

December, 2016

**DAVID RAY BURGESS  
CURRICULUM VITAE**

**PART A BIOGRAPHICAL INFORMATION**

**1. PERSONAL**

Name: David R. Burgess

Address: Biology Department  
Boston College  
140 Commonwealth Ave.  
Chestnut Hill, MA 02467

Address (home): 36 Varick Hill Road  
Waban, MA 02468

Phone - Home: (617) 965-7239  
Phone - Office: (617) 552-1606  
e-mail: [david.burgess@bc.edu](mailto:david.burgess@bc.edu)

Current Rank: Professor

Birthplace: Hobbs, New Mexico

**2. HIGHER EDUCATION**

California State Polytechnic University, Biology, B.S., 1969;  
California State Polytechnic University, Biology, M.S., 1971;  
University of California, Davis, Zoology, Ph.D., 1974.

**3. POST DOCTORAL TRAINING**

NCI Fellowship: University of Washington, Friday Harbor Labs, 1974-76.  
Cell Biology.  
STEPS Fellowship: Marine Biological Laboratory, 1975

**4. PROFESSIONAL EXPERIENCES**

2002-2004 Senior Faculty Fellow, Harvard University Native American Program; and  
Kennedy School of Government

2005-2012 Course Director: Science Journalism Program, Marine Biological  
Laboratory, Woods Hole, MA

1998-present Professor of Biology  
Boston College

1998-1999 Academic Vice President and Dean of Faculties  
Boston College

1990-1998 Professor and Chair, Department of Biological Sciences,  
University of Pittsburgh

1990-1998 Member, Pittsburgh Cancer Institute

1987, 1988 Instructor, Physiology: Cell and Molecular Biology Course, Marine  
Biological Laboratory, Woods Hole, Massachusetts

1985-1990 Professor of Cell Biology and Anatomy, Department of Anatomy,  
University of Miami School of Medicine, Miami, Florida

1982-1985 Associate Professor of Cell Biology and Anatomy, Department of  
Anatomy, University of Miami School of Medicine, Miami, Florida.

1982-1990 Member, Cancer Center, University of Miami School of Medicine

1979-1981 Instructor of Invertebrate Embryology, Cornell University, Shoals Marine  
Laboratory

1976-1982 Assistant Professor of Biological Sciences, Dept. of Biological Sciences,  
Dartmouth College, Hanover, NH.

1974-1976 NIH Postdoctoral Fellow, Friday Harbor Laboratories, University of  
Washington.

1975, 2000-present Investigator, Marine Biological Laboratory, Woods Hole, Mass., Summer

## **5. CURRENT AND PAST TEACHING RESPONSIBILITIES**

*Harvard University, Kennedy School of Government*  
Minorities' Health and Science Education Disparities

### Boston College

Graduate Cell Biology; Undergraduate Cell Biology; Graduate Core Course; Health and  
Science Education Disparities; Undergraduate Cell and Molecular Biology

### University of Pittsburgh

Developmental Biology; Biochemistry Seminar; Molecular, Cell and Developmental Biology  
(Graduate)

### Marine Biological Laboratory, Woods Hole

Physiology Course Instructor; Science Journalism Program, Course Director

### University of Miami

Graduate Methods in Cell Biology; Cell Biology; Medical Embryology;  
Medical Histology; Medical Cell and Molecular Biology; Readings in Cell Biology;  
Developmental Biology (Undergraduate and Graduate)

Dartmouth College

Biology, Embryology, Advanced Developmental Biology, Electron Microscopy,  
Early Mammalian Development, Cell Motility

Cornell University Shoals Marine Lab

Summer term Instructor of Invertebrate Embryology 1979, 80, 81.

**6. THESIS AND DISSERTATION ADVISING**

Boston College

Matthew Hoffman, Ph.D. 2008, Postdoc at Harvard Medical School  
Michelle Ng, Ph.D. 2006, postdoc at Univ Calif. San Diego; Harvard Biosciences  
Suzanne Sayles, M.S. 2002, staff, University of North Carolina, Chapel Hill  
Laila Strickland, Ph.D. 2006, postdoc at Stanford Univ Medical School; private industry  
Lea Alford, Ph.D. 2009, postdoc at Emory University; Asst Prof Oglethorpe University  
Heather McKay, Ph.D. 2013, postdoc, Harvard Medical School; Cell Signaling  
Aliz Axmann, M.S. 2008, MBA Boston College; Schrödinger  
Kathleen Moorhouse, 2014, Ph.D.; Cell Signaling

University of Pittsburgh

Mark D'Amico, Ph.D., 1997 (thesis advisor), NIH NCI Program Officer  
Jeffrey Smith, Ph.D., 1999 (thesis advisor), Science Specialist, BioRad

University of Miami

Scott Lukeman, Pharmacology, Ph.D., 1985  
Marijane Montgomery, Anatomy, Ph.D., 1984  
Rachel Yabkowitz, CMB Ph.D., 1987 (thesis advisor), Staff scientist, Sanofi  
Salim Mamajiwalla, Ph.D. 1993, (thesis advisor) Staff Scientist, Law Firm  
Nelson Barton, Cell Biology and Anatomy, Ph.D., 1990  
Wanping Jiang, Cell Biology and Anatomy, Ph.D. 1990

Dartmouth College

Ronie Jacobsen, M.S., 1979. (thesis advisor), State of Maine Sr. Tech.  
Stephen Gillis, Ph.D., 1977.  
James Stanchfield, Ph.D., 1979. Millipore Corp.  
Paul Matsudaira, Ph.D., 1980. (thesis advisor), Prof., M.I.T.; Singapore National Univ  
Jeffrey Travis, Ph.D., 1981. Res. Prof. SUNY Albany  
David Bynum, Ph.D., 1981. Assoc. Prof. SUNY Stony Brook  
Denice Smith, Ph.D., 1984. (thesis advisor), Univ. Charleston

## 7. GRANTS RECEIVED (as P.I.)

NIH Grant R01DK20021 (31643)	\$110,477	04/01/77-03/31/80
NSF Grant #PCM77-04313	25,000	05/01/77-10/31/78
NIH Grant R01#DK31643	201,571	04/01/80-03/31/84
NIH Grant R01#DK01106 RCDA	185,000	04/01/81-03/31/86
ACS Institutional Grant	4,650	10/01/82-09/31/83
NIH Grant #RR 01662	147,200	08/01/83-07/31/84
NIH Grant R01#DK 31643	481,999	04/01/84-03/31/89
ACS Institutional Grant	1,000	06/01/85-05/31/86
BRS&G	13,500	04/01/86-03/31/87
Florida ACS	8,000	06/01/86-05/31/87
Invitron Corp	333,000	01/01/88-12/31/89
NIH Grant R01#GM 40086-01	555,818	04/01/88-03/31/94
NIH Grant R01#DK 31643	860,428	04/01/89-11/30/94
Invitron Corp	60,366	01/01/90-06/30/90
NIH Instrumentation Grant CA56027	42,358	08/01/91-07/31/92
Howard Hughes Med. Inst. Undergrad. Res. Initiative	1,700,000	07/01/92-06/30/97
NIH Grant R01#DK31643	812,804	12/01/94-11/31/99
Howard Hughes Med. Inst. Undergrad. Res. Initiative	1,800,000	09/01/98-08/31/02
Beckman Scholars Grant	52,800	06/01/98-08/31/99
NIH Grant R01#GM58231	986,378	06/01/99-05/31/04
NIH Grant #R25 RR15649 (PI as SACNAS President)	1,620,000	09/30/00-08/31/05
Josiah Macy, Jr. Foundation Research Fellowship, Marine Biological Laboratory	25,000	05/01/01-09/01/01
Fellowship, Marine Biological Laboratory	14,800	05/01/02-09/01/02
NIH Grant R01GM58231	215,000	10/1/04-10/31/06
NSF Grant IOB-0615233	150,000	10/30/06-10/30/09
NIH Grant R15GM093978	300,000	7/1/10-6/31/13
NSF OIA-1136444 (SACNAS)	1,649,598	8/1/11-7/31/14
MBL, F.R. Lillie Fellowship	16,400	6/11-8/11
NIH 5T36GM008622 (ASCB)	875,000/yr	4/1/96-6/30/13
NSF Grant MCB-1244425	728,002	4/1/13-3/31/17
NIH Grant U54MD009479	11,125,000	9/26/14-1/1/16
NIH Grant U54MD009479S1	8,050,000	9/26/14-1/1/16
NIH Grant U54MD009479S2	3,240,295	9/26/14-1/1/16

## 8. DEPARTMENTAL ADMINISTRATIVE AND COMMITTEE RESPONSIBILITIES

*Boston College*

Member, Faculty Search Committee (2000, 2004, 2007 –chair, 2009; 2012)

Chair, Shared Instrumentation Committee (2000-present)  
Faculty Director, Core Microscopy facility  
Search Committee Chair, Core Microscopy Director

University of Pittsburgh

Chair, Department of Biological Sciences

University of Miami

Chairman, Faculty Search Committee (1982-1983)  
Chairman, Graduate Committee (1982-1987)  
Chairman, Electron Microscopy Facilities (1982-1985)  
Member, Faculty Search Committee (1985)

Dartmouth College

Chairman, Electron Microscopy Facilities  
Member, Graduate, Undergraduate, Seminar, Faculty Search

## **9. EXTRA-DEPARTMENTAL ADMINISTRATIVE AND COMMITTEE RESPONSIBILITIES**

Boston College

Academic Vice President and Dean of Faculties, 1998-1999  
Chair, Dean of College of Arts and Sciences Search, 1998  
Pre-Professional Advisors Committee, 2000-2008  
Animal Use and Care Committee, 2000-2002  
SNAP, Faculty Advisor

University of Pittsburgh

Recombinant DNA Committee, 1991-1994  
Environmental and Occupational Health Search Cmt., 1992  
Keck Foundation: W.M. Keck Center for Advanced Training in  
Computational Biology; Executive Committee Member  
Faculty of Arts and Sciences Council, 1992-93  
Council of Chairs, Natural Science Representative 1992-93  
Search Committee for Chair of Human Genetics, 1995  
MD/Ph.D. Program Steering Committee  
Provost's Committee to Review Faculty Retirement Policy, 1995  
Drug Discovery Program Scientific Advisory Board, 1995  
University of Pittsburgh Cancer Institute, Interim Program Director  
Cell Biology Program, 1997-1998

University of Miami

Faculty Senate Council, 1989-1990  
Faculty Senate, Basic Science Faculty Representative, 1988-1990  
Medical Library Committee (1989-1990)  
Co-chairman Planning Committee 1987 Miami Winter Symposium  
"Molecular Biology of Development"

Scientific Advisory Committee (1982-1985)  
Programs and Degrees Committee (1984-1988)  
President's Task Force on Research and Sponsored Programs (1985)  
Promotions and Tenure Committee (1985-1988); Chairman (1987-1988)  
Southern Association Self Study Executive Committee (1985)  
Cell and Molecular Biology Advisory Committee (1982-1987)  
LCME Self Study-General Facilities and Library Task Force (1986)

*Dartmouth College*

Chairman: Committee on Equal Opportunity  
Member: Sponsored Programs Committee

**10. PRESENTATIONS, HONORS AND AWARDS**

a. Scientific presentations at national & international meetings:

1977 Gordon Research Conference  
1977 American Society for Cell Biology - paper presented  
1978 American Society for Cell Biology  
1978 American Society for Zoologists - paper presented  
1979 Cold Spring Harbor Meeting - paper presented  
1979 American Society for Cell Biology - 2 paper presented  
1980 2nd International Congress on Cell Biology - paper presented  
1980 16th Harden Conference - paper presented  
1980 American Society for Cell Biology - paper presented (session chairman)  
1980 Society for Advancement of Chicanos and Native Americans in Science  
1981 American Society for Cell Biology - paper presented  
1982 American Society for Developmental Biology  
1982 American Society for Cell Biology - paper presented  
1983 Gordon Research Conference - Session Chairman  
1983 NIH Cytomatrix Conference - Fogarty Center - paper presented  
1983 American Society for Cell Biology - papers presented  
1984 American Society for Cell Biology - Mini Symposium Speaker  
1985 American Society for Cell Biology - Workshop Speaker  
1986 Molecular Biology of the Cytoskeleton - poster presented  
1986 Gordon Research Conference - poster presented  
1986 American Society for Cell Biology - papers presented  
1987 American Society for Cell Biology - Mini Symposium Speaker  
1988 Developmental Biology of Sea Urchins V - Invited speaker.  
1989 New York Academy of Sciences; Workshop on Cytokinesis.  
1989 American Society for Cell Biology - Minisymposium Speaker.  
1990 UCLA Symposium on Molecular & Cellular Biology - Invited Speaker  
1990 Society for Developmental Biology - Minisymposium Speaker  
1990 American Society for Cell Biology - Posters presented  
1991 American Society for Cell Biology - Posters presented  
1992 American Society for Cell Biology - Posters and Mini-symposium  
1992 Gordon Research Conference - Invited Speaker  
1993 Developmental Biology of the Sea Urchin Embryo VIII - Invited Speaker  
1993 American Society for Cell Biology - Posters presented

- 1993 Keystone Symposium "Establishment of Epithelial and Neuronal Cell Polarity" - Invited Speaker
- 1994 Gordon Research Conference - Poster Presented
- 1994 American Society for Cell Biology - Posters presented
- 1995 Keystone Symposium: "Molecular Motors" Program Chair
- 1995 Working Group on Cytokinesis - Invited Discussant
- 1995 American Society for Cell Biology - Posters presented
- 1996 Gordon Research Conference - Poster presented
- 1996 American Society for Cell Biology – Invited Special Interest Subgroup Speaker (presentation by Dr. Faith, postdoctoral associate)  
Posters presented
- 1997 American Society for Cell Biology - posters presented
- 1998 American Society for Cell Biology - posters presented
- 1999 American Society for Cell Biology – poster presented
- 1999 ASCB/EMBO Joint Meeting: Membrane Trafficking and the Cytoskeleton: An Integrated View – Invited Speaker
- 2000 Keystone Symposium on Dynamics of the Cytoskeleton – poster presented
- 2000 Developmental Biology of Sea Urchins – Posters Presented
- 2001 American Society for Cell Biology – Posters presented
- 2001 Cytokinesis Workshop IMP Vienna, Austria
- 2002 Developmental Biology of Sea Urchins – Invited Speaker
- 2002 American Society for Cell Biology – Posters and invited speaker
- 2003 Gordon Research Conference - Motile and Contractile Systems – Invited Speaker
- 2003 American Society for Cell Biology – Posters presented
- 2004 ASCB Cytokinesis Meeting – Meeting Co-Chair and invited speaker
- 2004 American Society for Cell Biology – Posters and platform talks Presented; Mini-symposium Co-Chair
- 2005 American Society for Cell Biology – Posters and platform talks presented: Mini-symposium Co-Chair
- 2006 American Society for Cell Biology – Posters presented
- 2007 Turtle Mountain College, 2<sup>nd</sup> Research Conference
- 2008 American Society for Cell Biology -- Poster presented
- 2007 FASEB Conference on Mitosis; May, invited speaker
- 2008 Biochemical Society, Mechanics and Control of Cytokinesis, Invited speaker
- 2008 American Society for Cell Biology -- Poster presented
- 2009 Invited Keynote Speaker, International Plant Biology Meeting, Merida, Mexico June
- 2008 Developmental Biology of Sea Urchins, Woods Hole, MA  
Invited speaker April
- 2008 Symposium honoring David Epel, Hopkins Marine Station, Stanford University, invited speaker, August
- 2009 Gordon Research Conference, invited speaker, July
- 2009 Developmental Biology of Sea Urchins, Woods Hole, MA invited speaker
- 2009 Society for Advancement of Chicanos and Native Americans in Science, Keynote speaker
- 2010 American Society for Cell Biology, Poster Presenter
- 2011 American Society for Cell Biology, Poster Presenter
- 2011 Society for Advancement of Chicanos and Native Americans in Science

- 2011 Developmental Biology of Sea Urchins, Woods Hole, MA invited speaker
- 2012 Developmental Biology of Sea Urchins, Woods Hole, MA invited speaker
- 2012 American Society for Cell Biology, Poster Presenter
- 2012 Society for Advancement of Chicanos and Native Americans in Science, Speaker
- 2013 Oocyte Maturation and Fertilization, Banyuls sur mer, France Invited speaker
- 2013 Society for Advancement of Chicanos and Native Americans in Science, Speaker
- 2014 Developmental Biology of Sea Urchins, Woods Hole, MA invited speaker
- 2015 Gordon Research Conference, invited speaker, July
- 2017 Developmental Biology of Sea Urchins, Woods Hole, MA invited speaker

b). Invited outside lectureships:

- 1975 Dept. of Zool., Univ. of Washington
- 1976 Dept. of Biol., Univ. of Calif., Riverside  
Dept. of Biol., Kansas State Univ
- 1978 Dept. of Biol., Univ. of Penn., March  
Dept. of Zool., Univ. of N.H., March  
Dept. of Biochem., Dartmouth Medical School, March  
Anatomy Dept., Harvard Medical School, October  
Zoological Institute, Univ. of Zurich, August  
Anatomy Dept., Univ. of Miami, School of Medicine, January  
Biology Dept., Smith College, October
- 1982 Anatomy Dept., Univ. Virginia School of Medicine, March  
Anatomy Dept., Medical Univ. of S. Carolina, March  
Dept. Biol., Florida State Univ., March  
Oncology Dept., Massachusetts General Hospital, December
- 1983 Cell Biology Dept., Baylor College of Medicine, May  
Marine Biological Laboratory, July  
Worcester Foundation for Experimental Biology, Sept.  
Biology Dept., Dartmouth College, Dec.
- 1984 Biology Dept., Princeton Univ., Feb  
Zoology Dept., Arizona State Univ., Feb.
- 1985 Biology Dept., Brandeis University Jan.  
Cell Biology and Anatomy Dept., Northwestern Univ., Dec.  
Physiology Dept., University of Chicago, Dec.
- 1986 Pharmacology Dept., University Texas Health Science Center, May  
Marine Biological Laboratory, July  
Dept. Chemistry, University of Texas at Austin, May  
Division of Biology and Medicine, Brown University, Nov
- 1987 Dept. of Biochemistry, Mt. Sinai School of Medicine, Oct.  
Dept. of Biology, Univ. Iowa, Sept
- 1988 Dept. of Biology, N. Carolina State Univ., March,  
Dept. of Biology, Univ. N. Carolina, Chapel Hill, March
- 1989 Biology Dept., The Johns Hopkins University, April



National Institutes of Health, April  
 Dept. of Biology, Univ. of Pittsburgh, Dec.  
 Dept. of Human Anatomy, University of California Davis, Dec.  
 1990 Dept. of Biological Sciences, SUNY, Buffalo, Feb.  
 1992 Univ. of Pennsylvania, May  
 Amgen, Inc., June  
 Univ. of California, Irvine, June  
 1993 Physiology Dept., Univ. of Texas Health Science Center, Jan.  
 Biochem. Dept., Case Western Reserve Univ., March  
 Biology Dept., Columbia Univ., April  
 Biol. Dept., Lehigh Univ., November  
 Biol. Sci. Dept., Calif. State Polytechnic Univ., November  
 1994 Cell and Devel. Biol. Dept., Univ. of Calif., Berkeley, February  
 Physiol. Dept., Tufts Univ., April  
 Cell Biol. Dept., Univ. of Virginia, April  
 Dept. of Anatomy, Univ. of Pennsylvania Sch. of Med., May  
 Dept. of Biology, Duquesne University, November  
 1995 Program in Biochemistry and Cell Biology, University of Georgia, May  
 National Institutes of Health, June  
 Marine Biological Laboratory, Physiology Course, July  
 MARC/MBRS Program, Dept. Biology, Univ. Texas, San Antonio, October  
 1996 MARC/MBRS Program, Dept. Biology, Cal State Northridge, April  
 Department of Biology, University of California, Riverside, April  
 1997 Cell Biology Program, University of Zurich, October  
 Cell Biology Program, Pasteur Institute, October  
 1998 Biology Department, Boston College, November  
 1999 Biochemistry Department, Boston University Medical Center  
 2000 SPINES Program, MBL Woods Hole, July  
 MTBI Program, Cornell University, August  
 Cell Biology Program, University of Pennsylvania, September  
 Boston Biomedical Research Institute, October  
 Biology Dept, Northeastern University, November  
 2001 SPINES Program, MBL Woods Hole, July  
 Brown University, September  
 Clark University, October  
 2002 Harvard Medical School, January  
 Harvard Medical School, May  
 Marine Biological Laboratory, Woods Hole, July  
 University of Massachusetts, October  
 2003 Dartmouth College, May  
 Yale University, September  
 2004 Boston Biomedical Research Institute, January  
 University of Toronto, May  
 Boston University, October  
 2005 Columbia University, January  
 University of Colorado Health Science Center, June  
 University of North Carolina, Chapel Hill, October  
 University of Massachusetts Medical School, November  
 2006 Massachusetts Institute of Technology, February

	California State University, Dominguez Hills, May
	California State University, Northridge, MA
	Case Western Reserve University, September
2007	Dine College, January
	Navaho Prep High School, January
	University of Notre Dame, September
	Tufts University, September
2008	Invited Keynote Speaker, International Plant Biology Meeting Merida, Mexico, June
2010	Brown University, April
2011	Society for Advancement of Chicanos and Native Americans in Science,
2012	University of Rhode Island, September
2012	University of Massachusetts, March
2012	Boston Area Mitosis and Meiosis Meeting
2012	Mechanical Forces in Development Seminar Series, Boston
2012	Metropolitan College, Denver
2013	Villefranche sur mer
2015	University of Minnesota
2016	Invited Speaker, Salish Kootenai Tribal College
2017	Villefranche sur Mer Marine Station

c). Society memberships and offices (past and present):

Society for Developmental Biology  
American Society for Cell Biology –  
Member since 1976, Minority Affairs Committee 1988-1990, 2010-2015;  
Public Policy Committee, 2003-6;  
Elected Council, 2005-2008

Society for Advancement of Chicanos and Native Americans in Science (SACNAS)  
Member since 1978  
Member Academic Advisory Committee 1996;  
President-elect, 1997, President 1998-2000; Past President 2000-2001;  
Elected Member of Board 1997-1999, 2008; 2016-2019  
Treasurer, 2008-2011  
Advisor to the Board, 2011-present  
Elected to Board, 2016-2020

Co-Chair, 2002 Developmental Biology of Sea Urchins Meeting  
Program Committee, 41<sup>st</sup> American Society for Cell Biology Meeting, 2001  
Co-Chair, ASCB Cytokinesis Meeting, 2004  
AAAS, Committee on Opportunities in Science, member 2003-2012

d). Editorial responsibilities:

Reviewer of American Association of Colleges' Minority Achievement Program

## Grants 1981

Ad hoc Reviewer of NSF Grant Applications in Cell and Developmental Biology Program 1977-present

Reviewer of articles for:

*The Journal of Cell Biology, Developmental Biology, Journal of Molecular Biology, American Journal of Anatomy, Cell Motility and the Cytoskeleton, Analytical Biochemistry, Nature, Journal of Experimental Zoology, Journal of Biological Chemistry, PNAS, Journal of Cell Science, Development, EMBO Journal, Nature Cell Biology, Current Biology, Molecular and Cellular Biology, Cell, Journal of Theoretical Biology, Traffic, Developmental Cell*

Editorial Board:

*Molecular Biology of the Cell*, 2002-2004; *SACNAS News*, 2000-2008

## e). Study Section and Council Memberships:

NIH Cell Biology Study Section Member, 1982 - 1986.

NIH Cell Biology Study Section ad hoc 6/81; 11/81; 2/87.

NIH NIDDK Special Study Section, 1985.

NIH Small Colleges Special Study Section (AREA Grants) 1985.

NIH NCI Program Project Site Visit Member 6/87.

NIH Cell Biology Study Section Site Visitor 2/88.

NIH Cellular and Molecular Basis of Disease Study Section ad hoc 6/89, 11/89; Member, 1990-1994.

NIH Minority Biomedical Research Support Program - Consultant Advisory Group, 1991-92.

NIH Bridges Minority Program Review Committee, 7/92; 3/93

NIH Division of Research Grants Advisory Committee, ad hoc member, 1993, 1996, 1997

NIH NIGMS Search Committee Member for Director of Minority Opportunities in Research Programs, 1993

NIH NIGMS MARC Study Section ad hoc 11/94

NIH NIGMS BRIDGES Program Study Section, 4/95 Committee Chair

NIH Human Embryology and Development Study Section Member, 1995-99, Chair 1996-98

NIH Division of Research Grants: Cell, Development and Function Initial Review Group Advisory Committee, 1996-98

NIH Division of Research Grants: ad hoc member of Advisory Committee, 1997

NIH Office of Research on Minority Health: Advisory Council, 1998-2000

NIH NIGMS, Advisory Council, 1999, ad hoc member

Howard Hughes Medical Institute, Undergraduate Biological Sciences Education Initiative, Review Panel Member, 1999

NIH Special Emphasis Panel SSSQ1 Invited reviewer, 2000

Department of Energy, Biological and Environmental Research Advisory Council, 1999-2005 (Appointed by DOE Secretary Richardson)  
 Department of Energy, Screening Panel for Enrico Fermi Award, member, 2000  
 Howard Hughes Medical Institute, Precollege Science Education Initiative for Science Museums and Related Informal Science Education Institutions, Review Panel Member, 2000  
 NIH, National Advisory Council, NIHGR, 2000-2004 (Appointed by HHS Secretary Shalala)  
 NIH, Advisory Committee to the Director, NIH 2000-2004 (Appointed by HHS Secretary Shalala)  
 NSF, Committee on Equal Opportunities in Science and Engineering, 2002-2005 (Appointed by Dr. Rita Colwell, Director, NSF)  
 NSF Tribal College Science and Technology Grants Panel Member, 2002  
 NIH ARRA grant review panel, 2009  
 NIH Native American Research Centers for Health, review panel member, 2009  
 NIH NHGRI Load Repayment Grant review panel, 2011  
 NSF Biology Directorate Advisory Committee, 2011-2015  
 USDA Tribal College Grants Program, 2011-2012  
 NIH NIGMS Conference Grants Program, Chair, 2012  
 NIH NARCH Study Section review panel member, 2012  
 NSF, Council of Visitors, Education and Human Resources Directorate, Sept 2013  
 USDA Tribal College Grants Program, 2014  
 HHMI, Science Education Grants Programs, 2014  
 NIGMS, MIRA Grants Reviewer, 2015  
 NSF, STC Blue Ribbon Committee, 2016  
 NSF, Reviewer of BIO REU applications, 2016  
 NSF, Reviewer of Pre-doctoral fellowship applications, 2017  
 National Academies of Sciences, Next Generation Researchers Initiative, 2017-2018

- f). Invitations to speak at National Meetings on Science Education Policy and/or Minorities in Science
1. NIH Office of Research on Minority Health, ad hoc Advisory Committee 1995, 1996
  2. Intercultural Cancer Council, Invited Consultant, 1996-2000
  3. FASEB Conference on Graduate and Postdoctoral Education in the Biomedical Sciences, Invited Participant, 1996
  4. SACNAS - Invited Speaker, 1996
  5. 6th Biennial Symposium on Minorities, the Medically Underserved and Cancer, Invited Speaker, 1997
  6. American Chemical Society, Presidential Retreat, 1997, 1999, 2000
  7. American Society for Cell Biology, Minorities Affairs Committee Symposium, Keynote Speaker, 1997
  8. American Society for Biochemistry & Molecular Biology, 1998
  9. American Chemical Society, Keynote Speaker, 1998
  10. Sandia National Laboratory, 1998, Keynote Speaker
  11. Howard Hughes Medical Institute, 1998, Invited Speaker
  12. American Society for Cell Biology, Minorities Affairs Committee Symposium, Workshop Speaker, 1998

13. NIH NIGMS, American Indian Training Needs Meeting, 1999
14. NSF Summit Meeting on Promoting National Minority Leadership in Science and Engineering, 1999
15. New England Board of Higher Education, 8<sup>th</sup> Annual Science and Engineering Academic Support Network Meeting, Keynote Speaker, 1999
16. American Society for Cell Biology, Minority Symposium "Opportunities in Government/Mentoring" 1999, Invited Speaker
17. NIH, National Institute on Drug Abuse, American Indian Workgroup, 2000
18. NIH, Office of Research on Minority Health Meeting: Challenges in Health Disparity in the New Millennium: A Call to Action; Panelist and session moderator, 2000
19. SACNAS, Meeting Convener as President and Session Panelist, 2000
20. American Chemical Society, 2000, Presidential Event, Panel Member
21. Compact for Faculty Diversity, Institute on Teaching and Mentoring, Invited Presenter, 2000, 2005
22. Planning committee member for National Human Genome Research Institute Consumers Day, 2000
23. Appointed and served on Reading Committee for the National Science Foundation meeting report (invited attendee at meeting at Rice University) entitled: "Promoting National Minority Leadership in Science and Engineering: A Report on Proposed Actions", 2000
24. Appointed to serve as Advisor to national Program: Survival Skills and Ethics Program coordinated by Beth Fisher and Michael Zigmond at the University of Pittsburgh, 2000-
25. NIH NIGMS Workshop on Achieving Scientific Leadership Through Diversity, Invited Concluding Address, 2001
26. NIH NHRGI Workshop on Enhancing Minority Participation in Genomics Research, Invited Meeting Organizer, Session Moderator, 2001
27. NIH NIDA Native American Researchers and Scholars Work Group, 2001
28. NIH BRIDGES Program Directors Meeting, Invited Keynote Address, 2001
29. NIH Annual Biomedical Research conference for Minority Students, Session Moderator, 2001
30. AAAS, Minority Scientist Network Mentor Meeting Focus Group, participant, 2001
31. NIH NHGRI Grantees Workshop: Strategies for Increasing the Number of Underrepresented Minorities Participating in Genomics Research, Invited Expert, 2001
32. NIH Annual Biomedical Research conference for Minority Students, Poster Judge, 2002
33. SACNAS - Scientific Session Organizer and Invited Speaker, 2002
34. Panelist: National Science Foundation meeting: Visions and Voices: Educational Leadership in the Research Center Environment. Panel member with Shirley Malcolm (AAAS) and Peter Bruns (HHMI). Panel entitled: Impacting Undergraduate and Graduate Education. Santa Cruz, CA, October 2002
35. Harvard University, Invited speaker at conference: "Disparities in Minority Healthcare: Reaching out to the Community." December 2002
36. National Human Genome Research Institute American Indian Working Group Meeting on the HapMap Project. 2003

37. Conference Co-Chair: "Post Docs: Training & Opportunities in the 21<sup>st</sup> Century." Sponsored by the National Institutes of Health and the Howard Hughes Medical Institute, October, 2003
38. Invited speaker at North East Alliance of Colleges and Universities Meeting: "Highways and Roadblocks to Diversity in Science, Math and Engineering Programs", November, 2003
39. Keynote Speaker, New Directions in American Indian Research, University of North Carolina, Chapel Hill, October, 2005
40. NSF Second Evaluation Capacity Building Meeting, advisor to NSF and AAAS for the AGEP program, San Juan, PR. January, 2006
41. FASEB, Washington, DC. Invited presentation, 2007
42. National Academies of Sciences, May 2007 workshop "*Understanding Interventions that Encourage Minorities to Pursue Research Careers: Major Questions and Appropriate Methods.*" Invited speaker
43. Compact for Faculty Diversity; Institute on Teaching and Mentoring; two presentations: "Enhancing the Postdoctoral Experience for Scientists and Engineers" and "The Road to Tenure During the First Years of the Professoriate: Getting a Strong Start in Your Academic Career" 2007
44. National Science Foundation. Mini-Symposium on Native Americans in Science and Engineering. Invited Speaker and session moderator. October 2008
45. Turner Fellowships Dinner, SUNY Stony Brook, Keynote Speaker, October 2008
46. AAAS/SACNAS Leadership Institute, Washington, DC Keynote Speaker, July, 2009
47. AAAS/ PAESMEM Building Science, Engineering and Technology Leadership Workshop, Workshop speaker, October, 2009
48. NIGMS Workshop Speaker: "Advancing Biomedical Research Workforce Diversity - NIGMS Workshop for Postdocs Transitioning to Independent Position" February, 2010
49. Compact for Faculty Diversity; Institute on Teaching and Mentoring; two presentations. October, 2010
50. Compact for Faculty Diversity: Institute on Teaching and Mentoring. October, 2011
51. President's Council of Advisors on Science and Technology (PCAST) Planning Meeting on Higher Science, Technology, Engineering, and Mathematics (STEM) Education, White House Conference Center, 2011.
52. Compact for Faculty Diversity, 2015
53. SACNAS, 2015

g). Honors and Awards:

Research Career Development Award, NIH 1981 - 1986  
 STEPS Fellow, Marine Biological Laboratory, Woods Hole, Mass. 1975.  
 University of California Chancellor's Graduate Fellowship, 1974.  
 Distinguished Alumnus Award, California State Polytechnic University, 1993  
 Member of the Corporation, Marine Biological Laboratory  
 E. E. Just Award and Lecturer, American Society for Cell Biology, 2001

Seventh Clifford Barger Hinton-Wright Lecturer, Harvard Medical School, 2002  
Elected Fellow, American Association for the Advancement of Science, 2004  
FR Lillie Fellowship, Marine Biological Laboratory, Woods Hole, MA 2011  
Elected Fellow, American Society for Cell Biology, 2017

## 11. OTHER PROFESSIONAL ACTIVITIES:

### a) Postdoctoral Fellows Supervised:

1. Robert Stidwill, 1981 - 1984; Prof., Univ. Zurich
2. Theresa Wysolmerski, 1981 - 1982; Prof., College of St. Rose
3. Kay Broschat, 1982 - 1990; Scientist, Monsanto Corp.
4. Steve Obenauf, 1985 - 1989; Prof., Broward Community College
5. Gary Walker, 1988 - 1995; Prof., Youngstown State Univ.
6. Karl Fath, 1988 - 1998; Assoc. Prof, Queens University
7. James George, sabbatical 1989-1990 Professor, Univ of Okla Sch Med
8. Noelette Conway, 1990-1991; Instructor, Carnegie Mellon Univ.
9. Fred Harrington, 1992-1993 Private Industry
10. Gina Trimbur, 1993-1995 Private Industry
11. Brad Shuster, 1996-2001; Assoc Professor, New Mexico State University
12. Ethan Shimony, 2001-2002; Postdoc, Harvard Medical School

### b) Testified on April 14, 1987 before U.S. Senate Subcommittee on Federal Spending Budget, and Accounting of the Committee on Governmental Affairs

Outside Reviewer for the Department of Biological Sciences, Youngstown State University, 1998

Testified to Congressional Commission on the Advancement of Women and Minorities in Science, Engineering and Technology, Seattle, WA, Oct. 1999

Member of Advisory Committee for program on Genetic Education for Native Americans, 1999- present

External Advisor to Univ. California San Francisco/San Francisco State University Collaborative-Cancer Research and Research Training Grant 2001

External Advisory Board Member, NSF Center for Adaptive Optics, University of California, Santa Cruz, 2002-2010

Finance/Funding Options Taskforce, Marine Biological Laboratory, Strategic Planning Process, 2002

Appointed to Nominating Committee for the Science Council for 2002-2003, Marine Biological Laboratory, Woods Hole, MA by the Director

Chair, Education Committee (Committee on Courses), Marine Biological Laboratory, Woods Hole, 2009-present

Invited participant as SACNAS Past-President, National Science Board Award Ceremony. 2002 Public Service Award to the Society for the Advancement of Chicanos and Native Americans in Science as "The Premier Minority Science Organization."

Chair, Education Committee, Marine Biological Laboratory, 2003-2015

Program Steering Committee Chair, Dana Farber/Harvard Medical School Cancer Center-University of Massachusetts, NCI U54 Program

Member, Physiology Course Director Search, Marine Biological Laboratory, 2003

Member, Blue Ribbon Task Force, Study on Underrepresented Groups in Science, Technology, and Math. New England Board of Higher Education 2002-2005

Site visitor for the Harvard Project on American Indian Economic Development; Choctaw Indian Nation, Choctaw, MS August 2003; Zuni Indian Nation, April 2002.

iBio Seminars, Advisory Committee member, 2011-2015

iBio Magazine web presentation on mentoring minority students

## **12. COMMUNITY SERVICES**

American Heart Association of Greater Miami,  
Scientific Careers Committee 1984-1986.

Member of Diaconate at Plymouth Congregational Church - Miami, FL, 1988-1990.

Executive Board and Fund Trustee, Falk School PTA, Pittsburgh, PA 1994-1995;

Coach, Dynamo Youth Soccer, Pittsburgh, PA 1994-96;

Coach, Newton Youth Soccer, Newton, MA 1998;

Coach, Newton Girls Soccer, Newton, MA 2016

Coach, Newton Little League, Newton, MA 2000;

Community Member for Newton, MA Public Schools K-12 Science & Technology Review Committee, 1999-2001.

Member, Advisory Council, North American Indian Center of Boston, 2006-2009



## **PART B: BIBLIOGRAPHY**

### **1. SCIENTIFIC ARTICLES IN REFEREED JOURNALS**

- Burgess, D.R. and R.D. Grey. 1974. Alteration in morphology of developing microvilli elicited by cytochalasin B: Studies of embryonic chick intestine in organ culture. *J. Cell Biol.* 62:566-574.
- Burgess, D.R. 1975. Morphogenesis of intestinal villi. II. Mechanism of formation of previllous ridges. *J. Embryol. Exp. Morph.* 34:723-740.
- Burgess, D.R. 1976. Structure of the epithelial-mesenchymal interface during early morphogenesis of the chick duodenum. *Tissue and Cell* 8:147-158.
- Burgess, D.R. and T.E. Schroeder. 1977. Polarized bundles of actin filaments within microvilli of fertilized sea urchin eggs. *J. Cell Biol.* 74:1032- 1037.
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- Allen, R.D., L.R. Zacharski, S.T. Widirstky, R. Rosenstein, L. Zaitlin, and D.R. Burgess. 1979. Transformation and motility of human platelets. Details of the shape change and release reaction observed by optical and electron microscopy. *J. Cell Biol.* 83:126-142.
- Matsudaira, P.T. and D.R. Burgess. 1979. Identification and organization of the components in he isolated microvillus cytoskeleton. *J. Cell Biol.* 83:667-673.
- Matsudaira, P.T. and D.R. Burgess, 1982. Partial reconstruction of the microvillus core bundle:Characterization of villin as a Ca<sup>++</sup>-dependent, actin bundling/depolymerizing protein. *J. Cell Biol.* 92:748-656.
- Matsudaira, P.T. and D.R. Burgess. 1982. Organization of the cross filaments in intestinal microvilli. *J. Cell Biol.* 92:657-664.
- Burgess, D.R. and B.E. Prum 1982. A re-evaluation of brush border motility. Calcium induces core filament solation and microvillar vesiculation *J. Cell Biol.* 94: 97-107.
- Burgess, D.R. 1982. Reactivation of intestinal epithelial cell brush border motility. ATP-Dependent contraction via a terminal web contractile ring. *J. Cell Biol.* 95: 853-863.
- Broschat, K.D., R.P. Stidwill, and D.R. Burgess. 1983. Phosphorylation controls brush border motility by regulating myosin structure and association with the cytoskeleton. *Cell.* 35: 561- 571.
- Stidwill, R.P., T. Wysolmerski, and D.R. Burgess. 1984. The brush border cytoskeleton is not static: In vivo turnover of proteins. *J. Cell Biol.* 98: 641-654.

- Stidwill, R.P. and D.R. Burgess. 1986. Regulation of intestinal brush border microvillus length during development by the G-to F-actin ratio. *Develop. Biol.* 114: 381-388.
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- Burgess, D.R., K.O. Broschat and J. Hayden. 1987. Tropomyosin distinguishes between the two actin binding sites of villin and affects actin binding properties of other brush border proteins. *J. Cell Biol.* 104: 29-40.
- Yabkowitz, R. and D.R. Burgess. 1987. Low ionic strength solubility of myosin in sea urchin egg extracts is mediated by a myosin binding protein. *J. Cell Biol.* 105: 927-936.
- Broschat, K.O., A. Weber, and D.R. Burgess. 1989. Tropomyosin stabilizes the pointed end of actin filaments by slowing depolymerization. *Biochemistry.* 28: 8501-8506.
- Burgess, D.R., W. Jiang, S. Mamajiwalla, and W. Kinsey. 1989. Intestinal crypt stem cells possess high levels of cytoskeleton-associated phosphotyrosine-containing proteins and tyrosine kinase activity relative to differentiated enterocytes. *J. Cell Biol.* 109: 2139-2144.
- K. Fath, S.D. Obenauf, and D.R. Burgess. 1990. Development of the adult enterocyte cytoskeleton: Brush border formation and expression of cytoskeletal proteins and mRNAs. *Development.* 109:449-459.
- Walker, G., R. Yabkowitz, and D.R. Burgess. 1991. Mapping the binding domain of a Myosin II-binding protein. *Biochemistry.* 30: 10206-10210.
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Alford, L.M, M. Ng, and D.R. Burgess. 2009. Cell Polarity Emerges at First Cleavage in Sea Urchin Embryos. *Developmental Biology.* 330: 12-20. PMID: 19298809

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Atilgan, E., D. Burgess, and F. Chang. 2012. Localization of cytokinesis factors to the future cell division site by microtubule-dependent transport. *Cytoskeleton.* 69: 973-982.

Pollard, T.D., D. Burgess, and I. Mabuchi. 2012. Remembrance of Ray Rappaport, pioneer in the study of cytokinesis. *Cytoskeleton.* 69: 659-679.

Moorhouse, K. and D. Burgess. 2014. How to be at the right place at the right time: The importance of spindle positioning in embryos. *Mol Reprod & Devel.* 81: 884-895.

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Bennett, M., J. Meaders, S. Ruvolo, D. Burgess. 2017. Labeling membrane domains in dividing echinoderm eggs. In: *Methods in Cell Biology: Cytokinesis.* A. Echard, Ed. pp. 1-12.

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Alex McDougall, Celine Hebras, Gerard Pruliere, David Burgess, Vlad Costache, R emi Dumollard, Janet Chenevert. 2017. Role of midbody remnant in meiosis II creating tethered polar bodies. *bioRxiv* 191981; doi: <https://doi.org/10.1101/191981>

## 2. BOOKS, REVIEWS AND BOOK CHAPTERS

Burgess, D.R. 1977. Structure of the meiotic apparatus and its relation to polar body formation in the egg of *Ilyanassa obsoleta*. In: I.C.N.-UCLA Winter Conference Volume on Structure and Function of the Cytoskeletal System. Cell Shape and surface architecture. Progress in clinical biological research Vol. 17. Revel. J.P., Henning, U. & Fox. D.F., eds., p. 569.

Burgess, D.R. and T.E. Schroeder. 1978. Cyto musculature and cytoskeleton in morphogenesis. In: The Cytoskeleton in Normal and Pathological Processes. G. Gabbiani, ed. S. Karger, Basel, Switzerland.

Matsudaira, P.T. and D.R. Burgess 1982. Structure and function of the brush border cytoskeleton. In: Cold Spring Harbor Symp. 46: 845-854.

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Brinkerhoff, L.E., L.A. Sheldon, M.C. Benoit, D.R. Burgess, and R.L. Wilder 1985. Effects of retinoids on rheumatoid arthritis: a proliferative and invasive non-malignant disease. In: CIBA Symposium on Retinoids.

Burgess, D.R. 1987. The intestinal epithelial cell cytoskeleton. In: "Advances in Cell Biology." K.R. Miller, ed. JAI Press, New York.

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Mamajiwalla, S., K. Fath, and D.R. Burgess. 1992. Development of the chicken intestinal epithelium. In Current Topics in Development Biology. E. Bearer, editor. Academic Press/San Diego, CA 26: 123-143.

Fath, K.R., S.N. Mamajiwalla and D.R. Burgess. 1993. The Cytoskeleton in Development of Epithelial Cell Polarity. J. Cell Science. 17: 65-73

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Fath, K.R. and D.R. Burgess. 1996. Role of the Cytoskeleton and Molecular Motors in Transport Between the Golgi Complex and Plasma Membrane. in: Membrane Protein-Cytoskeleton Interactions. W. James Nelson, ed. Current Topics in Membranes, Vol. 43: 53-71. Academic Press.

Stow, J.I., K.R. Fath and D.R. Burgess. 1998. Budding Roles for Myosin II on the Golgi Complex. Trends in Cell Biology. 8: 138-141.

Strickland, L., G. Von Dassow, J. Ellenberg, V. Foe, P. Lenart, and D. R. Burgess. 2004. Light Microscopy of Echinoderm Embryos. In: The Development of Invertebrate Deuterostomes: Experimental Approaches. A Volume in Methods in Cell Biology. Edited by: C.A. Ettensohn, G. Wray, and G. M. Wessel.

Chang, F. and D. Burgess. 2003. The contractile ring. Current Biology. 13: R692-R693

Strickland, L.I. and D. R. Burgess. 2004. Pathways for membrane trafficking during cytokinesis. Trends in Cell Biology, 14/3: 115-118.

Burgess, D.R. 2005. Cytokinesis. New Roles for Myosin. Curr. Biol. 15: R310-311.

Burgess, D.R. 2005. Rounding-up on the TCB Cytokinesis series. Trends in Cell Biology. 15: 633-634.

Burgess, D.R. and F. Chang. 2005. Site selection for the cleavage furrow at cytokinesis. Trends in Cell Biology. 15: 156-162.

Burgess, D.R. 2007. Taking on that first faculty job. Nature 447, 1142 – 1142.

Alford, Lea M. and David R. Burgess. 2008. Cytokinesis: A New Lipid Aboard the Raft. Current Biology. 18(19) pp. R921 - R923.

McKay, H. and D.R. Burgess. 2010. Life is a Highway: Membrane Trafficking During Cytokinesis. Traffic, 12: 247-251.

### 3. OTHER

#### a. **Policy and Education:**

Burgess, D.R. 1996. Are Foreign Students Displacing Minorities in Biomedical Graduate Education? Journal of NIH Research, Vol. 9, No. 4: 17-21.

Burgess, D.R. 1997. Barriers to Graduate School for Minority-Group Students. Chronicle of Higher Education, Invited Article, Vol. XLIV, No. 7: B7-8.

Burgess, D.R. 1998. Where Will the Next Generation of Biomedical Scientists Come From? Cancer. 83/8: 1717-1719.

One of one hundred authors of letter to the editor published in the New York Times January 21, 2005. Re "Harvard President Apologizes Again for Remarks on Gender" (news article, Jan. 20):

"Gender Differences and Performance in Science" 2005 Letter to the Editor, *Science* 307: 1043. Muller, et al.

Andrew G. Campbell, Michael J. Leibowitz, Sandra A. Murray, David Burgess, Wilfred F. Denetclaw, Franklin A. Carrero-Martinez, and David J. Asai. 2013. Partnered Research Experiences for Junior Faculty at Minority-Serving Institutions Enhance Professional Success. *CBE Life Sci Educ* 2013;12 394-402.

IBio Magazine web presentation: Mentoring Students of Color. 2013.  
<http://www.ibiomagazine.org/issues/december-2012-issue/david-burgess.html>

**b. Thesis:**

Burgess, D.R. 1974. Morphogenesis of the intestine in the early chick embryo. Ph.D. Thesis. University of California Davis.

**c. Books in which figures from my publications have appeared:**

"Molecular Biology of The Cell" by: Alberts, Bray, Lewis, Raff, Roberts and Watson.  
"Principles of Cell Biology" by Kleinsmith and Kish.  
"Molecular Cell Biology" by Darnell, Lodish and Baltimore  
"Cell and Molecular Biology" by Gerald Karp

**d. Book reviews:**

"Cell Motility. Mechanism and Regulation" eds. H. Ishikawa, S. Hatano, and H. Sato. 1986. Review published in Science: 234:492. By D.R. Burgess.