

Renée M. Gilberti, Ph.D.

75 Hockanum Blvd, Apt 624, Vernon, CT 06066
Phone: (781) 454-8078 / e-mail: renee.gilberti@gmail.com

PROFILE:

Ph.D. in Cell Biology with extensive experience characterizing a unique phagocytosis and vesicle trafficking signal transduction pathway critical to the progression of the development of the chronic lung fibrosis, silicosis. Post-doctoral research training in Biochemistry characterizing dynein motor - related flagella associated proteins involved with intraflagellar transport. Currently employed as Program Coordinator of the University of Connecticut McNair Scholars TRiO Program. Depth of knowledge teaching and mentoring in S.T.E.M. laboratory and lecture environments for over seven years. Excellent writing skills with two years of science editorial experience. Proven ability to work in an organized and efficient manner as a teacher, mentor, or leader in dynamic settings. Served as a Gordon Research Seminar Chair as well as University of Connecticut President of the Molecular Cell Biology Graduate Student Association while pursuing a Ph.D. degree.

EDUCATION:

University of Connecticut, Storrs, CT	2003 - 2011	<i>Ph.D., Cell Biology</i>
University of New Hampshire, Durham, NH	1999 - 2003	<i>B.S., Microbiology</i>

ADMINISTRATIVE EXPERIENCE:

University of Connecticut, Storrs, CT	2013 - Present
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- Center for Academic Programs – McNair Scholars Program Coordinator
- April 2013 - Present: Aiding in the development of the first McNair Scholars Program at the University of Connecticut, a TRiO Program for undergraduate students from first-generation/ low-income families and/ or under-represented populations in Ph.D. programs who are studying S.T.E.M. disciplines to develop skills necessary to pursue S.T.E.M. Ph.D. degrees.

TEACHING AND MENTORING OPPORTUNITIES:

University of Connecticut: Center for Academic Programs
McNair Scholars Program Coordinator (April 2013 – Present)

University of Connecticut: Molecular and Cell Biology
Cell Biology Journal Club for MCB Honors students - TA (3 semesters)
Biology laboratory for MCB majors - TA (2 semesters)
Cell Biology lecture for MCB majors - TA (3 semesters)
Microbiology laboratory for MCB majors - TA (2 semesters)
Biology laboratory for non-MCB majors - TA (2 semesters)
Research Lit in Molecular and Cell Biology - Instructor (1 semester)
Pre-college Enrichment Biology lecture and laboratory - Instructor (1 summer)
Northeast Alliance at the University of Connecticut Summer Research Program for Minority Undergraduates - Graduate Mentor (1 summer)

University of New Hampshire: Molecular, Cellular, and Biomedical Sciences
Biology laboratory - undergraduate TA (1 semester)
Pathogenic Microbiology laboratory - undergraduate TA (1 semester)

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S.T.E.M. RESEARCH EXPERIENCE

University of Connecticut Health Center, Farmington, CT

2011 - 2013

- Post-doctoral Research Fellow
- March 2012 - March 2013: *Stephen M. King, Ph.D., Molecular, Microbial, and Structural Biology*: Utilization of the bi-flagellate green alga, *Chlamydomonas reinhardtii*, to study structural components of the dynein motor protein at the molecular, biochemical, structural, and cellular levels, particularly with relation to FAP163 and FBB18 proteins during intraflagellar transport.
- September 2011 - March 2012: *Jennifer S. Tirnauer, M.D., Center for Molecular Medicine*: Studied myoblast C2C12 cells to investigate the effects of microtubule destabilization and stabilization on differentiation, CRMP2 (collapsin response mediator protein 2) phosphorylation, and the effect of CRMP2-actin binding on CRMP2 function.

University of Connecticut, Storrs, CT

2003 - 2011

- Graduate Assistant/ Teaching Assistant
- *Molecular and Cell Biology: Cell and Developmental Biology Ph.D. Program*
- Dissertation Title: The Molecular Pathway of Non-opsonized Particle Phagocytosis and the Relationship to Silica-induced Cell Death.
- Principal Investigator: David A. Knecht, Ph.D.
 - Established, for the first time, the kinetics of antibody-coated (opsonized) and protein-coated (non-opsonized) particle phagocytosis.
 - Determined that opsonizing silica particles suppresses silica-induced cell death.
 - Characterized the internalization and downstream vesicle trafficking pathways of non-opsonized silica and latex beads.
 - Identified that the rate of non-opsonized particle phagocytosis is temperature-dependent.
 - Determined that the presence of microtubules is necessary for non-opsonized particle uptake.

2007 – 2011

- *Inter-departmental collaboration: The Institute of Materials Science and the Department of Chemical, Materials, and Biomolecular Engineering*
- Principal Investigator: Bryan D. Huey, Ph.D.
 - Investigation of the Actin Cytoskeletal Response of Live MH-S Cells to Nano-newton Forces using Atomic Force Microscopy, Nano-indentation, and 3-D Optics techniques.

Undergraduate Research Experience

2000 - 2002

- Summer Volunteer – Microbiology laboratory assistant, *Lahey Clinic, Burlington, MA*
- Summer Volunteer – Molecular Biology laboratory assistant, *Edith Norse Rogers Memorial Veteran's Hospital, Bedford, MA* (Principal Investigator: John Wells, Ph.D.)
- Summer Undergraduate Research Opportunity Fellow – Microbio/ immunology laboratory
 - *University of New Hampshire, Durham NH*
 - Research Goal: to determine if OmpD and OmpD-LPS complexes play an inhibitory role in the attachment of *Salmonella typhimurium* to the macrophage-like cell line, U-937 (Principal Investigator: Thomas Pistole, Ph.D.)

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PUBLICATIONS IN PEER-REVIEWED JOURNALS:

Gilberti, R.M., Joshi, G.N., and D.A. Knecht. The Phagocytosis of Crystalline Silica Particles by Macrophages. *Am J Respir Cell Mol Biol*; 2008. 39: 619-627.

Costantini, L.M., **Gilberti, R.M.**, and D.A. Knecht. The Phagocytosis and Toxicity of Amorphous Silica. *PLoS ONE*; 2011. 6(2): e14647.

Mian, I., Pierre-Louis, W.S., Dole, N., **Gilberti, R.M.**, Dodge-Kafka, K.L., and J.S. Tirnauer. LKB1 destabilizes microtubules in myoblasts and contributes to myoblast differentiation. *PLoS ONE*; 2012. 7(2):e31583.

Patel-King, R.S.*, **Gilberti, R.M.***, Hom, E.F., and S.M. King. WD60/FAP163 is a Dynein Intermediate Chain Required for Retrograde Intraflagellar Transport in Cilia. *Mol Biol Cell*; 2013 [Epub ahead of print].

Note: * indicates equal contributions were made by the authors

Austin-Tse, C.*, Halbritter, J.*, Zariwala, M.A.*, **Gilberti, R.M.**, Hellman, N., Pathak, N., Liu, Y., Panizzi, J., Patel-King, R.S., Tritscher, D., Bower, R., O'Toole, E., Gee, H.Y., Porath, J., Hurd, T.W., Chaki, M., Diaz, K.A., Kohl, S., Lovric, S., Braun, D.A., Schueler, M., Airik, R., Otto, E.A., Omran, H., Porter, M.E., King, S.M., Knowles, M.R., and I.A. Drummond and F. Hildebrandt. A zebrafish ciliopathy screen reveals *C21ORF59* and *CCDC65* defects as causing human primary ciliary dyskinesia. In press.

Gilberti, R.M., Joshi, G.N., and D.A. Knecht. The Molecular Pathway of Non-opsonized Particle Phagocytosis is a Microtubule-dependent Process. In preparation.

Palumbo, V., **Gilberti R.M.**, Huey, B.D., and D.A. Knecht. Combined Atomic Force Microscopy and 3-D Optical Microscopy: Observation of Active Responses of Living MH-S Macrophage Cells to Pico-Newton-Scale Loads. In preparation.

ADMINISTRATIVE SKILLS:

Program development; academic mentoring; academic writing; S.T.E.M. course curriculum development.

LABORATORY SKILLS:

Cell culture of immortalized mammalian cell lines; cell culture of *Chlamydomonas reinhardtii*; cell culture of *Dictyostelium discoideum*; sterile technique; DNA isolation and purification; DNA electroporation and lipofection; transiently-transfected cell cloning; protein purification; SDS PAGE; Western blot; G-LISA; HPLC; immunofluorescence coverslip assays; Fluorescence, Laser Scanning Confocal, Spinning Disk Confocal, Electron, and Atomic Force Microscopy (AFM).

COMPUTER SKILLS:

Microsoft Office PowerPoint, Excel, and Word, iWork Keynote and Pages, Canvas 9, Adobe Photoshop, GraphPad Prism 4.0 and 5.0; Image Processing and Analysis: OpenLab, AndorIQ, and ImageJ.

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LEADERSHIP/ SERVICE ROLES HELD CONCURRENTLY:

University of Connecticut

2009 - 2011	Chair - Phagocytes Gordon Research Seminar, June 18-19, 2011
2009 - 2011	Professional Reviewer - The Journal of Young Investigators
2007 - Present	Career Mentor - University of New Hampshire Alumni Center
2005 - 2011	Chemical Hygiene Officer - Knecht Laboratory
2005 - 2008	President - MCB Graduate Student Association
2005 - 2008	Board of Trustees Honors and Awards Committee
2004 - 2005	Chief Financial Officer - MCB Graduate Student Association

University of New Hampshire

2001 - 2003	S.T.E.M. Academic Mentor - Center for Academic Resources
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AWARDS:

2008: University of Connecticut MCB Departmental Fellowship; Jean Lucas-Lenard Special Summer Fellowship in Biochemistry; University of Connecticut MCB Departmental Retreat Poster Award; University of Connecticut Doctoral Dissertation Fellowship.

2007: Northeast Alliance at the University of Connecticut: Summer Research Program for Minority Undergraduates Graduate Mentorship; University of Connecticut Outstanding Teaching Assistant Award.

2001 - 2003: University of New Hampshire Mover and Shaker Award (2003); University of New Hampshire COLSA Summer Undergraduate Research Opportunities Fellowship (2001 - 2002).

CONFERENCES ATTENDED:

TRiO:

- 32nd Annual Conference of Council for Opportunity in Education, Chicago, IL (2013) (Attending in September)

Scientific Research: Presented a poster at each conference:

- Phagocytes Gordon Research Seminar and Gordon Research Conference, Davidson College, Davidson, NC (2011)
- University of Connecticut MCB Annual Retreat, Tolland, CT (2003 - 2010)
- Phagocytes Gordon-Kenan Research Seminar and Gordon Research Conference, Waterville Valley, NH (2009)
- 48th Annual Meeting of American Society for Cell Biology, San Francisco, CA (2008)
- 60th Annual Meeting and Symposium of the Society of General Physiologists, Woods Hole, MA (2006)
- The American Association of Immunologists Conference, Boston, MA (2006).

PROFESSIONAL ORGANIZATIONS:

2011 - Present	Medicine Who's Who - Affiliated Member
2009 - Present	The American Society for Cell Biology - Member