Raquell M Holmes, Ph.D.

Education

University of California at Santa Cruz	B.A.	1991	Biology
Sackler School, Tufts University, Boston, MA	Ph.D.	1997	Cell, Dev. Biology
Dana Farber Cancer Institute, Boston, MA	Res. Fellow	1997-1998	Cancer Biology
Dept. of Pathology, Harvard Univ., Boston, MA	Res. Fellow	1997-1998	Cancer Biology

A. Positions and Honors

Positions and Employment

1998-2000 Coordinator of Recruitment and Retention, Bioinformatics Graduate Program, Boston University, Boston, MA

1998-2005 Program Manager of EOT-PACI, Center for Computational Science, Boston University, Boston, MA

2001-2003 Financial Director, Institute for African-American E-culture, Inc.

2005 Visiting Assistant Professor, Biology Department, Beloit College, Beloit, WI

2000-present Research Assistant Professor, Center for Computational Science, Boston University, Boston, MA

2007-present Assistant Professor, Center for Cell Analysis and Modeling, University Connecticut Health Center, Farmington, CT

2010-present Director of Outreach, Recruitment, Retention, Center for Cell Analysis and Modeling, University Connecticut Health Center, Farmington, CT

Other Experience and Professional Memberships

1989-1991 Minority Access to Research Careers (MARC)- NRSA, NIH

1993 MBL American Society for Cell Biology

1993 Marine Biological Laboratories (MBL) Porter Foundation Scholarship

1991-1996 Minority Access to Research Careers (MARC), Pre-doctoral Fellow, NIH

1997-1998 National Research Service Award (NRSA), NIH.

1998 Fred Newman Scholarship Fund, East Side Center for Short Term Psychotherapy, NY, NY

1999-2001 Member, Committee of the Northeast Alliance for Minority Graduate Education, Boston University, Boston, MA

1999-2004 Member, Institute of Electrical and Electronic Engineers (IEEE)

1992-present Member, American Society for Cell Biology

1999-present Review Editor, BioQUEST Library, BioQUEST Curriculum Consortium, Beloit College, Beloit, WI

2000-2006 Member, Minority Affairs Committee, American Society for Cell Biology

2000-2006 Liaison/ ad hoc. Education Committee, American Society for Cell Biology:

2000-2008 Poster judge, ASCB, Minority Affairs Poster Session

2001 Review Panel, Department of Commerce, Telecommunication Opportunities Program

2001 Poster Chair, Tapia Symposium: Celebration of Diversity in Computing

2001- 2002 Member, Coalition to Diversify Computing

2001-present Member, Institute for African-American E-culture, Inc.

2002 Review Panel, National Science Foundation

2002-present Advisory Committee, National Computational Science Institute (NSF funded project)

2003-2007 Member of Editorial Board, Cell Biology Education Journal

2004-present Advisory Committee, Computational Chemistry Grid (NSF funded project) Primakoff, P., W.

2005-presnt Review Panels, National Science Foundation CISE, ABI. DBI

2008 Organizer, New England Undergraduate Computing Symposium. Wellesley College, Wellesley, MA

2008-present Chair, Broader Engagement Committee, SC2010

2009 Organizer, New England Undergraduate Computing Symposium. Boston University, Boston, MA

Peer Reviewed Articles

Holmes R. M. and Qureshi M.M. “Performing as Scientists: an improvisational approach to student research and faculty collaboration” BioScene, March 2006.

Articles

Holmes R.M., Cuhna M.J. and Albertini D.F. “Cytoskeleton-mediated aspects of signal transduction,” in Cell Structure and Signaling. Editor, Getzenberg R.H. In: Advances in Molecular and Cell Biology, Series Editor, Bittar EE JAI Press Inc. 1997. vol 24, p.95-123.

Can A., Holmes R.M. and Albertini D.F. “Analysis of the mammalian ovary by confocal microscopy,” in Microscopy of Reproduction and Development: A Dynamic Approach, Motta P.M., Editor, 1997, p101-108.

Holmes R. and Giles R., “Minority Participation in Computational Science.” Computing in Science & Engineering, March/April 2000, p 11-13.

Holmes R. M. “Visiting Faculty at Beloit College: Learning new performances” BioQUEST Notes, Summer 2006.

Holmes R. M. and Loew L.M. "Geometry Shapes Cell Signaling Network Output" *Chemistry & Biology*, June, 2008 doi:10.1016/j.physletb.2003.10.071

Holmes, R.M “Physics in a Beautiful Context” CBE Life Sci Educ 9(3): 154-156 2010 DOI: 10.1187/cbe.10-06-0080

Books and Chapters

Holmes R.M. (2007) *A Cell Biologist’s Guide to Modeling and Bioinformatics.* John Wiley & Sons. New York.

M.K. Levin, M.H. Hingorani, R.M. Holmes, S.S. Patel, J.H. Carson (2008) "Model-based global analysis of heterogeneous experimental data using gfit" in Methods in Molecular Biology/Systems Biology, I.V. Maly, ed., Humana Press, Inc. (2009)

Posters Presentations

Holmes R.M., Messinger S.M. and Albertini DF 1993. "Mouse oocyte centrosome MT nucleating capacity is influenced by hormone exposure." Mol Biol Cell 4:27a.

Holmes R.M. and Albertini D.F. 1994. "Changes in tyrosine phosphorylation during ovarian follicular development in the mouse." Biol Reprod 50:182.

Holmes R.M. and Albertini D.F. 1994. "Coincident expression of phosphotyrosine and FGFR-1 during ovarian follicular development and differentiation." Mol Biol Cell 5:96a.

Holmes R.M. and Albertini D.F. 1996. "Coordinated cadherin and phosphotyrosine expression during murine ovarian follicular development." Biol Reprod 54:189.

Holmes, R.M. 2006 "Workshop Design: Computational Biology for Biologists and Mathematicians." 46th Annual Meeting of American Society for Cell Biology, San Diego, CA.

Holmes, R.M. 2005 "Mathematical modeling of the cell-cycle: a research project in undergraduate cellular, developmental biology." American Society for Cell Biology, 45th Annual Meeting.

Holmes, R.M. 2005. "Developing Faculty-Student Collaborations: An Improvisational Performance." American Society for Cell Biology, 45th Annual Meeting.

Ngyuen,B. and Holmes, R.M. 2009 “CompCellBio Web: A Collaborative Resource for Curriculum Development in Mathematical Modeling.” American Society for Cell Biology, 49th Annual Meeting, San Diego, CA.

Holmes, R.M. 2010 “Web Accessible Resources For Teaching Quantitative Cell Biology At Undergraduate And Graduate Levels.” 54th Annual Meeting of Biophysical Society, San Francisco, CA.

Conference Workshops, Panels, and Talks

Holmes, R.M. and Grisham, L. 2000 "Wanted System Thinkers: For exciting science opportunities," Creative Learning Exchange, Skamania, WA

Holmes, R.M. 2000 "Computational Science, Education and Research: Filling the Gaps," SIAM, Conference on Computational Science, Washington D.C.

Holmes, R.M. 2001 "Computational Biosciences," Mini Session, SC Global, SC01, Denver, CO

Holmes, R.M. 2001 "Technology Development Zones: A Cultural Approach to Technology," Performing the World, Montauk, NY

Fass, M., Holmes, R.M., and Johnson C. 2005. "Transforming hiv/aids through dance: a sociocultural and biological exploration." Performing the World, conference. Tarrytown, NY.

Holmes, R. M. Cowan, A. E,. Loew L. M. “A Multiscale Education and training Approach to Developing Quantitative Cell Biologists” Biomedical Technology Research Resources and Resource Centers, PI Meeting, Washington, DC Nov, 2008

Holmes, R.M. Holmes, R. M. Cowan, A. E,. Loew L. M. “Bringing new technologies to biology education and research communities,” Technology Centers for Networks and Pathways All Hands Meeting, Washington D.C. 2007

Holmes, R. M, Cowan, A. E,. Moraru, I. I., Schaff, J., Slepchenko, B. M., Loew L. M. 2007 “Teaching Modeling and Quantitative Biology.” American Society for Cell Biology, 47th Annual Meeting

Holmes, R. M, Cowan, A. E,. Moraru, I. I., Schaff, J., Slepchenko, B. M., Loew L. M. 2008 “Quantitative Biology and Modeling.” American Society for Cell Biology, 48th Annual Meeting, San Francisco, CA

Giles, R.C, Holmes, R.M. Metoyer, R. “What programs really work for students interested in research and computing?” Birds of a Feather, SC09, Portland, OR

Holmes R.M. and Dougherty, E. 2010 “Does performing science change science or scientists?” Performing The World Conference, October 3, 2010 New York, New York

Holmes, R.M., Hug, S., Clark, A., Martinez, J., and Bresnahan, G. 2010“Community and Cultural Approaches to developing a diverse IT workforce” Special Projects- Workforce Development Track, SC10, New Orleans, Louisiana

Invited Talks (reverse order)

"Computational Cell Biology and the Virtual Cell Simulation Framework," Georgia Southern University, Savannah, GA February, 2010

"What did the software engineer say to the biologist, chemist, & physicist?" Year of Science Speaker, University Connecticut, Stamford, CT November 3, 2009

"Computing, Biology and Dynamics" Introduction to Computer Science Course, Colby College, April, 2009

"Quantitative models: why do experimentalists use them?" HHMI Visiting Scholar Series, St. Joseph University, Philadelphia, PA 2009

"Modeling the Cell Cycle with the Virtual Cell" Science Collaboratory: Open Participatory Learning, Emory University. Jan 2009

"Leveraging Infrastructure: Promoting Computational Approaches Among Cell Biologists" iPlantCollaborative Molecular Mechanisms Workshop, Tuscon, AZ Nov. 2008

"Teaching Modeling and Quantitative Biology" Education Initiative, American Society for Cell Biology, Washington D.C. 2007

"Successful Education, Outreach and Training: Build Community," GridChem Workshop, April,2005

"Modeling the cell cycle, new skills in undergraduate biology education," Investigating Interdisciplinary Interactions, BioQUEST summer workshop. Beloit College, Beloit, WI. June, 2005.

"Biology Education and Research Includes Technology," National Science Teachers Association, regional meeting. Chicago, IL. November, 2005.

"Computer modeling of cellular processes," Spelman College. Biology Department, 2004

"From Cell Biology to Computational Biology," BioQUEST Workshop, Emory University, Atlanta, GA 2001

"Computational Science: Supporting Research and Education," Long Island University, Brooklyn, NY 2001

"Society, Biology, Computers: Views from a black woman scientist," American Association of University Women, 2001

"People, Technology, People: The Access Network," Alliance Chatauqua, Boston University 2000

"Video-Conference in Research and Education," Distance Learning Center, Boston University 2000

"Computational Science and the Researcher", New England Partners in Scientific Collaboration, Southern Maine Technical College. 1999

"Independence and the African American Community", Young Black Entrepeneurs, Roxbury Community College, Boston, MA. 1996

Community Education and Outreach

2005-2007 Science Fair Judge, Boston Arts Academy, Boston, MA

2001-2010 Volunteer, Boston All Stars, Boston, MA.

2009 Course Instructor, "What does performance have to do with emotional growth?" Revolutionary conversations Series on Social therapeutics of Newman & Holzman, Boston Social Therapy Group, Boston, MA.

2009 Course Instructor, "Performing Science: Can we create environments of transform and discovery? Revolutionary conversations Series on Social therapeutics of Newman & Holzman, Boston Social Therapy Group, Boston, MA.

2009 Workshop, "Experimental Workshops in Improvisation for Scientists." Harvard University, Systems Biology, Boston, MA.

2010 Workshops, “Introduction to Improvisational Theater for scientists” Harvard University, Systems Biology, Boston, MA

2010 Workshops, “Introduction to Improvisational Theater for scientists” University of Connecticut Health Center, Center for Cell Analysis and Modeling, Farmington, CT