Susan K. Dutcher
Washington University School of Medicine
Department of Genetics
Department of Cell Biology and Physiology
Curriculum Vitae

Date: March, 2018

1. Personal Information: (optional)
a. Female
b. Denver, CO

2. Citizenship:
USA

3. **Address and Telephone Numbers**:
Office: Couch Research Building, Room 5301; St Louis, MO 63110
314-362-2765
4444 Forest Park, MGI, 5th floor St Louis MO 63108
Home: 6340 Wydown Blvd Clayton, MO 63105
314-863-2715

4. **Present Position**:
Professor of Genetics
Professor of Cell Biology and Physiology
Acting Director, McDonnell Genome Institute

5. Education:

a. Undergraduate:	1970-1974	Colorado College, Colorado Springs
b. Graduate:	1975-1980	University of Washington, Seattle Leland H. Hartwell, advisor
c. Postgraduate	1980-1983	Rockefeller University, New York David J. L. Luck, advisor

6. Academic Positions / Employment:

1983–1984	Adjunct Assistant Professor, The Rockefeller University, New York City, NY
1983–1989	Assistant Professor, Department of Molecular, Cellular, and Developmental Biology, University of Colorado at Boulder, Boulder, CO
1989–1995	Associate Professor, Department of Molecular, Cellular, and Developmental Biology, University of Colorado at Boulder, Boulder, CO
1995–1999	Professor, Department of Molecular, Cellular, and Developmental Biology, University of Colorado at Boulder, Boulder, CO
1995-1996	Visiting Scientist, Fred Hutchinson Cancer Center, Seattle, WA

1999–present	Professor, Department of Genetics, Washington University, School of Medicine, St. Louis, MO
1999–present	Professor, Department of Cell Biology and Physiology, Washington University School of Medicine, St Louis, MO
2006–2009	Interim Chair, Department of Genetics, Washington University School of Medicine, St. Louis, MO
2016-present	Interim Director, McDonnell Genome Institute, Washington University School of Medicine, St. Louis, MO

7. University Appointments and Committees:

University of Colorado 1983–1999

- Search Committee, Department of Chemical Engineering, 1984
- Search Committee, Dean of Libraries, 1987
- Committee on Research and Creative Work, 1990–1993
- Chair, Internal Review Team for Department of Chemistry and Biochemistry, 1990–1991
- Program Director, Graduate Program, MCD Biology 1990–1996
- Committee on Graduate Student Research and Creative Work, 1991–1995
- Dean's Committee on Ph.D. Thesis Sequestration, 1990–1991
- MASP (Minority Students in Arts and Sciences) Advisory Board, 1992–1994
- Advisory Panel to Vice Chancellor for Academic Affairs on Academic Misconduct, 1993–1994
- Member, Internal Review Team for Department of Physics, 1993
- Member, Graduate School Small Grants Award Program, 1994–1995
- MASP, Minority Students in Arts and Sciences, Chair of Advisory Board, 1994–1995
- Executive Advisory Committee, Graduate School, 1996–1998
- Program Review Panel for Graduate Teaching Program, Chair, 1997
- Colorado Commission on Higher Education Fellowship Panel, 1997
- Dean’s Promotion and Tenure Committee, 1998–1999

Washington University at St. Louis 1999–present

- DBBS Molecular Genetics Steering Committee, 2000–2003
- Disclosure Review Committee, 2001–2006
- DBBS Molecular Cell Biology Steering Committee, 2002–present
- DBBS Molecular Genetics Program Director, 2003–2006
- WUSM Department of Genetics Chair Search Committee 2003–2004
- Pre-freshman Summer Scholar’s Selection Committee, 2003-2013
- Promotion and Appointments Committee, Department of Anatomy and Neurobiology, 2005
- Member, Keck Postdoctoral Fellow Selection Committee, 2005-2009
- Summer Scholar Selection Committee, 2005-2012

- Deans' Review Committee on the Basic Sciences, Washington University School of Medicine, 2005–2006
- Member, Keck Postdoctoral Selection Committee, 2005-2010
- Chair, DBBS Program Review, 2006
- Promotion and Appointments Committees: Departments of Anatomy and Neurobiology, Cell Biology and Physiology, Medicine, Molecular Biology and Pharmacology, Molecular Microbiology, Ophthalmology and Visual Sciences, Pediatrics, Psychiatry, Radiology, Surgery, 2006–2009
- Research Integrity Committee, WUSM, 2006-2009
- Chair, Biomedical Informatics Strategic Planning Committee, 2007
- Member, Education Strategic Planning Committee, 2007
- Member, Faculty Achievement Awards Selection Committee, 2007-2009
- Member, Carter and Brooking Medical Student Award Selection Committee, 2007-2011
- Member, Reorganizing Medical Genetics for Medical Students Committee, 2007
- Member, Genes and Population Strategic Planning Committee, 2008
- Chancellor's Institutional Conflict of Interest Committee, Co-Chair, 2008-2009
- Member of Leadership Advisory Board, Center for Biomedical Informatics, 2008-present
- Institutional Conflict of Interest Committee, Vice Chair 2009-2012
- Institutional Conflict of Interest Committee, Chair 2010-2011; 2013-2014
- Member, Department of Medicine Chair Search Committee, 2010-2011
- Member Department of Biomedical Engineering Faculty Search Committee, 2010-2011
- Member, Department of Genetics Faculty Search Committee, 2010-2011
- Member, Monsanto Scholars Selection Committee, DBBS, 2011-2016
- Chair, Carter and Brooking Medical Student Award Selection Committee, 2012-2015
- Member, Department of Genetics Faculty Search Committee, 2012-2013
- Member, Honorary Degree Committee School of Medicine 2011-2013
- Chair, Honorary Degree Committee, School of Medicine 2014-2016
- Member, Distinguished Faculty Award Selection Committee 2011-2012
- Chair, Distinguished Faculty Award Selection Committee 2013-2014
- Member, Junior Faculty Award and Mentoring Committee, 2012-2013
- Member, Department of Genetics Faculty Search Committee, 2012-2013
- Member, School of Engineering, Chair of Biomedical Engineering Search Committee, 2013
- Internal selection committee Rita Allen Scholar's Program. 2013
- Member, Dean's Bridge funding review committee, 2013
- University Honorary Degree Committee, 2013-2015
- Co-Chair, New Investigator Awards Committee, 2014-2018

- Member, Monsanto Endowed professor search committee, Biology, 2014-2015
- Member, Provost's DBBS Assessment Committee, 2014
- Member, ad hoc Promotion and Tenure Committee, Internal Medicine, 2015
- Member, ADVANCE IT NSF grant committee, 2015
- Member, Promotion and Tenure Advisory Committee to the Dean of Engineering, 2015-present
- Siteman Cancer Center Leadership Council, 2016-present
- BJC Investigator Selection Committee, 2016-2018
- DBBS Curriculum Review Committee, 2017-2018
- Task Force for the Advancement of Women at Washington University, 2017
- Department of Genetics Faculty Search Committee, 2017-2018
- Member, External Review Team, Department of Medicine, 2018
- Member, Internal Advisory Board, P20 Disparities, 2018
- Member, K award mentoring committee, 2016-2018
    - Amjad Horani, Pediatrics
    - Megan Good, Pediatrics
    - Alison Antes, Division of General Medical Sciences
- Member, faculty mentoring committee
    - Zach Pincus, Developmental Biology and Genetics, 2016-present
    - Heather Lawson, Genetics, 2017-present
    - Tim Peterson, Medicine, 2018

8. Medical Licensure and Board Certification: None

9. Military Service: None

10. Honors and Awards:

- Bausch and Lomb Science Award, 1968
- L. S. Woods Memorial Scholarship, 1970–1974
- National Institutes of Health Predoctoral Award, 1975–1980
- National Institutes of Health Individual Research Award, 1980–1983
- Jane Coffin Childs Postdoctoral Award, 1980, Declined
- American Cancer Society Postdoctoral Award, 1980, Declined
- Andrew W. Mellon Award, 1982–1983
- Searle Scholar's Award; Chicago Community Trust, 1984–1987
- American Cancer Society Meritorious Research, Colorado Branch, 1991
- NSF Faculty Award to Women Scientists and Engineers, 1991–1995
- Governor's Commendation for Achievement (Colorado), 1992
- University of Colorado Faculty Fellowship, 1995–1996
- William Trager Memorial Award for Outstanding Paper of the Year, Society of Protozoologists, 2004
- Board of Directors, Genetics Society of America, 2005–2008

- Harvey Society Lecture, 2006
- Chair, 12th International Conference on Cell and Molecular Biology of Chlamydomonas, 2006
- Council, American Society of Cell Biology, 2007-2009
- Chair, Gordon Research Conference (Plant and Fungal Cytoskeleton), 2008
- SWIMS recipient; (Spotlight on Women in Medicine and Science), Washington University School of Medicine, 2009
- Co-organizer, EMBO Conference on Centrosomes and Spindle Pole Bodies, 2008, 2011, 2017
- Elected Fellow, American Academy of Arts and Sciences, 2010
- Washington University Distinguished Faculty Award for Mentoring of Junior Faculty, 2017
- Elected Fellow, American Society of Cell Biology, 2017
- Elected Fellow, American Association for the Advancement of Science, 2017
- Washington University Distinguished Investigator Award, 2018

11. Editorial Responsibilities:

- Associate Editor, PLoS Genetics, 2004-present
- Genetics, Associate Editor, 2006–2012
- Genetics, Senior Editor, 2008-2011
- Cytoskeleton, Editorial Board, 2009-present
- Cilia, Editorial Board, 2011-present

12. Professional Societies and Organizations:

- American Society for Cell Biology, 1982–present
- American Society of Nephrology, 2006–present
- Genetics Society of America, 1978–present
- *Ad hoc* Study Section Member:
    - Department of Energy, Division of Biological Research, 1983
    - National Science Foundation, 1988, 1989
    - American Cancer Society, 1989; 1999–2001
    - National Institutes of Health, 1992
    - PKD Foundation, 2004-2007
    - HHMI Canada and Latin American Scholars Research Grants, 2006
    - NIH, Nuclear Dynamics and Transport, 2007
    - NIH, RFA Complex Phenotypes, 2008
    - NIH BRT-A Training Grant Study Section, 2008
    - NCSD Competitive Revision *ARRA* Study Section, 2009
    - BRT Training Grant Study Section 2013
    - Director's Pioneer Award Review Committee, 2013
    - K99/R00 NIGMS Study Section, 2014, 2015, 2016
    - ZRG Special Emphasis Study Section, NIGMS, 2012, 2013, 2014, 2015, 2016
    - R24 Special Study Section, NIDDK, 2016

- NCSD Study Section, 2015
- MIRA R35 Study Section, 2017
- Genome British Columbia, 2017, 2018
- Wellcome Trust Fellow Award, 2018

- Chartered Study Section Member:
  - National Institutes of Health Genetics Study Section, 1993–1997
  - National Institutes of Health Training Grant Study Section, 1998–2002
  - American Cancer Society Cell Growth Study Section, 2002–2006
  - National Institutes of Health Nuclear Dynamics and Transport Study Section, 2008
  - National Institutes of Health Nuclear and Cytoplasmic Dynamics and Structure Study Section, 2009-2012
- Nominating Committee, Genetics Society of America, 1991; 2003
- Early Career Award Selection Committee, ASCB, 2010
- Nominating Committee, American Society of Cell Biology, 2012
- National Research Council / Howard Hughes Predoctoral Fellowship Selection Committee Member, 1994–1995
- National Research Council / Howard Hughes Predoctoral Fellowship Selection Committee, Chair, 1995–1997
- Advisory Committee, Algae as Experimental Systems Meeting, 1994–1995
- DOE-JGI *Chlamydomonas* Genome Annotation Committee, 2003–2004
- Journal *Ad hoc* reviewer:
  - *American Journal of Respiratory Cell and Molecular Biology*
  - *American Journal of Human Genetics*
  - *Anatomical Review*
  - *Developmental Dynamics*
  - *Eukaryotic Cell*
  - *European Journal of Phycology*
  - *Genetics*
  - *G3*
  - *Human Molecular Genetics*
  - *Journal of the American Thoracic Society*
  - *Journal of Biological Chemistry*
  - *Journal of Cell Biology*
  - *Journal of Cell Science*
  - *Mechanisms of Disease*
  - *Molecular and Cellular Biology*
  - *Molecular Biology of the Cell*
  - *Nature*
  - *Nature Cell Biology*
  - *Nature Communications*
  - *Nature Genetics*
  - *Open Biology*
  - *Phycology*
  - *Plant Cell*
  - *Plant Journal*
  - *Trends in Cell Biology*
  - *Trends in Genetics*

- GENEtics newsletter, guest columnist
- ASCB Newsletter, guest columnist
- ASCB Women in Cell Biology Discussion Table Leader, 2004-2014
- Congressional Liaison Committee ASCB Educational Forum: How to talk to your Congressperson, 2008

- Advisory group to authors (Alberts, Johnson, Lewis, Raff, Roberts, Walter) of Molecular Biology of the Cell, 2008
- Keynote speaker, Amgen Summer Scholars Recognition Dinner, 2011, 2012
- Genetics Society of America Organization Committee for the TAGC International Meeting-2020, 2017-2018

13. Major Invited Professorships and Lectureships:

a. National and International Meetings:

1982:

- Gordon Research Conference, Biological Regulatory Mechanisms, Invited Speaker

1983:

- Gordon Research Conference, Developmental Biology, Invited Speaker
- Workshop on Chlamydomonas, Cold Spring Harbor, Invited Speaker

1985:

- 2nd International Meeting on Cell and Molecular Biology of *Chlamydomonas*, Session Chair and Invited Speaker

1986:

- FASEB: Extrachromosomal Elements in Lower Eukaryotes, Invited Speaker

1987:

- Boulder Winter Symposium: Genetics and Molecular Biology of Mitosis (co-organizer)
- Rocky Mountain Biochemistry Conference, Invited Speaker
- Searle Scholar's Meeting, Speaker

1988:

- MacArthur Foundation Workshop on Introduction of DNA into Foreign Cells, Invited Speaker
- 3rd International Meeting on Cell and Molecular Biology of *Chlamydomonas*, Session Chair and Invited Speaker
- ASCB Conference: Algae as Experimental Systems, Invited Speaker

1989:

- ASCB Conference: Chromosome structure and segregation, Invited Speaker

1990:

- Sixth International Congress on Spermatology, Siena Italy, Invited Speaker
- 4th International Meeting on Cell and Molecular Biology of *Chlamydomonas*, Session Chair and Invited Speaker

1992:

- 5th International Meeting on Cell and Molecular Biology of *Chlamydomonas*, Session Chair and Invited Speaker

1993:

- Keystone Conference, Microbial Systems, Invited Speaker

1994:

- 6th International Meeting on Cell and Molecular Biology of *Chlamydomonas*, Session Chair and Invited Speaker
- ASCB minisymposium, Genetic analysis of the cytoskeleton, Chair and Invited Speaker

1996:

- 7th International Meeting on Cell and Molecular Biology of *Chlamydomonas*, Session Chair and Invited Speaker
- Gordon Research Conference, Contractile and Motile Systems, Session Chair and Invited Speaker

1997:

- ASCB Conference, Centrosomes and Spindle Pole Bodies, Session Chair and Invited speaker

1998:

- 8th International Meeting on Cell and Molecular Biology of *Chlamydomonas*, Session Chair and Invited Speaker
- Gordon Research Conference, Contractile and Motile Systems, Session Chair and Invited Speaker

2000:

- 9th International Meeting on Cell and Molecular Biology of *Chlamydomonas*, Session Chair and Invited Speaker

2002:

- EMBL Centrosome and Spindle Pole Body, Invited Speaker
- American Society for Cell Biology, Platform Talk
- 10th International Meeting on Cell and Molecular Biology of *Chlamydomonas*, Session Chair
- Plant and Fungal Cytoskeleton Meeting, Session Chair and Invited Speaker

2003:

- NIH/NICHD Structural Birth Defects, Keynote Speaker
- Hartwell Symposium, Invited Speaker

2004:

- Danforth Plant Science Symposium, Invited Speaker
- Pediatrics Retreat, Washington University School of Medicine, Keynote Speaker
- 11th International Meeting on Cell and Molecular Biology of *Chlamydomonas*, Session Chair, Invited Speaker

2005:

- Gordon Research Conference, Cilia and Mucosal Interactions, Invited Speaker
- US HUPO Symposium, Platform Talk
- Society for Experimental Biology, Cytoskeleton Session, Barcelona, Keynote Speaker
- FASEB, New insights into polycystic kidney disease, Invited Speaker
- EMBL Centrosomes and Spindle Pole Bodies, Heidelberg, Invited Speaker
- Dynein 2005 Workshop, Kobe Japan, Invited Speaker
- Dynamics of Developmental Systems, Tokyo Japan, Invited Speaker

- American Society of Nephrology, Invited Speaker

2006:

- Harvey Society Lecture, Rockefeller University
- Genetics Society of America: Genetic Analysis: Model Organisms to Human Biology, Invited Speaker
- J. Richard McIntosh Symposium, University of Colorado, Speaker
- American Society of Biochemistry and Molecular Biology, Minisymposium on Genomics and Proteomics, Platform Talk
- American Thoracic Society, Minisymposium on Primary Cilia Dyskinesia, Invited Speaker
- Society of Experimental Biology: Cell Cycle, Sussex, England, Invited Speaker
- 12th International Meeting on Cell and Molecular Biology of *Chlamydomonas,* Organizer
- GRC Plant and Fungal Cytoskeleton, Vice-Chair

2007:

- Gordon Research Conference, Ciliary and Mucosal Interactions, Invited Speaker and Session Chair
- Lorne Genome Conference, Lorne, Australia, Invited Speaker
- Keystone Symposium Systems Biology, Invited Speaker and Session Chair
- FASEB Cilia and Flagella, Invited Speaker and Session Chair
- American Society of Nephrology, Minisymposium on Polycystic Kidney Disease, Invited Speaker

2008:

- 1st EMBO Conference on Centrosomes and Spindle Pole Bodies, Organizer, Session Chair and Invited Speaker
- ASCB Minisymposium on Centrosomes and Cilia, Chair and Invited Speaker
- GRC Plant and Fungal Cytoskeleton, Chair

2009:

- Gordon Research Conference, Ciliary and Mucosal Interactions, Discussion Leader/Session Chair

2010:

- GRC Plant and Fungal Cytoskeleton, Invited Speaker
- ASN: Actin and Cell Motility Special Interest Minisymposium, Invited Speaker
- 14th International Meeting on Cell and Molecular Biology of *Chlamydomonas*, Session Chair

2011:

- Gordon Research Conference, Ciliary and Mucosal Interactions, Discussion Leader/Session Chair
- Emory Graduate Student Symposium, Keynote speaker
- EMBO Centrosome and Spindle Pole Body meeting, Invited speaker
- Radcliffe Symposium: Motors, Invited Speaker

2012:

- 15th International Meeting on Cell and Molecular Biology of *Chlamydomonas*, Session Chair, Berlin, Session Chair
- GRC, Plant and microbial cytoskeleton, New Hampshire, Invited Speaker

2013

- Building a centrosome, Company of Biologists, Sussex, United Kingdom, Invited Speaker
- GRC, Cilia and Mucus Interactions, Il Ciocco, Italy, Meeting Chair
- Dynein, Kobe, Japan, Invited Speaker

2014

- Primary Ciliary Dyskinesia for Clinicians, Jerusalem, Israel, Invited Speaker
- 16th International Meeting on Cell and Molecular Biology of *Chlamydomonas*, Session Chair, Asilomar, Session Chair
- EMBO Centrosome and Spindle Pole Body Meetings, Lisbon, Portugal, Speaker

2015

- GRC, Cilia and Mucus Interactions, Galveston, TX, Invited Speaker
- FASEB Biology of Cilia and Flagella, Keynote Speaker

2016

- Cilia2016, Amsterdam, Invited Speaker
- 17th International Meeting on Cell and Molecular Biology of *Chlamydomonas,* Kyoto Japan, Session Chair
- GRC, Plant and Microbial Cytoskeleton, Invited Speaker
- Plenary Speaker for Ciliate Genetics, Genetic Society of America
- Workshop on Functional Genomics, Genetics Society of America, Invited Speaker

2017

- Genome and Systems Biology Conference VII, NYU Abu Dhabi, Invited Speaker
- Cilia and Centrosomes, CSH Asia, Invited Speaker
- EMBO Centrosome and Spindle Pole Body Conference, Keynote Speaker
- Tau Iota Nursing Research Day, Goldfarb School of Nursing, Invited Speaker
- 2nd Annual Cross-Disciplinary *Symposium* on the State of Science (WUSTL), Invited Speaker
- EMBO Conference of Spindle Pole Bodies and Centrosomes, Keynote Speaker
- Institute of Genomic Medicine and Law, Invited Speaker

2018

- 18th International Meeting on Cell and Molecular Biology of *Chlamydomonas,* Keynote Speaker and Speaker for the Public Lecture to the Carnegie Society of Washington
- EMBO Cilia, Copenhagen, 2018
- MGI Symposium Organizer
- NHGRI DAP training meeting: Organizer for undergraduate session. How do to get into grad school and do well.

b. Invited Research Seminars:

1983:

- Rockefeller University, Laboratory of Cell Biology
- New York University, Department of Biochemistry
- Columbia University, Department of Biological Science
- Albert Einstein School of Medicine, Department of Molecular Biology

1984:

- University of California, San Francisco
- University of Colorado School of Medicine, Department of Genetics and Biophysics
- Stanford University School of Medicine, Department of Biochemistry
- University of Colorado, Department of Chemistry
- National Cancer Institute, Laboratory of Eukaryotic Gene Expression

1985:

- University of California, Berkeley, Department of Biochemistry
- University of Oregon, Institute of Molecular Biology
- Harvard University, Department of Cell and Developmental Biology
- Woods Hole Marine Biological Labs
- University of Arizona, Department of Biochemistry
- University of Kansas, Department of Physiology and Cell Biology

1986:

- Fred Hutchison Cancer Center, Basic Science Division
- Indiana University, Department of Biology

1987:

- University of Colorado School of Medicine, Department of Structural Biology

1988:

- Eleanor Roosevelt Cancer Center, University of Colorado, Denver
- University of Washington, Department of Genetics

1989:

- University of California, Department of Plant Biology
- Yale University, Department of Biology
- Brown University, Molecular and Cellular Biology
- University of Utah, Biology Department
- Mayo Clinic, Department of Molecular Biology
- University of Minnesota, Department of Cell Biology and Genetics

1990:

- University of California, San Francisco, Department of Biochemistry and Biophysics
- University of Colorado, School of Pharmacy
- University of Colorado, Department of Genetics, Biochemistry and Biophysics
- University of Wisconsin, Department of Genetics
- Washington University, Department of Biology

1991:

- Colorado State University, Department of Biochemistry

1992:

- University of Minnesota, Department of Neuroanatomy and Cell Biology
- University of Washington, Department of Genetics

1993:

- University of Nevada, Department of Biology

1994:

- University of Wyoming, Department of Biochemistry
- University of California, Davis Department of Genetics

1995:

- Fred Hutchinson Cancer Research Center, Basic Sciences

1996:

- University of Washington, Department of Genetics
- Pennsylvania State University, Department of Molecular Biology and Biochemistry
- Cornell University, Department of Genetics
- State University of New York at Plattsburg, Department of Biology
- Washington State University, Department of Cell Biology

1997:

- University of Michigan, Department of Biology
- Washington University, Department of Genetics

1998:

- Emory University, Department of Cell Biology

1999:

- University of Texas, Southwestern School of Medicine, Department of Cell Biology
- University of Chicago, Department of Molecular Biology
- University of California Berkeley, Department of Molecular and Cellular Biology
- University of California Berkeley, Department of Plant Sconces

2002:

- Emory University, Department of Cell Biology

2003:

- Washington University, Department of Molecular Biology and Pharmacology
- University of Nebraska, Department of Biotechnology
- State University of New York, Syracuse, Department of Biology
- Washington University, Department of Cell Biology

2004:

- University of Alabama Medical School, Genetics and Translational Medicine
- Stanford University, Department of Biological Sciences
- University of Minnesota Medical School, Department of Genetics, Cell Biology and Developmental Biology
- University of Idaho, Department of Biochemistry
- University of Illinois, Department of Molecular and Cellular Biology

2005:

- University of Pennsylvania, Department of Gynecology
- University of Texas, Southwestern, Department of Cell Biology
- Yale University, Department of Nephrology
- Yale University, Department of Molecular and Cellular Biology

2006:

- Miami University of Ohio, Department of Biology
- University of Massachusetts, Amherst, Department of Plant Biology
- Salk Institute, San Diego, CA
- Emory University, Department of Human Genetics

2007:

- Max Planck Institute, CBG-MPI, Dresden Germany
- University of Missouri, Kansas City, Department of Biochemistry
- Washington University, Department of Ophthalmology & Visual Sciences
- Washington University, Department of Biology

2008:

- Bowdoin College, Department of Biological Sciences, Brunswick ME
- Ohio State University, Department of Plant Cell and Molecular Biology
- Washington University, Alzheimer's Research Group
- Stanford University, Department of Genetics
- UMNDJ/New Jersey Medical School, Department of Microbiology
- Simon Fraser University, Department of Molecular Biology

2009

- Washington University, Department of Biology
- Albert Einstein School of Medicine, Department of Cell Biology
- Indiana University, Department of Biology

2010

- Morehouse College, Department of Biology

2011

- Pomona College, Department of Biology
- SomaLogic, Boulder CO
- Department of Genetics, Washington University School of Medicine

2012

- Memorial Sloan Kettering, Division of Basic Sciences, New York

2014

- Department of Cell Biology, Northwestern School of Medicine
- NIHLB, Division of Cell Biology, Bethesda
- Department of Biology, University of Illinois, Chicago
- Departmental of Developmental Biology, Washington University
- Department of Biological Sciences, Brandeis University

2015

- Department of Biology, St Louis University
- Department of Biology, University of Missouri, St Louis

2016

- Division of Pediatric Nephrology, Washington University,
- Division of Nephrology, Washington University, St. Louis

2017

- Stower's Institute of Biomedical Research, Kansas City,
- Department of Molecular Biology, University of Alberta
- Asthma and Airway Disease Conference, WUSM

14. Consulting Relationships and Board Memberships:

- Scientific Advisory Board, Children's Discovery Institute, 2006–present

15. Research Support (role, title, duration):

Present Support

Governmental

Source	Dates	Role	Title	Current Year Direct Costs
NIH (NIGMS)	3/15–2/19	PI	Genetic Analysis of Basal Body Function	$237,272
NIH (NHLBI)	8/15- 6/19	Multi-PI with S. Brody	Regulation of Motile Cilia Assembly in Lung Disease	$374,326
NSF	09/28/2016-08/31/2020	Co-PI with P. Bayly	Characterizing Dynamic Transitions and Bifurcations to Understand How Flagella Beat	$331,999
NIH (NHGRI)	09/28/2016-08/31/2020	PI	Expanding Opportunities in Genomics Research for Underrepresented Minorities	$291,999
NIH (NHGRI)	03/01/2016-02/28/2019	PI	High Quality Human and Non-Human Primate Genome Assemblies	$1,486,392

NIH (NHBLI)	12/01/2016-11/30/2019	Multi Pi with I. Hall and N. Stitzel	A Platform for Large-Scale Discovery in Common Disease (supplement)	$3,444,582
NIH (NHGRI)	1/2015-12/2019	Multi PI with I. Hall and N. Stitzel	A Platform for Large-Scale Discovery in Common Disease	$14,391,964
NHLBI	8/1/2016-3/1/2018	PI	Task Area 2: Whole Genome Sequencing	$10,168,738

Non-governmental

Source	Dates	Role	Title	Current Year Direct Costs
Burroughs Wellcome Fund	02/02/2015-07/31/2020	Co-Pi with G. Colditz	Transdisciplinary Training in Laboratory and Population Sciences at Washington University	$495,000

Past support

Governmental

Source	Period	Role	Title of Project
NIH	12/83–7/14	PI	Genetic analysis of basal body function
NSF	6/85–5/88	PI	Mating-type limited meiotic defects
NSF	7/88–6/91	PI	Biochemistry and genetics of dyneins
NSF/FAW	9/91–8/95	PI	NSF Award to Top 100 US Women Scientists and Engineers: Tryptophan Biosynthesis
NIH Supplement for URM graduate student	7/05–7/10	PI	Genetic Analysis of Basal Body Function
NIH	5/1/06–4/30/07	PI	12th International Conference on *Chlamydomonas* Travel

NSF	5/1/06–4/30/07	PI	12th International Conference on *Chlamydomonas* Travel
NSF	8/1/06–7/30/07	coPI	Gordon Research Conference Travel Funds
NSF	10/07-9/08	PI	Gordon Research Conference Travel Funds
NIH	11/07-9/08	PI	Gordon Research Conference Travel Funds
ARRA Supplement	9/09-7/10	PI	Genetic Analysis of Basal Body Function
DOE	4/17/10-4/30/13	CoPI	Subproject of NAABB: Randomized miRNA for altering biofuel levels in Chlamydomonas
NIH supplement	8/14-7/15	PI	Genetic analysis of basal body function
NSF	4/13-3/16	Consultant	Biophysics of intraflagellar transport (Dr. Yan Mei Wang, Department of Physics)
NSF	8/13-7/16	co PI	Mechanical properties of flagella (Dr. Phil Bayly, PI in Department of Mechanical Engineering)

Non-governmental

Searle Scholars	1/84–12/87	PI	Role of basal bodies in mitosis
March of Dimes	8/99–7/02	PI	Analysis of δ tubulin
American Society of Nephrology (ASN)	9/1/06–8/30/08	PI	Genetics of modifiers of PKD2
Children's Discovery Institute	9/08-8/11	coPI	Genetics of Otitis Media
Washington University	8/2013-9/2014	coPI	University Research Strategic Alliance Physics of membrane trafficking in cilia
Children's Discovery Institute	2/2014-7/2016	PI	Novel approaches for understanding ciliary assembly in childhood diseases (coPI with Dr. Steve Brody, Department of Internal Medicine)

Pending Support

NHGRI	7/1/18-6/30/21	PI	Sequencing Core for Undiagnosed Disease Network
NIDDK	10/1/18-9/30/22	Collaborator with PI; M. Boehnke	Finding genes for type 2 diabetes: FUSION
Children's Discovery Institute	7/1/18-6/30/22	PI	Sequencing for pediatric cancer: (coPI with Robert Fulton, David Spenser, and Josh Rubin)

16. Patents: None

17. Clinical Title and Responsibilities: None

18. Teaching Title and Responsibilities:

Graduate Students (graduated and current)	**Postdoctoral Fellows (former & current)**
Linda Ehler, Ph.D, 1996	Alison Albee 2008-2013
Jessica Esparza, Ph. D., 2008	Sylvia Fromherz, 1994–1999
Jennifer Heeley, MS., 2008	Ruth Galloway, 1988–1990
Jeffrey Holmes, Ph.D., 1991	William B. Inwood, 1985–1986
William B. Inwood, Ph.D., 1985	David E. Johnson, 1991–1992
David E. Johnson, Ph.D., 1991	Carlo Iomini 2005-2006
Stephen King, Ph.D., 1996	Fordyce G. Lux, 1990–1991
Alan Kwan, Ph. D. 2011	Naomi Morrissette, 2004
Jin Billy Li, Ph. D. 2005	Mary E. Porter, 1986–1989
Fordyce G. Lux, Ph.D., 1989	Rogene Schnell, 1987–1988
Anthony Palombella, Ph D., 1997	Patricia Wilson, 1988–1990
Andrea Preble, Ph. D. 1999	Leela Rangan, 1994–1995
Manishi Pandey, 2015-present	Huawen Lin, 2007-present
Gervette Penny, 2017-present	Jonathan Kessler, 2015-2017
	Mathieu Bottier 2017-present

Predoctoral Fellowship	**Award**
Jessica Esparza	Ford Foundation Award
Manishi Pandey	Monsanto Graduate Fellowship

Postdoctoral Fellowship	**Award**
Mary E. Porter	Helen Hay Whitney
Rogene Schnell	American Cancer Society
Patricia Wilson	American Cancer Society
Sylvia Fromherz	National Institute of Human Genome Research
Alison Albee	Genetics Fellow, Keck Postdoctoral Fellow in Molecular

Medicine, Ruth L. Kirschstein
National Research Service Award

Undergraduates who completed an honors thesis (graduate/professional school)

Tina Mueh 1986 (Teacher, Boulder Valley School District)
Joy Powers 1990 (Teaching Staff, University of Colorado, Boulder)
Renee Shirley 1994 (University of Wisconsin, Ph. D.)
Klaus Dehmer, 1987-1988 (University of Regensberg, Germany)
Angelkike Hoegner, 1988-1989 (University of Regensberg, Germany)
Gretchen Poortinga 1995 (University of Washington, Ph.D.)
Kevin Mills 1997 (MIT, Ph. D.; Jackson Labs)
Mark Lehman 1998 (Northwestern, MS; Staff Scientist, Monsanto)
Amber Bowers 2000 (University of California, San Diego)
Andrew Lippa 2004 (University of Pennsylvania, MSTP, Resident, Washington University at St Louis)
Jacob Till 2006 (Mt Sinai School of Medicine, MSTP program)
Michelle Miller, 2008 (University of Chicago, Ph. D.)

Undergraduates with publications

Joy Powers
Renee Shirley
Gretchen Poortinga
Craig Rackley
Amber Bowers
Jenny Keller
Natalie Ospina-Gomez
Jacob Till
Kerry York
Michelle Miller
Phillip Kemp
Leslie Meyer
Silas Hsu
Suyang Guo

There are ~65 other undergraduates and summer students who did not complete an honors thesis or have a publication

Visiting Sabbatical Faculty

Carol Dieckmann, University of Arizona
Mary Rose Lamb, University of Puget Sound
Peter Lukyz, Miami University
Diana Storfer, Colorado State University
Sigrid Jacobhagen, Western Kentucky University
Triscia Hendrickson, Morehouse College

Azusa Kage, University of Tokyo
Jonathan Kessler, Southeast Missouri University
William Hannah, Case Western Reserve, Fellow

Visiting Graduate Students

Tanya Belova	Norway
Oleg Anagofov	Norway
Frej Tulin	Rockefeller University, New York

Outside Thesis Defense Committee

Simon Fraser University, 2006
Albert Einstein School of Medicine, 2008
Rockefeller University, 2012
Rockefeller University, 2017

Formal Teaching:

University of Colorado, Boulder
1984:
MCDB400: Genetics Lab (189 hrs to 25 students)
(cotaught with Dr. Jeff Minton, EPOB)
1985-1990:
MCDB324: Advanced Genetics (42 hours/year to 150 students)
MCDB5400: Graduate Genetics Core (24 hours/year to ~15-20 students)

1990-1994 and 1995-1998:
MCDB2150: Introduction to Genetics (36 hours/year to 350 students)
MCDB5400: Graduate Genetics Core (24 hours/year to ~15-20 students)
MCDB5000: Journal Club (24 hours/year to ~10 students)

1999:
MCDB1050: Introduction to Human Genetics (42 hours to 75 non-biology majors)

Washington University
2001:
M15 502: Molecular Foundations of Medicine (3 hours)
BIO 5068: Fundamentals of Cell Biology (Discussion leader)
BIO 5384: Advanced Cell Biology (3 hours)
BIO 5700: Genetics Journal Club (Discussion leader with Mark Johnston)

2002:
M15 502: Molecular Foundations of Medicine (3 hours)
BIO 5068: Fundamentals of Cell Biology (Discussion leader)
BIO 5491: Advanced Genetics (Discussion leader)
BIO 5700: Genetics Journal Club (Discussion leader)
BIO 5493: History of Molecular Biology (with Mark Johnston and Sean Eddy)

2003:
M15 502: Molecular Foundations of Medicine (1.5 hours)
BIO 5068: Fundamentals of Cell Biology (Discussion leader)

BIO 5491: Advanced Genetics (7.5 hours)
BIO 5491: Advanced Genetics (Discussion leader)
BIO 5700: Genetics Journal Club (Discussion leader)
BIO5011: Ethics (Discussion Leader)

2004:
M15 502: Molecular Foundations of Medicine (1.5 hours)
BIO 5068: Fundamentals of Cell Biology (Discussion leader)
BIO 5491: Advanced Genetics (7.5 hours)
BIO 5491: Advanced Genetics (Discussion leader)
BIO 5011: Ethics (Discussion Leader)

2005:
M15 502: Molecular Foundations of Medicine (1.5 hours)
BIO 5068: Fundamentals of Cell Biology (Discussion leader)
BIO 5491: Advanced Genetics (7.5 hours)

2006:
M15 502: Molecular Foundations of Medicine (1.5 hours)
BIO 5491: Advanced Genetics (Discussion leader)

2007:
M15 502: Molecular Foundations of Medicine (1.5 hours)
BIO 324: Human Genetics (3 hours, undergraduates)

2008:
M15 541: Systems Biology (1.5 hours to 30 students)
BIO324: Human Genetics (3 hours, to 30 undergraduates)
BIO 5491: Advanced Genetics (Discussion leader)

2009:
BIO 5491 Advanced Genetics (6 hours to 40 students and Discussion Leader)

2010:
BIO 5491 Advanced Genetics (6 hours to 40 students and Discussion Leader)
M30 511 Medical Genetics (Coursemaster and 6 hours of lecture)

2011:
BIO 5491 Advanced Genetics (6 hours to 30 students and Discussion Leader)
M30 511 Medical Genetics (Coursemaster and 12 hours of lecture)

2012:
BIO 5491 `Advanced Genetics (4.5 hours to 30 students, and Discussion Leader)
M30 511 Medical Genetics (Coursemaster and 14 hours of lecture)

2013:
BIO 5491 Advanced Genetics (3 hours to 30 students, and Discussion Leader)

M30 511 Medical Genetics (Coursemaster and 14 hours of lecture)

2014:

BIO 5491 Advanced Genetics (4.5 hours to 30 students)
M30 511 Medical Genetics (Coursemaster and 16 hours of lecture)
Genomics and Personalized medicine (4.5 hours)

2015:

BIO 5491 Advanced Genetics (4.5 hours to 30 students; study section 3hrs)
M30 511 Medical Genetics (1.5 hours of lecture)
Genomics and Personalized medicine (3 hours)

2016:

BIO 5491 Advanced Genetics (4.5 hours to 30 students; study section 3hrs)
BIO 5487 Genomics and Personalized medicine (3 hours)
BIO 5561 Guest lectures: PMB research topics
BIO 191 Freshman seminar organized by Sally Elgin (Consumer genomics)
Genetics for Nurse Practioners, Goldfarb School of Nursing (1.5 hrs)

2017:

BIO 5491 Advanced Genetics (4.5 hours to 30 students; study section 3hrs)
BIO 5487 Genomics and Personalized medicine (2 hours)
--- Genetics for Nurse Practitioners, Goldfarb School of Nursing

2018:

BIO 5491 Advanced Genetics (4.5 hours to 30 students; study section 3hrs)
--- Genetics for Nurse Practitioners, Goldfarb School of Nursing

Bibliography:

a. Peer reviewed manuscripts

1. Dutcher, S.K. (1981). Internuclear transfer of genetic information in kar1/KAR1 heterokaryons in *Saccharomyces cerevisiae*. Mol Cell Biol *1*, 245–253.
2. Dutcher, S.K., and Hartwell, L.H. (1982). The role of *S. cerevisiae* cell division cycle genes in nuclear fusion. Genetics *100*, 175-184.
3. Dutcher, S.K. (1982). Two cell division cycle mutants of *Saccharomyces cerevisiae* are defective in transmission of mitochondria to zygotes. Genetics *102*, 9–17.
4. Huang, B., Ramanis, Z., Dutcher, S.K., and Luck, D.J. (1982). Uniflagellar mutants of Chlamydomonas: evidence for the role of basal bodies in transmission of positional information. Cell *29*, 745-753.
5. Dutcher, S.K., and Hartwell, L.H. (1983). Genes that act before conjugation to prepare the *Saccharomyces cerevisiae* nucleus for caryogamy. Cell *33*, 203-210.
6. Dutcher, S.K., and Hartwell, L.H. (1983). Test for temporal or spatial restrictions in gene product function during the cell division cycle. Mol Cell Biol *3*, 1255–1265.

7. Dutcher, S.K., Huang, B., and Luck, D.J. (1984). Genetic dissection of the central pair microtubules of the flagella of *Chlamydomonas reinhardtii*. J Cell Biol *98*, 229-236.

8. Dutcher, S.K. (1988). Nuclear fusion-defective phenocopies in *Chlamydomonas reinhardtii*: mating-type functions for meiosis can act through the cytoplasm. Proc Natl Acad Sci U S A *85*, 3946-3950.

9. Dutcher, S.K., Gibbons, W., and Inwood, W.B. (1988). A genetic analysis of suppressors of the *PF10* mutation in *Chlamydomonas reinhardtii*. Genetics *120*, 965–976.

10. Holmes, J.A., and Dutcher, S.K. (1989). Cellular asymmetry in *Chlamydomonas reinhardtii*. J Cell Sci *94*, 273-285.

11. Lux, F.G. III and Dutcher, S. K. (1991). Genetic interactions at the FLA10 locus: suppressors and synthetic phenotypes that affect the cell cycle and flagellar function in Chlamydomonas reinhardtii. Genetics 128: 549-561.

12. Johnson, D.E., and Dutcher, S.K. (1991). Molecular studies of linkage group XIX of *Chlamydomonas reinhardtii*: evidence against a basal body location. J Cell Biol *113*, 339-346.

13. Dutcher, S.K., Power, J., Galloway, R.E., and Porter, M.E. (1991). Reappraisal of the genetic map of *Chlamydomonas reinhardtii*. J Hered *82*, 295–301.

13. Dutcher, S.K., Galloway, R.E., Barclay, W.R., and Poortinga, G. (1992). Tryptophan analog resistance mutations in *Chlamydomonas reinhardtii*. Genetics *131*, 593-607.

14. Porter, M.E., Power, J., and Dutcher, S.K. (1992). Extragenic suppressors of paralyzed flagellar mutations in *Chlamydomonas reinhardtii* identify loci that alter the inner dynein arms. J Cell Biol *118*, 1163-1176.

15. Holmes, J.A., Johnson, D.E., and Dutcher, S.K. (1993). Linkage group XIX of *Chlamydomonas reinhardtii* has a linear map. Genetics *133*, 865–874.

16. Johnson, D. E. and Dutcher, S. K. (1993). A simple, reliable method for prolonged frozen storage of Chlamydomonas. Trends Genet *9,* 194-195.

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22. Ehler, L.L., and Dutcher, S.K. (1998). Pharmacological and genetic evidence for a role of rootlet and phycoplast microtubules in the positioning and assembly of cleavage furrows in *Chlamydomonas reinhardtii*. Cell Motil Cytoskeleton *40*, 193–207.

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29. Bowers, A.K., Keller, J.A., and Dutcher, S.K. (2003). Molecular markers for rapidly identifying candidate genes in *Chlamydomonas reinhardtii*. *ery1* and *ery2* encode chloroplast ribosomal proteins. Genetics *164*, 1345–1353.

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b. In Revision

1. Wambach, J.A. Wegner, D. J., Yang, P. Shinawi, M. Baldridge, D., Betleja, E. Shimonv, J., Hackett, B.P., Andrews, M.V., Ferkol, T., Dutcher, S.K., Mahjoub, N. Cole, F. S. Functional Characterization of Biallelic *RTTN* Variants Identified in an Infant with Microcephaly, Simplified Gyral Pattern, Pontocerebellar Hypoplasia, and Seizures. In revision at Pediatric Research.

2. Kronenberg, Z. N., Fiddes, I.T., Gordon, G., Murali, S., Cantsilieris, S., Meyerson, O.S., Underwood, J.G., Nelson, B.J., Chaisson, M.J.P., Dougherty, M.L., Munson, K.M., Hastie, A., Diekhans, M., Hormozdiari, F., Lorusso, N., Hoekzema, K., Qiu, R., Clark, K., Raja, A., Welch, A.E., Sorensen, M., Baker, C., Fulton, R.S., Armstrong, J., Graves-Lindsay, T.A., Denli, A.M., Hoppe, E.R., Hill, C.M., Pang, A.W.C., Lee, J., Lam, E.T., Dutcher, S.K., Gage, F.H., Warren, W.C., Shendure, J., Haussler, D., Schneider, V.A., Cao, H., Ventura, M., Wilson, R.K., Paten, B., Pollen, A., and Eichler, E.E. High resolution comparative analysis of great ape genomes. In revision at Science.

c. Invited publications and reviews

1. Dutcher, S.K. (1986). Genetic properties of linkage group XIX in Chlamydomonas reinhardtii. *In: Extrachromosomal elements in lower eukaryotes* by Wickner, R. B. (eds. Hinnebusch, A, Lambowitz, A. M., Gunsalus, I. C., Hollaender, A.), Plenum Publishing, 303–325.
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4. Dutcher, S.K. (1991). A centriolar genome? *In: Comparative Spermatology: 20 years after*. Serono Symposia. Raven Press. Volume *75:* 295–301.
5. Holmes, J.A. and Dutcher, S.K. (1992). Genetic approaches to the study of cytoskeletal structure and function in Chlamydomonas. *In: The Cytoskeleton of the Algae,* 347–368.
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19. Dutcher, S.K. (2005) Algal flagella. Encyclopedia of Life Sciences (www.els.net).

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36. Dutcher, S.K. and E. O'Toole. (2016). A primer on the basal bodies of *Chlamydomonas reinhardtii*, Cilia, 5:18. doi: 10.1186/s13630-016-0039-z.

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