splicing factor PSF bind stably to pre-mRNA prior to catalytic step II of the splicing reaction. *EMBO J.* 13: 3356-3367.

Coolidge, C.J. and Patton, J.G., (1995) Run-Around PCR: A Novel Way to Create Duplications Using Polymerase Chain Reaction. *Biotechniques* 18: 763-764.

Lin, C-H. and Patton, J.G., (1995) Regulation of Alternative 3' Splice Site Selection by Constitutive Splicing Factors. *RNA* 1: 234-245.

Kaminski, A., Hunt, S.L., Patton, J.G., and Jackson, R.J. (1995) Direct evidence that polypyrimidine tract binding protein (PTB) is essential for internal initiation of translation of encephalomyocarditis virus RNA. *RNA* 1: 924-938.

Hirano, K., Erdodi, F., Patton, J.G., and Hartshorne, D.J. (1996) Interaction of protein phosphatase type 1 with a splicing factor. *FEBS Letters* 389:191-194.

Coolidge, C.J., Seely, R.J., and Patton, J.G. (1997) Functional Definition of the Polypyrimidine Tract in pre-mRNA Splicing. *Nucleic Acids Res.* 25: 888-896.

Perez, I., Lin, C-H., McAfee, J.G. and Patton, J.G. (1997) Mutation of PTB Binding Sites Causes Misregulation of Alternative 3' Splice Site Selection In Vivo. *RNA* 3: 764-778.

Patton, J.G., Dye, B.T., Barnard, D.C., and McAfee, J.G. (1997) Identification of pre-mRNA splicing factors and analysis of RNA-protein interaction. in mRNA Formation and Function, Richter, J.D., ed. Academic Press. pp. 55-78.

Perez, I., McAfee, J.G., and Patton, J.G. (1997) Multiple RRM Domains Contribute to RNA Binding Specificity for Polypyrimidine Tract Binding Protein. *Biochemistry* 36: 11881-11890.

Buvoli, M., Mayer, S.A., and Patton, J.G. (1997) Functional Crosstalk Between Exon Enhancers, Polypyrimidine Tracts, and Branch Point Sequences. *EMBO J.* 16: 7174-7183.

Dye, B.T., Buvoli, M., Mayer, S.A., Lin, C-H., and Patton, J.G. (1998) Enhancer Elements Activate the Weak 3' Splice Site of  $\alpha$ -Tropomyosin Exon 2. *RNA* 4: 1-14.

Chanas-Sacre, G., Mazy-Servais, C., Wattiez, R., Pirard, S., Rogister, B., Patton, J.G., Belachew, S., Malgrange, B., Moonen, G. and Leprince, P. (1999) Identification of PSF, the Polypyrimidine Tract Binding Protein-Associated Splicing Factor, as a developmentally regulated neuronal protein. *J. Neuroscience Res.* 57: 62-73.

Coolidge, C.J. and Patton, J.G. (2000) Regulation of Cell Growth by Double Stranded RNA Binding Proteins. *Nucleic Acids Research* 28: 1407-1417.

Barnard, D.C. and Patton, J.G. (2000) Identification of a serine-arginine rich protein that antagonizes the effect of SR proteins on alternative splice site selection. *Molecular and Cellular Biology* 20: 3049-3057.

Dye, B.T. and Patton, J.G. (2001) The pre-mRNA splicing factor PSF contains two nuclear localization signals and requires RRM2 for localization to nuclear speckles. *Experimental Cell Research* 263: 131-144.

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Shav-Tal, Y., Cohen, M., Dye, B., Patton, J.G., Vandekerckhove, J., and Zipori, D., (2001) Nuclear re-localization of the pre-mRNA splicing factor PSF during apoptosis involves hyperphosphorylation, masking of antigenic epitopes, and changes in protein interactions. *Molecular Biology of the Cell* 12: 2328-2340.

Barnard, D.C., Li, J., Peng, R., and Patton, J.G. (2002) Regulation of alternative splicing by SRp86 through coactivation and repression of specific SR proteins. *RNA* 8: 526-533.

Peng, R., Dye, B.T., Perez, I., Barnard, D.C., Thompson, A.B., and Patton, J.G. (2002) PSF and p54<sup>nrb</sup> bind a conserved stem in U5 snRNA. *RNA* 8: 1334-1347.

Li, J., Barnard, D.C., and Patton, J.G. (2002) A unique glutamic acid-lysine (EK) domain acts as a splicing inhibitor. *J. Biol. Chem.* 277: 39485-39492.

Ryther, R.C.C., McGuinness, L.M., Phillips, J.A. III, Moseley, C.T., Magoulas, C.B., Robinson, I.C.A.F., and Patton, J.G. (2003) Disruption of Exon Definition Produces a Dominant Negative Growth Hormone Isoform that Causes Somatotroph Death and IGHD II. *Human Genetics* 113: 140-148.

Li, J., Hawkins, I.C., Harvey, C.D., Jennings, J.L., Link, A.J., and Patton, J.G. (2003) Regulation of alternative splicing by SRp86 and its interacting proteins. *Molecular and Cellular Biology*, 23: 7437-7447.

Zolotukhin, A.S., Michalowski, D., Bear, J., Smulevitch, S.V., Traish, A.M., Peng, R., Patton, J.G., Shatsky, I.N., and Felber, B.K., (2003) PSF acts through the HIV-1 mRNA instability elements to regulate virus expression. *Molecular and Cellular Biology*, 23: 6618-6630.

Ryther, R.C.C., Flynt, A.S., Harris, B. D., Phillips, J.A. III, and Patton, J.G., (2004) Splicing of GH1 is regulated by multiple enhancers whose mutation produces a dominant-negative GH isoform that can be degraded by allele-specific siRNA. *Endocrinology*, 145: 2988-2996.

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Ryther, R.C.C., Flynt, A.S., Phillips, J.A. III, and Patton, J.G. (2004) siRNA Therapeutics; Big potential from small RNAs. *Gene Therapy*, 12: 5-11.

Shav-Tal, Y., Blechman, J., Darzacq, X., Montagna, C., Dye, B.T., Patton, J.G., Singer, R.H., and Zipori, D. (2005) Dynamic sorting of nuclear components into distinct nucleolar caps during transcription inhibition. *Molecular Biology of the Cell*, 16: 2395-2413.

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Crawford, J.B. and Patton, J.G. (2006) Activation of  $\alpha$ -tropomyosin exon 2 is regulated by the SR protein 9G8 and heterogeneous nuclear ribonucleoproteins H and F. *Molecular and Cellular Biology*, 26: 8791-8802.

Flynt, A.S., Thatcher, E.J., Li, N, Solnica-Krezel, L., and Patton, J.G. (2006) Zebrafish miR-214 modulates Hedgehog signaling to specify muscle cell fate. *Nature Genetics*, 39:259-263. (See News and Views perspective by Philip Ingham, *Nature Genetics* 39: 145-146.)

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Solis, A.S., Shariat, N., and Patton, J.G. (2007) Splicing Fidelity, Enhancers, and Disease. *Frontiers in Science* 13: 1926-1942.

Shariat, N., Ryther, R.C.C., Robinson, I.C.A.F., Phillips III, J.A., and Patton, J.G. (2008) Genetic Rescue of Murine IGHD II by Delivery of Short Hairpin RNAs. *Endocrinology*, 149: 580-586.

Shariat, N., Holladay, C.D., Cleary, R.K., Phillips III, J.A., and Patton, J.G. (2008) Isolated Growth Hormone Deficiency Caused by A Point Mutation that Alters Both Splice Site Strength and Splicing Enhancer Function. *Clinical Genetics*, 74:539-545 .

Thatcher, E.J., Bond, J., Paydar, I., and Patton, J.G. (2008) Genomic Organization of Zebrafish microRNAs. *BMC Genomics*, 9:253; [www.biomedcentral.com/content/pdf/1471-2164-9-253.pdf](http://www.biomedcentral.com/content/pdf/1471-2164-9-253.pdf).

Li, N., Flynt, A.S., Kim, H.R., Solnica-Krezel, L., and Patton, J.G. (2008) *Dispatched 2* is Targeted by *miR-214* through a Combination of Three Weak MicroRNA Recognition Sites. *Nucleic Acids Research* 36: 4277-4285.

Solis, A.S, Peng, R., Crawford, J.B., Phillips, J.A. III, and Patton J.G. (2008) Growth Hormone Deficiency and Splicing Fidelity: ASF/SF2 activates exon inclusion and SC35 promotes exon skipping. *J. Biol. Chem.* 283: 23619-23626.

Thatcher, E.J., Paydar, I., Anderson, K.A., and Patton, J.G. (2008) Regulation of zebra fish fin regeneration by miRNAs. *PNAS* 105: 18384-18389.

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Flynt, A.S., Thatcher, E.J., and Patton, J.G. (2009) RNA Interference and MicroRNAs in Zebrafish. In *Regulation of Gene Expression by Small RNAs*, Rossi, J.J. and Gaur, R. editors. CRC Press.

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Hamid, R. Phillips, J.A. III, Holladay, C., Cogan, J.D., Austin, E., Backeljauw, P.F., Travers, S.H., Chernausek, S.D., and Patton, J.G., (2009) A Molecular Basis of Variation in Clinical Severity of Isolated Growth Hormone Deficiency Type II. *J. Clinical Endocrinology and Metabolism*, 94: 4728-4734.

Olena, A.F, and Patton, J.G. (2010) Genomic Organization of microRNAs. *J. Cell. Physiology*, 222: 540-545.

Solis, A.S. and Patton, J.G. (2010) Analysis of SRp86 regulated alternative splicing: control of c-Jun and IkbB activity. *RNA Biology*, 7: 486-494

Flynt, A.S. and Patton, J.G. (2010) Crosstalk between Planar Cell Polarity Signaling and miR-8 control of NHERF1-mediated Actin Reorganization. *Cell Cycle*, 9:2, 1-3.

Thatcher, E.J. and Patton, J.G. (2010) Small RNAs have a big impact on regeneration. *RNA Biology* 7: 1-6.

Li, N., Wei, C. and Patton, J.G. (2011) Regulation of Endoderm Formation and Left-Right Asymmetry by *miR-92* During Early Zebrafish Development. *Development*, 138: 1817.

Wei, C., Salichos, L., Rokas, A., and Patton, J.G. (2012) Transcriptome-wide analysis of small RNA expression in early zebrafish development. *RNA* 18: 915-926.

Wei, C., Thatcher, E.J., Olena, A.F., Perdigoto, A.L., Marshall A., Carter, B.D., Broadie, K., and Patton, J.G., (2013) *miR-153* regulates SNAP-25, Synaptic Transmission, and Neuronal Development. *PLOS One* 8: e57080.

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Olena, A. F. and Patton, J.G. (2014) microRNA Biogenesis and Function. in *MicroRNA in Development and in the Progression of Cancer*. Singh, S.R. and Rameshwar, P., editors, Springer Press.

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Cha, D.J., Franklin, J.L. Dou, Y., Liu, Q., Higginbotham, J.N., Demory Beckler, M., Weaver, A.M., Vickers, K., Prasad, N., Levy, S., Zhang, B., Coffey, R.J., and Patton, J.G., (2015) *KRAS*-Dependent Sorting of miRNA to Exosomes. *eLife*, 2015; 4:e07197. DOI: 10.7554/eLife.07197

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Rao, M., Didiano, D., and Patton J.G. (2016) Initiation of Retinal Regeneration by a Conserved Mechanism of Adult Neurogenesis. *Stem Cell Reports*, 8: 1-12.  
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down regulated by mutant KRAS in colon cancer and can be transferred to exosomes. Scientific Reports 6:37982 DOI: 10.1038/srep37982.

Kara, N., Wei, C., Commanday, A., and Patton, J.G. (2016) miR-27 regulates chondrogenesis by suppressing Focal Adhesion Kinase during pharyngeal arch development. Developmental Biology, in press.

Pinhal, D., Bovolenta, L., Moxon, S., Oliveira, A., Nachtigall, P., Acencio, M., Patton, J.G., Hilsdorf, A., Lemke, N., and Martins, C., (2016) Genome-wide characterization of Nile Tilapia Microome reveals sex-biased arm switching, pervasive transcription of isoMirs, and increasing complexity of microRNA expression during development. Submitted.

### **Classroom Teaching**

#### **Current Assignments:**

**BSCI 110A** Introduction to Biological Sciences. First semester of Introductory Biology. Lectures covering the central dogma of molecular biology during fall semester. ~200 students, 3 credit hours.

**BSCI 296** Honors Research in Biological Sciences. Undergraduate Honors Research. I serve as the **Director of the Honors Program** in Biological Sciences. 8-12 credits, Fall and Spring, ~14 students.

**IGP 300A,B** Bioregulation. Interdisciplinary Graduate Program. Introductory course for first year graduate students in the biomedical sciences. I serve as the **program director, curriculum director, and course director**. I teach RNA Biology in the Gene Expression section in the Fall. 68 students; 6 credit hours.

**IGP 300A FOCUS**. Interdisciplinary Graduate Program. FOCUS sessions are weekly small group discussion sections teaching first year graduate students how to read and critically evaluate the primary literature. I serve as the course coordinator. Weekly, fall semester, 10 students per section, 2 credit hours.

**IGP 300A IMPACT**. Interdisciplinary Graduate Program. IMPACT sessions are weekly mentoring sessions for first year students. I serve as the course coordinator.

**IGP 303** Responsible Conduct in Research. This is a required day-long class for all Vanderbilt biomedical graduate students. I serve as the course director/coordinator. 200 students.

**IGP 300B RNA World**. Spring semester module elective for graduate students. Co-taught with Dr. Ron Emeson. 18 students, 1 credit.

**MSCI 524-5003** Molecular Medicine. Masters in Clinical Investigation first year course. 2 lectures, 20 students.

#### **Past Assignments:**

BCHM 5015 Advanced Biochemistry. A 3 credit biochemistry course taught to a select group of advanced first year medical students. I taught 6 lectures on RNA processing in the Fall. 20 students.

MBIO 115 Freshman Seminar: Molecular Biology of AIDS. A three credit Science and the World class taught in a seminar format covering the immunology and molecular biology of HIV/AIDS. I designed the course from scratch and taught all lectures. Fall, 1993-1995; 42 lectures.

MBIO 258 Human Physiology. A three credit team taught class for juniors and seniors. Spring, 1993; 8 lectures on the endocrine system.

MBIO 301 Laboratory Methods in Molecular Biology. An intense three credit summer laboratory course for Masters candidates in the Vanderbilt Summer Institute in the Biological Sciences. I designed the course from scratch and personally lectured or led 18 lab sessions. Taught in the summer of 1994.

MBIO 240 Developmental Biology. A three credit class taught spring semester, 1995-1996; 21 lectures on gene regulation and development.

HONORS 183 HIV/AIDS: Science and Society. A three credit Honors Seminar modeled after MBio 115. Spring, 1996-1999; 42 lectures.

MBIO 282. Independent Reading in Molecular Biology. Course coordinator for students reading with various Molecular Biology Faculty. Responsible for final oral exams.

BSCI 320 Graduate Seminar in Biological Sciences. Course coordinator. Spring. 1999-2002

## **Research Training**

### **Undergraduate Research Trainees**

#### **Past Students**

Anderson B. Collier, B.A., 1994, MD, 1998. Honors research. Vanderbilt Medical.

Dawn Gupta, B.A., 1995. Honors research. Ph.D., Washington University, 2001.

Regina Barrett, B.A., 1995. Honors research. University of Alabama, Birmingham School of Medicine.

Michael Jacobs, B.A. 1996. Honors research. Duke University School of Medicine.

Jay Parrish, B.A. 1998. Directed, Independent, and Honors Research. Ph.D., University of Colorado, Boulder, 2003. **Winner of the Harold Weintraub Graduate Student Award, 2002.** Current position, Assistant Professor, University of Washington.

Wendy Ertmer, B.A. 1999. Directed, Independent, and Honors Research. J.D., Vanderbilt Law School, 2003.

Chris Nalbantyan, B.A. 2001. Directed Research.

Christian Gocke, B.A. 2001. Directed, Independent and Honors Research. MSTP, UT Southwestern Medical School, Dallas.

Brian Griffith, B.A. 2001. Directed and Independent Research. Duke University Medical School.

Amanda Thompson, B.A. 2003. Directed and Independent Research. Vanderbilt Medical School.

Christopher Harvey, B.S. 2003. Directed, Independent and Honors Research. Assistant Professor of Neurobiology, Harvard Medical School.

Bryan Harris, B.A, 2005. Directed, Independent and Honors Research. Vanderbilt Medical School.

Eric Byrum, B.A. 2004. Directed and Independent Research. Ohio State Medical School.

Melissa Germany, B.A. 2005. Directed and Independent Research. Ole Miss Medical School.

Carmen Wolffe, B.A. 2005. Directed and Independent Research. Vanderbilt Medical School.

Allison Ray, Directed and Independent Research, 2006-2008.

Allison Button, Directed Research, 2006-2007.

Jordan Bond, Directed Research, 2007-2008

Jacqueline Palma, B.A. 2008-2009. Directed and Independent Research. Arizona School of Dentistry.

Ima Paydar, Directed, Independent and Honors Research, 2004-2008. Washington University School of Medicine

Ryan Cleary, Directed and Independent Research, 2005-2008. University of Kentucky School of Medicine

Courtney Bartel, Directed and Independent Research, 2005-2010. MSTP, Case Western Reserve University

Nila Manandhar, Directed and Independent Research, 2009-10. University of Missouri School of Medicine.

Lora Aboulmouna, Directed Research, 2008-2009.

Andrew Marshall, Directed and Independent Research, 2008-11.

Brittany Cowfer, Directed and Independent Research 2010-11. University of Colorado School of Medicine.

Carli Wittgrove, Directed and Independent Research, 2010-11. University of Missouri Medical School.

Grace Coggins, Directed and Independent Research 2011-2014. Graduate Student, University of Pennsylvania.

Emily Summerbell, Directed and Independent Research 2011-2014. Graduate student, Emory University.

Grace Randazzo, Directed Research, 2012-2014

Alexander Commanday, Directed Research 2013-2015. Baylor College of Medicine.

Anna Zhao, Directed, Independent and Honors Research 2013-2016. Harvard Medical School.

### **Current Students**

Calvin Yang, Directed, Independent Research, 2015-

Lihua Shu, Directed, Independent Research, 2015-

Jinwei Ren, Directed Research 2016-

Hannah Cutshall, Directed Research, 2016-

### **Graduate Students**

#### **Past:**

Chorng-Horng Lin, 1994-1998. Ph.D. Current position, Dayeh University, Taiwan.

Ismael Perez, 1994-1998. Ph.D. Current position, High school science teacher, Abu Dhabi.

Ray Seely, 1995-1999. M.A. Current position, Department of Biology, Belmont University.

Candace Coolidge, 1994-1999. Ph.D. Current position, Professor, Valencia Community College, Florida.

Daron Barnard, 1996-2001. Ph.D. Current position, Associate Professor, Worcester State College, Massachusetts

Billy Dye, 1996-2001. Ph.D. Current position, Professor, Vol State Community College, Gallatin, TN.

Jun Li, 1999-2003. Ph.D. Current position, R&D Systems, Minneapolis, MN

Robin Ryther, 2001-2005. M.D., Ph.D. Current Position, Department of Pediatrics,  
Washington University, St. Louis  
Rui Peng, 2000-2006. Ph.D. Current position, Associate Professor, Soochow Univ., Suzhou,  
Jiangsu, China.  
Barry Crawford, 2001-2007. Ph.D. Current position, Pharmasys, Inc., Cary, NC.  
Ian Hawkins, 2002-2006. M.A. Current position, Assistant Professor, Free Will Baptist College,  
Nashville, TN.  
Alex Flynt, 2003-2007. Ph.D. Current position, Assistant Professor, University of Southern  
Mississippi.  
Nikki Shariat, 2004-2008. Ph.D. Current position, Assistant Professor, Gettysburg College.  
Amanda Solis, 2006-2010, Current position, Patent Agent, Parker Highlander, Austin TX.  
Elizabeth Thatcher, 2004-2010, Current position, post-doctoral fellow with Dr. Doug  
Golenbock, University of Massachusetts Medical School  
Nan Li, 2004-2010, Current position, Assistant Professor, Sichuan University  
Chunyao Wei, 2008-2013. Current position, post-doctoral fellow with Dr. Jeannie Lee, Harvard  
Medical School  
Kamya Rajaram, 2009-2014. Current position, post-doctoral fellow with Dr. Slobodan  
Beronja, Fred Hutchinson Cancer Research Center  
Omozusi Andrews, 2012-2014. Current position, post-doctoral fellow with Dr. Anthony  
Fauci, National Institutes of Health.  
Abigail Olena, 2008-2015, Ph.D. Current position, Duke Science and Society Program  
Satarae Khuansuwan, 2009-2015, Ph.D. Current position, post doctoral fellow with Dr. Jeff  
Bronstein, UCLA.  
Mahesh Rao, 2011-2016, Ph.D. Current position, post-doctoral fellow with Dr. Ed Levine,  
Vanderbilt Medical Center.

**Current:**

Diana Cha, 2012-present  
Nergis Kara, 2012-present  
Matthew Kent, 2015-present  
Scott Hinger, 2015-present

**Post-Doctoral Fellows**

James McAfee, 1996-1997. Current position, Professor of Chemistry, Pittsburg State  
University, Pittsburg, KS.

**Research Assistant Professor**

Dominic Didiano, 2015-current.

**Invited Lectures and Research Seminars Outside Vanderbilt**

1993 Mayo Clinic, Department of Molecular Biology and Biochemistry.  
1995 University of South Carolina, Departments of Biochemistry and Pathology.  
1995 European Research Conference. Molecular Biology of RNA. Mont Ste Odile, France.  
1996 RNA Society Meeting. Madison, WI.  
1997 RNA Society Meeting. Banff, Alberta, Canada  
1997 RNA Society Meeting. Banff, Alberta, Canada  
1998 RNA Society Meeting, Madison, WI  
1998 Minisymposium Organizer, RNA Society Meeting, Madison, WI.  
1999 Cold Spring Harbor Meeting on RNA Processing, Cold Spring Harbor, NY.

1999 Medical College of Wisconsin, Department of Microbiology and Molecular Genetics.  
2000 Cold Spring Harbor Laboratory Meeting; Eukaryotic RNA Processing, Cold Spring Harbor, NY.  
2000 Georgia State University, Department of Biology  
2001 Mayo Research Forum, Rochester, MN  
2001 RNA Society Meeting, Banff Alberta, Canada.  
2003 University of Kentucky Medical School, Lexington, KY  
2003 American Society for Biochemistry and Molecular Biology, San Diego, CA.  
2003. RNA Society Meeting, Vienna, Austria  
2004 University of Arizona, Department of Molecular and Cellular Biology  
2004 Tennessee State University, Department of Biology  
2004 Meharry Medical School, Department of Microbiology  
2005 University of West Virginia, Department of Biochemistry  
2005 Keystone Conference on microRNAs and RNAi, Vancouver, Canada  
2006 Cold Spring Harbor Symposium on Regulatory RNAs, Cold Spring Harbor, NY  
2006 Department of Biochemistry, Vanderbilt University  
2007 Department of Biochemistry and Molecular Biology, Penn State University  
2007 Department of Human Genetics, Vanderbilt University  
2008 Department of Cell and Developmental Biology, Vanderbilt University  
2008 Department of Microbiology and Immunology, Vanderbilt University  
2008 Department of Microbiology and Molecular Genetics, Michigan State University  
2008 Drug Information Association Annual Meeting, Boston, MA  
2008 The Robert E. Forster Lecture, Respiration Research Retreat, University of Pennsylvania School of Medicine, Institute for Environmental Medicine  
2008 Department of Pathology, Vanderbilt University  
2009 Society of Toxicology Annual Meeting, Baltimore, Plenary Session: miRNAs in Biology and Toxicology  
2009 Experimental Biology 2009 (FASEB), Plenary Session: The Emerging Role of miRNAs  
2010 Symposium on Basement Membranes in Tissue Development and Regeneration, Vanderbilt University  
2010 Vanderbilt Center for Stem Cell Biology  
2011 Vanderbilt Department of Cell and Developmental Biology  
2013 exRNA Consortium, Bethesda, MD  
2014 Carleton College, Department of Biology, Northfield MN  
2014 Mayo Clinic, Department of Biochemistry and Molecular Biology, Rochester, MN  
2014 St. Olaf College, Department of Biology, Northfield MN  
2014 exRNA Consortium, Bethesda, MD  
2014 University of St. Thomas, Departments of Biology and Chemistry, St. Paul, MN  
2014 Department of Ophthalmology and Visual Sciences, Vanderbilt University  
2015 exRNA Consortium, Bethesda, MD  
2015 Department of Biological Sciences, Lipscomb University, Nashville, TN  
2016 exRNA Consortium, April, Bethesda, MD  
2016 Extracellular RNA in Drug and Diagnostic Development, Boston, MA  
2016 miRNAs During Zebrafish Development and Regeneration, Meharry Medical School, Nashville, TN  
2016 Extracellular RNA Consortium, November, Bethesda, MD

Ph.D. Committees:

Past:

Keri Merritt, Department of Molecular Biology  
Brian Keplinger, Department of Molecular Biology  
Colleen Burns, Department of Pharmacology  
Jiunn-Lin Wang, Department of Molecular Biology  
Susan Reuter, Department of Pharmacology  
Mehmet Goral, Department of Microbiology and Immunology  
Chorng-Horng Lin, Department of Molecular Biology (Mentor)  
Sara Perlaky, Department of Molecular Biology (Chair)  
Lily Milam, Department of Molecular Biology  
Ismael Perez, Department of Molecular Biology (Mentor)  
DeAnne Olsen, Department of Molecular Biology (Chair)  
Ray Seely, Department of Molecular Biology (Mentor)  
Todd Reynolds, Department of Molecular Biology  
Candace Coolidge, Department of Molecular Biology (Mentor).  
Po-Yung Cheng, Department of Biochemistry  
Eleanor Sandstead McCarthy, Department of Biochemistry  
Kim Fekany, Department of Molecular Biology (Chair)  
Michele Grundy, Department of Microbiology and Immunology  
Daron Barnard, Department of Molecular Biology (Mentor)  
Amy Altman, Department of Molecular Biology (Chair).  
Geoff Burns, Department of Cell Biology.  
Billy Dye, Department of Molecular Biology (Mentor).  
Maciej Pawlak, Department of Microbiology and Immunology.  
Dina Meyers, Department of Molecular Biology (Chair)  
Erica White, Department of Microbiology and Immunology  
Amy Sims, Department of Microbiology and Immunology  
Renaë Dawson, Department of Pharmacology  
Michelle Becker, Department of Microbiology and Immunology  
Mike Marlow, Department of Molecular Biology  
Daewoong Jo, Department of Microbiology and Immunology  
Chris Rogers, Department of Pharmacology  
Chris Sansam, Department of Pharmacology  
Walt Gall, Department of Molecular Biology  
Melanie Wright, Department of Cell Biology  
Renaë Combs, Department of Molecular Physiology and Biophysics  
Andrea Patten, Department of Biological Sciences  
Robin Ryther, Department of Biological Sciences (Mentor)  
Rui Peng, Department of Biological Sciences  
Robin Milley, Department of Microbiology and Immunology  
Steven Gray, Department of Biological Sciences  
Barry Crawford, Department of Biological Sciences (Mentor)  
Ian Hawkins, Department of Biological Sciences (Mentor)  
Jing Xiao, Department of Biological Sciences  
Hilyna Gebre-Amlak, Department of Microbiology and Immunology  
Josh Rosenberg, Department of Cell and Developmental Biology  
Alex Flynt, Department of Biological Sciences (Mentor)  
Atuhani Burnett, Department of Microbiology and Immunology  
Vince Gerbasi, Department of Microbiology and Immunology

Hanjian Liu, Department of Biological Sciences  
Mike Morabito, Department of Pharmacology  
Nikki Shariat, Department of Biological Sciences (Mentor)  
Ginger Jiang, Department of Biological Sciences (Chair)  
Hong Ji, Department of Biological Sciences  
Brandon Kirby, Department of Biological Sciences (Chair)  
Hanjian Liu, Department of Biological Sciences  
Amanda Solis, Department of Biological Sciences (Mentor)  
A'Drian Pineda, Department of Biological Sciences  
Elizabeth Rula, Department of Pharmacology  
Eric Shows, Department of Cell and Developmental Biology  
Yuanfeng Xia, Neuroscience Program  
Xiaohua Jiang, Department of Biological Sciences (Chair)  
Kavitha Surendran, Department of Biological Sciences (Chair)  
Elizabeth Thatcher, Department of Biological Sciences (Mentor)  
Patrick Robertson, Department of Biological Sciences (Chair)  
Jeanne Bristow, Department of Biological Sciences (Chair)  
Nan Li, Department of Biological Sciences (Mentor)  
Huang Hao, Department of Biological Sciences (Chair)  
Jennell Talley, Department of Biological Sciences  
Haiting Ma, Department of Biological Sciences (Chair)  
Morgan Sammons, Department of Biological Sciences  
Gulfem Guler, Department of Biological Sciences (Chair)  
Yinzi Liu, Department of Biological Sciences (Chair)  
Chun Yao Wei, Department of Biological Sciences (Mentor)  
Tessy Sebastian, Department of Biological Sciences (Chair)  
Jenifer Ferguson, Department of Biological Sciences  
Ryan Baldrige, Department of Biological Sciences  
Josh Clanton, Department of Biological Sciences  
Sarah Parker, Department of Microbiology and Immunology  
Brent Livesay, Department of Cell and Developmental Biology  
Yuantai Wu, Department of Biological Sciences (Chair)  
Abby Olena, Department of Biological Sciences (Mentor)  
Kamya Rajaram, Department of Biological Sciences (Mentor)  
Omozusi Andrews, Department of Biological Sciences (Mentor)  
Clare Adams, Department of Pathology  
Clint Bertram, Department of Cancer Biology  
Mahesh Rao, Department of Biological Sciences (Mentor)

Current:

Diana Cha, Department of Biological Sciences (Mentor)  
Nergis Kara, Department of Biological Sciences (Mentor)  
Graham Richardson, Department of Cell and Developmental Biology  
Elizabeth Ferrick, Department of Molecular Physiology and Biophysics  
Will Lewis, Department of Cell and Developmental Biology  
Xiong Jing, Department of Biological Sciences  
Carrie Wiese, Department of Molecular Physiology and Biophysics



Haley Eidem, Department of Biological Sciences  
Amanda Leung, Department of Cell and Developmental Biology  
Scott Hinger, Department of Biological Sciences (Mentor)  
Matthew Kent, Department of Biological Sciences (Mentor)