

## Rebecca D. Burdine, Ph.D.

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### Education

- 1990-1997     **Ph.D., M.Phil.**  
Department of Cell Biology  
Yale University School of Medicine  
New Haven, CT
- 1987-1990     **B.S.**  
Recombinant Genetics Technology Major, Chemistry Minor  
Graduate *Summa cum laude*  
Western Kentucky University  
Bowling Green, KY

### Research and Professional Experience

- 2013-present   **Associate Professor**
- 2003-2013     **Assistant Professor**  
Princeton University  
Department of Molecular Biology
- 1998-2002     **Postdoctoral Research**  
Left-right axis formation and patterning in the vertebrate embryo.  
Dr. Alexander F. Schier, advisor  
Developmental Genetics Program, Skirball Institute of Biomolecular Medicine  
New York University School of Medicine
- 1997-1998     **Postdoctoral Research**  
Dr. Michael J. Stern, advisor  
Department of Genetics, Yale University School of Medicine
- 1994-1997     **Graduate Research**  
Analysis of *egl-17* encoded FGF and the role of FGF signaling in *Caenorhabditis elegans* sex  
myoblast migration  
Dr. Michael J. Stern, thesis advisor  
Department of Genetics, Yale University School of Medicine
- 1991-1994     **Graduate Research**  
Replication of Vesicular Stomatitis Virus From a cDNA Clone  
Dr. John K. Rose, thesis advisor  
Department of Cell Biology and Pathology, Yale University School of Medicine

### Research Interests

The genetics of left-right axis determination in zebrafish; asymmetric organ morphogenesis; congenital heart defects; Primary Ciliary Dyskinesia; zebrafish pronephric development; pronephric cyst formation in zebrafish; polycystic kidney disease; function of cilia in development and disease; left-right patterning of the brain; development of the nervous system

### **Honors and Awards**

National Academies Education Fellow in the Life Science	2013-2014
Appointed to the Editorial Board, <i>Cell Reports</i>	2012
Invited Speaker for Yale University Biology Alumni Reunion	2012
Invited Speaker for NICHD National Advisory Meeting as an ARRA Success Story	2011
44 <sup>th</sup> Mallinckrodt Scholar, Edward Mallinckrodt Jr. Foundation	2003
Scientist Development Award, American Heart Association	2003
Santa Cruz Developmental Biology Meeting: Poster Competition Winner	2002
American Heart Association Postdoctoral Fellowship	2001
59 <sup>th</sup> Society for Developmental Biology Meeting: Poster Competition Honorable Mention	2000
Selected speaker Yale Graduate Student Research Symposium	1997
Anna Fuller Fund Fellowship in Molecular Oncology	1997
Howard Hughes Medical Institute Predoctoral Fellow	1991
Graduate <i>Summa cum laude</i>	1990
President, Association of Undergraduate Geneticists, Western Kentucky University	1989-1990
Department of Biology Scholarship, Western Kentucky University	1989
Phi Eta Sigma Honor Society (Induction)	1988
President's Honor List (3.8-4.0 GPA), Western Kentucky University	1987-1990
Western Kentucky University Regents Scholarship	1987-1990
Florence and Basil C. Cole Scholarship, Western Kentucky University	1987

### **Professional Associations**

Society for Neuroscience (SFN)	since 2011
American Association for the Advancement of Science (AAAS)	since 2010
American Society of Nephrology (ASN)	since 2008
American Physiological Society (APS)	2006-2009
American Association of Undergraduate Professors (AAUP)	2003-2011
Society for Developmental Biology (SDB)	since 1999
American Society of Cell Biology (ASCB)	since 1995

### **Professional Development**

The National Academies Summer Institutes on Undergraduate Education	2013, 2014
Public Voices Thought Leadership Project, Princeton University, Participant	2011-2012
Oasis II STEM Leadership Program, WISEM Rutgers University, Participant	2009
Professional Grant Development Workshop, Grant Training Center, Participant	2007
Burroughs Wellcome Fund/HHMI Course in Scientific Management, Participant	2002

### **Teaching**

Panel member, McGraw Center, Master Class on Lecturing, Princeton University	2012
Mol348 Cell and Developmental Biology (undergraduate), Princeton University	since 2011
Guest lecturer, McGill University, Graduate course: "Animal Models of Human Disease"	2007
Panel member, McGraw Center, Professor 101, Princeton University	2005
Mol507 Cell and Developmental Biology (graduate), Princeton University	since 2004
Teaching Assistant, EMBO Practical Course: Developmental Genetics	2000
Teaching Assistant, Cell Biology/Histology (medical/graduate) Department of Cell Biology, Yale University School of Medicine	1997
Teaching Assistant, AIDS in Society (undergraduate) Department of Molecular, Cellular, and Developmental Biology, Yale University	1992
Teaching Assistant, Cell Biology/Histology (medical/graduate) Department of Cell Biology, Yale University School of Medicine	1991-1994

### **Educational Outreach**

Panel Discussion for Women in Science, Mathematics, and Engineering, Princeton University	2010
NICHD Scholars Summer Workshop Lecture on Mentoring	2010
Princeton Molecular Biology Outreach Program, TIGER Talk	2005
Princeton Molecular Biology Outreach Program, Summer Workshop Lecture	2003-2011

### **University and Departmental Committees and Service**

Princeton University, Council for Science and Technology	since 2013
Princeton University, Committee on Discipline	since 2013
Princeton University, Institutional Animal Care and Use Committee	since 2013
Molecular Biology Department, Undergraduate Department Representative	since 2012
Princeton University, Undergraduate Advisor and Fellow, Whitman College	since 2007
Molecular Biology Department, Undergraduate Committee	since 2006
Princeton University, Course of Study Committee	for 2013
Princeton University, Faculty Discussion on Gender and Academic Life at Princeton	2010
Princeton University, Liberal Arts at Princeton Panel for Parents	2010
Princeton University, Women in Science Panel for Undergraduates	2010
Molecular Biology Department, Undergraduate Department Representative	2009-2010
Princeton University, Course of Study Committee	2009-2010
Molecular Biology Department, Faculty Advisor for the TEM & Histology Facility	2004-2011
Molecular Biology Department, Graduate Fellowship Committee, Head	2003-2008
Princeton University, Course of Study Committee	2004-2008
Princeton University, Undergraduate Advisor and Fellow, Rockefeller College	2004-2007
Molecular Biology Department, Strategic Committee (Faculty Recruiting/Retention)	2003-2004

### **Service on Extramural Committees, Editorial Boards and Foundations**

Editorial Board, <i>Cell Reports</i>	since 2012
Pitt Hopkins Syndrome Foundation, Chief Science Officer	since 2012
Foundation Angelman Syndrome Therapeutics Australia, Science Advisory Board	since 2011
Faculty of 1000, Faculty Member, Developmental Biology Section	since 2008
Zebrafish TILLING Consortium Advisory Board	since 2008
Foundation for Angelman Syndrome Therapeutics (FAST), Chief Science Officer	since 2008
Invited Participant for NICHD Scientific Vision Development Workshop	2011
NICHD Developmental Biology, Genetics, and Teratology Branch Expert Panel Member	2010
Angelman Syndrome Foundation, Science Advisory Council	2007-2011
New York University Postdoctoral Council	1999-2002

### **Study Section Service**

NIH, NICHD Initial Review Group, Developmental Biology Subcommittee	2012-2018
Review Member Special Emphasis Panel for Zebrafish Research Tools and Techniques	2012
Review Member NSF IOS Animal Development Panel	2012
Review Member NICHD Developmental Basis of Structural Birth Defects P01	2011
Review Member NICHD Special Emphasis Panel for Program Project Review (2 sessions)	2010
Review Member NIDDK PKD Research and Translational Core Centers	2010
Ad Hoc Member NICHD Developmental Biology Subcommittee	2009
Subject Matter Expert, Stage I Review Panel for NIH Challenge Grants	2009
Ad Hoc Member NIGMS Special Emphasis Panel - MBRS Support of Competitive Research	2007
Ad Hoc Member NIDDK Centers for Polycystic Kidney Disease Research Review	2005

### **Other Service Activities**

Society for Developmental Biology Mid-Atlantic meeting: Presentation Judge	2010
Society for Developmental Biology Mid-Atlantic Meeting: Presentation Judge	2009
International Zebrafish Development and Genetics Meeting: Poster Judge	2006
Society for Developmental Biology Mid-Atlantic Meeting: Poster Judge	2006
Annual Biomedical Research Conference for Minority Students (ABRCMS) University and Departmental Representative	2004
Society for Developmental Biology Poster Judge	
Annual Biomedical Research Conference for Minority Students (ABRCMS) University and Departmental Representative	2003
Society for Developmental Biology Poster Judge	

### **Meeting Organization and Chairing Sessions**

International Zebrafish Development and Genetics Conference Organizing Committee	for 2016
Society for Developmental Biology, Mid-Atlantic Meeting Co-organizer	for 2015
International Zebrafish Development and Genetics Conference, Chair	2014
FASEB Summer Conference on the Biology of Cilia and Flagella, Chair	2013
MidAtlantic Regional Zebrafish (MARZ) Meeting, Co-organizer	2013
Strategic Conference for Zebrafish Investigators, Organizing Committee	2013
10 <sup>th</sup> International Zebrafish Development and Genetics Conference Session Chair - Cilia, Cell and Tissue Polarity	2012
Society for Developmental Biology, Mid-Atlantic Meeting Co-organizer	2007
Molecular Biology Departmental Retreat Chair	2004
Molecular Biology Departmental Retreat Vice-Chair	2003

### **Reviewing Activities 2003-2012**

BBA-Gene Structure and Expression, BBSRC, Bioessays, BMC Developmental Biology, Cell, Cell Reports, Cell Research, Cellular Physiology and Biochemistry, Cold Spring Harbor Protocols, Critical Reviews in Oral and Biological Medicine, Current Biology, Development, Development Biology, Developmental Cell, Developmental Dynamics, Disease Models and Mechanisms, Evolution and Development, FEBS Journal, Frontiers in Bioscience, Genes & Development, Genesis, Human Molecular Genetics, Israel Science Foundation, JEZ Part B: Molecular and Developmental Evolution, Journal of the American Society of Nephrology (JASN), Kidney International, Mechanisms of Development, National Science Foundation, Nature Reviews Neuroscience, Nature Genetics, PLoS Genetics, PLoS One, Proceeding of the National Academy (PNAS), Progress in Biophysics and Molecular Biology, Science, Swiss National Science Foundation, Trends in Genetics, U.S.-Israel Binational Science Foundation, Wellcome Trust, Zebrafish

### **Undergraduate Research and Thesis Students**

Courtney Balgobin	Since 2014
Hope Xu, Princeton University	since 2013
Kyeong Rin Kwak, Princeton University	2013-2014
Kristina Ali, Princeton University	2013-2015
Anna Niroomand, Princeton University	2012-2013
Marcus Wong, Princeton University	2012-2013
Thomas An, Princeton University	2012-2013
Candace Korleki Akiti, Princeton University	2012-2013
Stephanie Thomas, Princeton University	2011-2012
Stephen Park, Princeton University	2011-2012
Serafine Chen, Ecology, Evolutionary Biology Department, Princeton University	2010-2012

- Senior Thesis Fund Award from the Dean of the Faculty	
- Current: Research Assistant Standard University	
Rafael Klein-Cloud, Princeton University	2010-2011
- Senior Thesis Fund Award from the Dean of the Faculty	
- Current: M.D. Program; SUNY Downstate College of Medicine	
Stephanie Ivins, Princeton University	2009-2010
- M.S. program; Colorado State University 2010	
- Current: M.D. program University of Iowa Carver College of Medicine	
Amanda Agyemang, Princeton University	2007-2008
- NIH Academy Research Fellow 2008-2010	
- Current: M.D. Program; Albert Einstein College of Medicine	
Stuart Carter, Princeton University	2007-2008
- NJCCR Summer Undergraduate Fellowship	
- Departmental Thesis Prize for Excellence	
- Technician, Department of Defense, Walter Reed Army Institute 2009	
- Current: M.D. Program; University of Pennsylvania	
Tse-Shuen (Jade) Ku, Princeton University	2005-2007
- Departmental Thesis Prize for Excellence	
- Princeton Project 55 Public Health Fellow Trinitas Hospital 2007-2008	
- MMS Masters of Medical Science, Drexel University College of Medicine 2010	
- Current: M.D. Program; UMDNJ-Newark	
David J. Konieczkowski, Princeton University	2004-2006
- Departmental Thesis Prize for Excellence	
- Goldwater Scholar	
- Rotary Scholarship to Oxford University	
- M.St., Roman History, University of Oxford 2007	
- Current: M.D./Ph.D. program; Harvard University	
Maija Garnaas, Princeton University	2005-2006
- IRTA Postbaccalaureate Fellowship, NIH/NCI 2006	
- Technician, Medical College of Wisconsin 2007-2008	
- Current: Ph.D. program; Harvard University	
Jonathan Rosen, Princeton University	2004-2005
- Departmental Thesis Prize for Excellence	
- Current: Ph.D. program; Harvard University	
Heather Robbins, Princeton University	2003-2004
- M.D. Tufts University School of Medicine 2009	
- Current: Residency in Family Medicine, University of Colorado, Denver	

**Howard Hughes Medical Institute Summer Program Undergraduate Students**

Lindsay Bierwert, Hartwick College, NY	2013
Corbin Darling, Morehouse College, GA	2010
Albreia Hall, Fort Valley State University, GA	2010
Samuel Joseph Endicott, William Jewell College, MI	2009
- Current: Ph.D. program; Yale University	
Matthew Howard, University of North Carolina - Chapel Hill	2008
- Current: Ph.D. program; Princeton 2011	
Travonne Gross, Morehouse College, GA	2008
Monica Gutierrez, Fairleigh Dickinson University	2006
- Currently working in Industry	
James McCullough, Colorado University	2006
- Doctor of Pharmacy Program, University of Colorado Health Science Center	
Tiffany Lonchena, Ohio University	2005
- M.D. Temple University School of Medicine 2010	

- Internship at UPMC Mercy

Katya Kupava, Brandeis University 2003

- M.D. Hofstra University

**Princeton Summer Undergraduate Research Experience (PSURE) Students**

Allison Ibarra, University of California Riverside, CA 2014  
 Denarius Frazier, Morehouse College, GA 2012

**High School Volunteers**

Anna Niroomand, The Lawrenceville School, Lawrenceville, NJ 2011-2012

- Princeton University Class of 2016

Abigail Girgis, Stuart Country Day School of the Sacred Heart, Princeton, NJ 2012

**Graduate Students**

Meagan Grant, Princeton University since 2013  
 Jose Pelliccia, Princeton University since 2013  
 Nicholas F.C. Morante, Princeton University since 2013  
 Granton Jindal, Princeton University (Primary advisor – Stanislav Shvartsman) since 2013  
 Denver Jn. Baptiste, Princeton University 2011-2012

- M.S. degree in Molecular Biology
- Current: M.A. program in Clinical Mental Health Counseling, Southern Adventist University

Jason McSheene, Princeton University since 2009

- UNCF/Merck

Jessica Rowland Williams, Princeton University since 2009

- NSF Predoctoral Fellow

Kari Baker Lenhart, Princeton University 2006-2011

- AHA Predoctoral Fellow
- NJCCR Predoctoral Award
- Current: Postdoctoral fellow with Steve DiNardo, University of Pennsylvania

J. Andrew Miri, Princeton University (Primary advisor – David Tank) 2006-2011

- NSF Predoctoral Fellow
- Current: Postdoctoral fellow with Tom Jessell, Columbia University

Christopher Slagle, Princeton University 2005-2011

- NJCCR Predoctoral Award
- Current: Postdoctoral fellow with Frank Conlon, University of North Carolina-Chapel Hill

Shin-Yi Lin, Princeton University 2004-2011

- NSF Predoctoral Fellow
- Christine Mirzayan Graduate Policy Fellowship (Jan-Mar 2011)
- Current: Postdoctoral fellow with Ron Ellis, UMDNJ-Rowan University

Bo Xu, Princeton University 2004-2010

- Current: Statistical Analysis, Capital One Finance

Jodi Schottenfeld, Princeton University 2003-2008

- Postdoctoral fellow with Amin Ghabrial, University of Pennsylvania (2008-2014)
- Current: Visiting Assistant Professor, Cell & Developmental Biology

Jessica Sullivan-Brown, Princeton University 2003-2008

- NJCCR Predoctoral Award
- Princeton Honorary Fellowship
- Postdoctoral fellow with Bob Goldstein, University of North Carolina-Chapel Hill (2008-2014)
- Current: Assistant Professor, West Chester University, PA

### **Postdoctoral Researchers**

Daniel Grimes, current PhD candidate University of Oxford	since 2013
Kimberly M. Jaffe, Princeton University	2008-2011
- AHA Postdoctoral Fellowship	
- NRSA Postdoctoral Fellowship	
- Current: Senior Scientist II, Oncobiologics, Cranbury, NJ	
Arul Subramanian, Princeton University	2006-2007
- Current: Postdoctoral research with Tom Schilling, U.C. Irvine	
Noriko Okabe Tanaka, Princeton University	2005-2008
- Current: Family leave, Japan	

### **Participation on Ph.D. Thesis Committees**

Outside Thesis reader for Michelle M. Collins, McGill University, Aimee Ryan, mentor	2013
Julia Wittes, Princeton University, Trudi Schupbach, mentor	since 2013
Rezma Shrestha, Princeton University, Danelle Devenport, mentor	since 2013
Charles Miller, Princeton University, Jean Schwarzbauer, mentor	since 2013
Evan Abbaszadeh, Princeton University, Elizabeth Gavis, mentor	since 2012
Lauren Anllo, Princeton University, Trudi Schupbach, mentor	since 2012
Halley Mellor, Princeton University, Jonathan Eggenschwiler, mentor	since 2010
Desmond Brown (M.D./Ph.D.), Princeton University, Jonathan Eggenschwiler, mentor	2009-2012
Praveena Joseph-de Saram, Princeton University, Michael Berry, mentor	since 2008
Danielle Snowflack, Princeton University, Elizabeth Gavis, mentor	2007-2012
Outside Thesis reader for Jade Zheng Li, Yale University, Zhaoxia Sun, mentor	2011
Kimberly Poole, Princeton University, Jonathan Eggenschwiler, mentor	2007-2011
Dorothy Lerit, Princeton University, Elizabeth Gavis, mentor	2006-2010
Agata Becalska, Princeton University, Elizabeth Gavis, mentor	2005-2009
Ryan Norman, Princeton University, Jonathan Eggenschwiler, mentor	2005-2010
Jillian Brechbiel, Princeton University, Elizabeth Gavis, mentor	2004-2008
Arhyon Cho, Princeton University, Jonathan Eggenschwiler, mentor	2004-2007
Chris Meighan, Princeton University, Jean Schwarzbauer, mentor	2003-2007

### **Publications**

#### **Since arriving at Princeton**

**Burdine RD** and Caspary T. (2013) Left-right asymmetry: lessons from Cancun. *Development* 140(22):4465-4470  
PMCID: *in progress*

Tarkar A\*, Loges NT\*, Slagle CE\*, Francis, R, Dougherty GW, Tamayo JV, Shook B, Cantino M, Schwartz D, Jahnke C, Olbrich H, Werner C, Raidt J, Pennekamp P, Abouhamed M, Hjeij R, Kohler G, Griese M, Li Y, Lemke K, Klana N, Liu X, Gabriel G, Tobita K, Jaspers M, Morgan LC, Shapiro AJ, Letteboer SJF, Mans DA, Carson JL, Leigh MW, Wolf WE, Chen S, Lucas JS, Onoufriadis A, Plagnol V, Schmidts M, Boldt K, UK10K, Roepman R, Zariwala M, Lo CW, Mitchison HM, Knowles MR, **Burdine RD**, LoTurco J, and Omran H. (2013) DYX1C1 is required for axonemal dynein assembly and ciliary motility. *Nature Genetics* 45(9): 995-1003 PMCID: PMC23872636 \*These authors contributed equally to this study

Park CY, Wong AK, Greene CS, Rowland J, Guan Y, **Burdine RD**, and Troyanskaya O.G. (2013) Functional knowledge transfer for high-accuracy prediction of under-studied biological processes. *PLoS Comput Biol* 9(3):e1002957  
PMCID: PMC3597527

Lenhart KB, Holtzman NG, Williams JR, and **Burdine RD**. (2013) Integration of Nodal and BMP signals in the heart requires FoxH1 to create left-right differences in cell migration rates that direct cardiac asymmetry. *PLoS Genetics* 9(1):e1003109 PMCID: PMC3554567

Panizzi JR, Becker-Heck A, Castleman VH, Al-Mutairi D, Liu Y, Loges NT, Pathak N, Austin-Tse C,

- Sheridan E, Schmidts M, Olbrich H, Werner C, Haffner K, Hellman N, Chodhari R, Gupta A, Kramer-Zucker A, Olale F, **Burdine RD**, Schier AF, O'Callaghan C, Chung EMK, Reinhardt R, Mitchison HM, King SM, Omran H, and Drummond IA. (2012) *CCDC103* mutations cause primary ciliary dyskinesia by disrupting assembly of ciliary dynein arms. *Nature Genetics* **44**(6):714-9 PMID: PMC3371652
- Daily J, Nash K, Jinwal U, Golde T, Rogers J, Peters MM, **Burdine RD**, Dickey C, Banko J, and Weeber EJ. (2011) Adenovirus-mediated rescue of the cognitive defects in a mouse model for Angelman Syndrome. *PLoS One* **6**(12):e27221 PMID: PMC3235088
- Lenhart KB, Lin SY, Titus TA, Postlethwait JH, and **Burdine RD**. (2011) Two additional midline barriers function with midline *lefty1* expression to maintain asymmetric Nodal signaling during left-right axis specification in zebrafish. *Development* **138**(20):4405-10 PMID: PMC3177310
- McSheene JC and **Burdine RD**. (2011) Examining the establishment of cellular axes using intrinsic chirality. *Proc. Natl. Acad. Sci. USA* **108**(30):12191-2 PMID: PMC3145736
- Slagle CE, Aoki T, and **Burdine RD**. (2011) Nodal-dependent mesendoderm specification requires the combinatorial activities of FoxH1 and Eomesodermin. *PLoS Genetics* **7**(5):e1002072 PMID: PMC3102743
- Fogelgren B\*, Lin SY\*, Zuo X, Jaffe KM, Park KM, Reichert RJ, Bell PD, **Burdine RD**, and Lipschutz JH. (2011) The exocyst protein Sec10 interacts with polycystin-2 and knockdown causes PKD phenotypes. *PLoS Genetics* **7**(4):e1001361 PMID: PMC3072367 \*These authors contributed equally to this study
- Sullivan-Brown J, Bisher ME, and **Burdine RD**. (2011) Embedding, serial sectioning and staining of zebrafish embryos using JB-4 resin. *Nat Protoc* **6**(1):46-55 PMID: PMC3122109
- Miri A, Daie K, **Burdine RD**, Aksay E, and Tank DW. (2011) Regression-based identification of behavior-encoding neurons during large scale optical imaging of neural activity at cellular resolution. *J. Neurophysiol.* **105**(2):964-980 PMID: PMC3059183
- Becker-Heck A\*, Zohn IE\*, Okabe N\*, Pollack A\*, Lenhart KB, Sullivan-Brown J, McSheene J, Loges NT, Olbrich H, Haeffner K, Fliegau M, Horvath J, Nielsen KG, Marthin JK, Baktai G, Anderson KV, Geisler R, Niswander L, Omran H, and **Burdine RD**. (2011) The novel coiled-coil domain containing protein CCDC40 is essential for motile cilia function and left-right axis formation. *Nature Genetics* **43**(1):79-84 PMID: PMC3132183 \*These authors contributed equally to this study
- Xu B, Feng X and **Burdine RD**. (2010) Categorical data analysis in experimental biology. *Dev Biol* **348** (1): 3-11 PMID: PMC3021327
- Jaffe KM, Thiberge SY, Bisher ME, and **Burdine RD**. (2010) Imaging cilia in zebrafish. *Methods in Cell Biol.* **97**:415-435 PMID:20719283
- Jaffe KM and **Burdine RD**. (2010) More than maintenance? A role for IFT genes in planar cell polarity. *J. Amer. Soc. Nephrol.* **21**(8):1240-1 PMID:20651164
- Serluca FC\*, Xu B\*, Okabe N, Baker K, Lin SY, Sullivan-Brown J, Konieczkowski DJ, Jaffe KM, Bradner J, Fishman M, and **Burdine RD**. (2009) Mutations in zebrafish leucine-rich repeat-containing six-like affect cilia motility and result in pronephric cysts, but have variable effects on left-right patterning. *Development* **136**(10):1621-31 PMID: PMC2673758 \*These authors contributed equally to this study
- Okabe N, Xu B and **Burdine RD**. (2008) Fluid dynamics in zebrafish Kupffer's vesicle. *Dev Dynamics*, **237**(12):3602-12 PMID: PMC2829604



Baker K, Holtzman NG, and **Burdine RD**. (2008) Direct and indirect roles for Nodal signaling in two axis conversions during asymmetric morphogenesis of the zebrafish heart. *Proc. Natl. Acad. Sci. USA* **105**(37):13924-12929  
PMCID: PMC2544555

Weber S, Taylor JC, Winyard P, Baker KF, Sullivan-Brown J, Schild R, Knüppel T, Zurowska AM, Caldas-Alfonso A, Litwin M, Emre S, Ghiggeri GM, Bakkaloglu A, Mehls O, Antignac C, ESCAPE Network, Schaefer F, and **Burdine RD**. (2008) SIX2 and BMP4 mutations associate with anomalous kidney development *J. Amer. Soc. Nephrol.* **19**(5):891-903 PMCID: PMC2386720

Schoetz EM, **Burdine RD**, Jüelicher F, Steinberg MS, Heisenberg CP, and Foty RA. (2008) Quantitative differences in tissue surface tension influence zebrafish germ layer positioning. *HFSP Journal* **2**(1):42-56 PMCID: PMC2640996  
(Article selected for the *Virtual Journal of Biological Physics Research* **15**(4), 2008)

Sullivan-Brown J, Schottenfeld J, Okabe N, Hostetter CL, Serluca FC, Thiberge SY, and **Burdine RD**. (2008) Zebrafish mutations affecting cilia motility share similar cystic phenotypes and suggest a mechanism of cyst formation that differs from *pkd2* morphants. *Dev Biol* **314**(2):261-275 PMCID: PMC2453220

Fan X, Hagdos EG, Xu B, Sias C, Kawakami K, **Burdine RD**, and Dougan ST. (2007) Nodal signals mediate interactions between the extra-embryonic and embryonic tissues in zebrafish. *Dev Biol* **310**(2):363-378 PMCID: PMC2044568

Schottenfeld J, Sullivan-Brown J, and **Burdine RD**. (2007) Zebrafish *curly up* encodes a *pkd2* ortholog that restricts left-side-specific expression *southpaw*. *Development* **134**(8):1605-1615 PMID:17360770

Lin SY and **Burdine RD**. Brain asymmetry: switching from left to right. *Current Biol* **15**(9):R343-345  
(2005) PMID:15886094

Dutta S, Aspöck G, Dietrich J-E, **Burdine RD**, Schier AF, Westerfield M, and Varga ZM. (2005) *pitx3* defines a Hedgehog regulated equivalence domain for lens and anterior pituitary placode. *Development* **132**(7):1579-1590 PMID:15728669

Hostetter CL, Sullivan-Brown JL, and **Burdine RD**. (2003) The Zebrafish Pronephros: A Model for Understanding Cystic Kidney Disease. *Developmental Dynamics* **228**(3):514-522 PMID:14579389

Goodman SJ, Branda CS, Robinson MK, **Burdine RD**, and Stern MJ. (2003) Alternative splicing affecting a novel domain in the *C. elegans* EGL-15 FGF receptor confers functional specificity. *Development* **130**(16):3757-3766  
PMID:1285392

### **Prior to arriving at Princeton**

dela Cruz JM, Bamford RN, **Burdine RD**, Roessler E, Barkovich AJ, Donnai D, Schier AF, and Muenke M. (2002) A loss-of-function mutation in the CFC domain of *TDGF-1* is associated with human forebrain defects. *Human Genetics* **110**(5):422-428 PMID:12073012

Concha ML<sup>\*</sup>, **Burdine RD**<sup>\*</sup>, Russell C, Schier AF, and Wilson SW. A Nodal signaling pathway regulates the laterality of neuroanatomical asymmetries in the zebrafish forebrain. *Neuron* **28**(2):399-409 (2000) PMID: 11144351  
<sup>\*</sup>These authors contributed equally to this study

Bamford RN, Roessler E<sup>\*</sup>, **Burdine RD**<sup>\*</sup>, Saplakoglu U<sup>\*</sup>, dela Cruz J, Splitt M, Towbin J, Bowers P, Marino B, Schier AF, Shen MM, Muenke M, and Casey B. (2000) Loss of function mutations in the EGF-CFC gene CRYPTIC are associated with human left-right laterality defects. *Nature Genetics* **26**(3):365-369 PMID:11062482 <sup>\*</sup>These authors contributed equally to this study

**Burdine RD** and Schier AF. (2000) Conserved and divergent mechanisms in left-right axis formation. *Genes Dev.* **14**(7):763-776 PMID:10766733

Yan Y-T, Gritsman K, Ding J, **Burdine RD**, Corrales JD, Price SM, Talbot WS, Schier AF, Shen MM. (1999) Conserved requirement for *EGF-CFC* genes in vertebrate left-right axis formation. *Genes Dev.* **13**(19):2527-2537 PMCID: PMC317064

**Burdine RD**, Branda CS, and Stern MJ. (1998) EGL-17(FGF) expression coordinates the attraction of the migrating sex myoblasts with vulval induction in *C. elegans*. *Development* **125**(6):1083-1093 PMID:9463355

**Burdine RD**, Chen EB, Kwok SF and Stern MJ. (1997) *egl-17* encodes an invertebrate fibroblast growth factor family member required specifically for sex myoblast migration in *Caenorhabditis elegans*. *Proc. Natl. Acad. Sci. U.S.A.* **94**(6):2433-2437 PMCID: PMC20105

**Manuscripts submitted or in revision**

Chen H, Henley CL, Xu B, and **Burdine RD**. (2012) Propagating left/right asymmetry in the zebrafish embryo: one-dimensional model. *submitted arxiv.org; to be submitted to Physical Biology*