JULIE HOLLIEN

School of Biological Sciences
257 South 1400 East
Salt Lake City, UT 84112
801-587-7783

2768 Commonwealth Ave
Salt Lake City, UT 84109

hollien@biology.utah.edu

I. EDUCATION

University of California, San Francisco
Postdoctoral scholar, Molecular and Cellular Pharmacology 2002-2008
mentor: Jonathan Weissman

University of California, Berkeley
PhD, Molecular and Cell Biology, 2001
mentor: Susan Marqusee
Thesis title: Comparisons of the thermodynamics and folding of thermophilic and mesophilic ribonucleases H: implications for the temperature adaptation of proteins

Reed College, Portland, OR
Bachelor of Arts, Biochemistry and Molecular Biology, 1995
Thesis title: The metal binding and activation specificity of D-xylose isomerase

II. PROFESSIONAL EXPERIENCE

Current positions:
Associate Professor, School of Biological Sciences, Univ. of Utah (2017)
Section Leader, Cell and Molecular Biology, School of Biological Sciences, Univ. of Utah (2017)
Faculty member, Center for Cell and Genome Sciences, Univ. of Utah (2008)

Previous positions:
Assistant Professor of Biology, Univ. of Utah (2008-2016; family leave in 2011 and 2014)
Postdoctoral Scholar, Jonathan Weissman Lab, UC San Francisco (2002-2008)
Assistant editor, Nature Structural Biology (2001)

III. HONORS and AWARDS

2007- 2011	NIH K99/R01 Pathways to Independence award
2003-2005	Ruth L. Kirschstein National Research Service Award
2001	Alan J. Bearden Award for outstanding PhD dissertation (UC Berkeley)

1998 Outstanding Graduate Student Instructor, UC Berkeley
1995 Phi Beta Kappa, Reed College
1995 American Association of University Women award, Reed College

IV. PUBLICATIONS

* indicates I am corresponding author (or co- corresponding author for research ref 10)

Original research, before coming to Utah:

1. Hollien J, Marqusee S. Structural distribution of stability in a thermophilic enzyme. Proc Natl Acad Sci U S A. 1999. 96(24):13674-8. PMCID: 24123.
2. Hollien J, Marqusee S. A thermodynamic comparison of mesophilic and thermophilic ribonucleases H. Biochemistry. 1999. 38(12):3831-6.
3. Hollien J, Marqusee S. Comparison of the folding processes of T. thermophilus and E. coli ribonucleases H. J Mol Biol. 2002. 316(2):327-40.
4. Hollien J, Weissman JS. Decay of endoplasmic reticulum-localized mRNAs during the unfolded protein response. Science. 2006. 313(5783):104-7.

Original research, with University of Utah affiliation:

*5. Hollien J, Lin JH, Li H, Stevens N, Walter P, Weissman JS. Regulated Ire1-dependent decay of messenger RNAs in mammalian cells. J Cell Biol. 2009. 186(3):323-31. PMCID: 2728407.
6. Passos DO, Doma MK, Shoemaker CJ, Muhlrad D, Green R, Weissman JS, Hollien J, Parker R. Analysis of Dom34 and its function in no-go decay. Mol Biol Cell. 2009. 20(13):3025-32. PMCID: 2704154.
*7. Gaddam D, Stevens N, Hollien J. Comparison of mRNA localization and regulation during endoplasmic reticulum stress in Drosophila cells. Mol Biol Cell. 2013. 24(1):14-20. PMCID: 3530775.
*8. Moore KA, Plant JJ, Gaddam D, Craft J, Hollien J. Regulation of sumo mRNA during endoplasmic reticulum stress. PLoS One. 2013. 8(9):e75723. PMCID: 3776770.
9. Chapin A, Hu H, Rynearson SG, Hollien J, Yandell M, Metzstein MM. In vivo determination of direct targets of the nonsense-mediated decay pathway in Drosophila. G3 (Bethesda). 2014. 4(3):485-96. PMCID: 3962487.
*10. Sharma AK, Plant JJ, Rangel AE, Meek KN, Anamisis AJ, Hollien J, Heemstra JM. Fluorescent RNA labeling using self-alkylating ribozymes. ACS Chem Biol. 2014. 9(8):1680-4.
*11. Lee JE, Oney M, Frizzel K, Phadnis N, and Hollien J. *Drosophila melanogaster* Activating transcription factor 4 Regulates Glycolysis during Endoplasmic Reticulum Stress. G3. 2015. 5(4): 667-75.
*12. Moore K, Hollien J. Ire1-mediated decay in mammalian cells relies on mRNA sequence, structure, and translational status. Mol Biol Cell. 2015. 26(16):2873-84.
13. Nelson J, Moore KA, Chapin A, Hollien J, Metzstein MM. Degradation of *Gadd45* mRNA by nonsense-mediated decay is essential for viability. eLife 2016. 10.7554/eLife.12876
*14. Lee JE, Morrison W, Hollien J. Hairy and enhancer of split 1 (HES1) protects cells from endoplasmic reticulum stress-induced apoptosis through repression of *GADD34*. Journal of Biological Chemistry. 2018. Apr 20;293(16):5947-5955. doi 10.1074/jbc.RA118.002124.

*15. Bae D, Moore K, Mella J, Hayashi S, Hollien J. Degradation of *Blos1* mRNA by IRE1 repositions lysosomes and protects cells from stress. Journal of Cell Biology. 2019. 218(4): 1118-1127.
Highlighted in Science Magazine in "Editor's choice" section, Vol 363, 22 March 2019.
Highlighted by F1000Prime
Highlighted in JCB Special Collection in Lipid and Membrane Biology, July 2019

16. Balakrishnan B, Siddiqi A, Mella J, Lupo A, Li E, Hollien J, Johnson J, Lai K. Salubrinal enhances eIF2α phosphorylation and improves fertility in a mouse model of Classic Galactosemia. BBA - Molecular Basis of Disease. 2019. 1865(11):165516.
17. LaBella ML, Hujber EJ, Moore KA, Rawson RL, Merrill SA, Allaire PD, Ailion M, Hollien J, Bastiani MJ, Jorgensen EM. CK1g maintains nervous system architecture by inhibiting transcriptional termination of giant Ankyrin. In press, Developmental Cell. 2020.

Review Articles (all published with Univ. of Utah affiliation)

*1. Moore KA, Hollien J, *The unfolded protein response in secretory cell function*, Annu Rev Genet 46 (2012) 165-183.
*2. Weil D, Hollien J, *Cytoplasmic organelles on the road to mRNA decay*, Biochim Biophys Acta- Gene Regulatory Mechanisms 1829 (2013) 725-731.
*3. Hollien J, *Evolution of the unfolded protein response*, Biochim Biophys Acta- Molecular Cell Research 1833 (2013) 2458-2463.

Publications while working as assistant editor at *Nature Structural Biology*

Hollien J. (2001) Frizzled proteins pair up. *Nature Structural Biology* 8 (8): 661.
Hollien J. (2001) Chipping away at the proteome's mysteries. *Nature Structural Biology* 8 (9)
Hollien J. (2001) A hormone receptor springs into action. *Nature Structural Biology* 8 (10): 823.
Hollien J. (2001) A force to be reckoned with. *Nature Structural Biology* 8 (11): 925.
Hollien J. (2001) Making Moco. *Nature Structural Biology* 8 (12): 1014.
Hollien J. (2002) A state-of-the-Arp structure. *Nature Structural Biology* 9 (1): 11.

V. RESEARCH AWARDS AND GRANTS

Current projects/grants

2016-2021 "Regulation of mRNA decay and metabolism during ER stress"
National Institutes of Health R35 Maximizing Investigators' Research Award (MIRA)
R35 GM119540
role: PI
budget: approx. $190,000 direct costs per year for 5 years

Completed projects/grants

2016- 2021 "Fluorescent labeling of cellular mRNA using self-alkylating ribozymes"
National Institutes of Health R01, General Medical Sciences

role: co-investigator, with PI Jennifer Heemstra, Chemistry
budget: $190,000 direct costs per year for 5 years (Heemstra lab)
(note the MIRA precludes me from having a budget on other NIH-GMS grants)

2018-2020 "Dentin Sialophosphoprotein (DSPP) and Unfolded Protein Response (UPR) in Dentinogenesis Imperfecta (DGI) and Odontoblast Function"
multiPI grant, NIH
role: consultant

2011-2012 "Development of a Self-labeling Ribozyme for Fluorescence Imaging of RNA in Living Cells"
University of Utah seed grant
role: co-PI with Jennifer Heemstra, Chemistry
budget: $28,000 for 1 year (shared)

2008-2012 "mRNA decay mechanisms for ER stress recovery"
National Institutes of Health R00 GM081255.
role: PI
budget: $165,448 direct costs per year for 3 years plus a no-cost extension to 2012

VII. TEACHING

Main undergraduate courses:
Biol 2020 Cell Biology
3 units, semester-long course

I share the teaching of two concurrent 3-unit sections of this class with Jamie Gagnon, starting in Spring 2019 and continuing each spring semester. This is a required class for biology majors, and also serves many pre-med and other majors. Enrollment is typically ~450 students for the two sections. Students learn about structure/function relationships and information/energy flow within and between cells. We have re-designed this class to include extensive active learning and other evidence-based methods of teaching.

Biol 5120 Gene Expression
3 units, semester-long course (45 class meetings/semester)

I developed this as a new class for upper-division cell and molecular undergrads. Taught 7 semesters, in spring 2010 and 2011, fall 2012, 2013, 2015, 2016, 2017 (on leave fall 2011 and 2014). Typical enrollment was 40 students (after the first 2 years). Students gained an in-depth understanding of how cells regulate gene expression at many levels, and learned how to read and evaluate data in scientific literature. I used many active-learning approaches, such as journal club discussions and peer review, and experimental design workshops.

Graduate-level and other teaching:

2009, 2015, 2018-2019	Biol 2870, Frontiers in Biology (1 research presentation for undergrads)
2012, 2019	Biol 7962 Seminal Papers in Biology (2 weeks of class meetings, graduate paper-based course)
2013-2016	MBiol 6480 graduate Cell Biology (2 lectures per year for 4 years)
2013, 2015-2019	Biol 7206 Intro to Research (1 research presentation for first-year graduate students)
2011	MBiol Journal Club/grant writing course (with co-instructors Markus Babst and Adam Frost) (weekly 2-hour meetings for full semester)
2010, 2011	MBiol6440 graduate Gene Expression (3 lectures per year for 2 years)

VIII. STUDENT RESEARCH and MENTORING

Current lab members

Graduate Students (3)

Danny Bae (joined 2016 from MCEB)
Katie Piscopo (joined 2019 from MCEB)
Catalina Anthony (joined 2020 from MCEB)

Undergraduates (3)

Rachel Jones (Sept 2018-)
Kiyo Obayahi (October 2019-)
Brooke Larsen (October 2019-)

Technician (1)

Gabriela Rocha (undergrad July 2018-)

Previous lab members

Graduate students

Zoe Praggastis (joined 2017 from MBP). on leave fall 2019-2020
Ji Eun (Jinny) Lee, PhD 2017
joined 2012 from MCEB
postdoctoral fellow, Ventura Lab at the Sloan Kettering Cancer Center
research scientist, Tolero Pharmaceuticals
Kristin Moore, PhD 2015
joined 2011 from MB
received Riser award for outstanding thesis research
postdoctoral fellow, Cameron Lab at the Univ. of Colorado, Boulder
visiting assistant professor, Colorado College
William Morrison, MS 2015
joined 2014 from MB
scientist at Myriad, then Recursion Pharma
Jonathan Craft

2009 transferred from D. Gard lab, 2011 left for position at Myriad

Postdoc

Joshua Plant, Feb.-July 2012, left to become Director of Research Sciences at Zija International

Undergraduate students (14)

Jessica Mella, Jan 2017- August 2019 (PhD program, UC San Francisco)
Emily Tippets, Jan 2016- July 2019 (PhD program, Univ of Utah, BC program)
Sam Hayashi, Jan 2016- July 2019 (PhD program, SUNY Stony Brook)
Maria Reyes, spring 2019 (transferred to SLCC)
Merry Joseph, spring 2019
Robert Byron, March 2015- May 2018 (medical school, UU)
McKenna Oney, Feb 2013-Sept 2014 (pharmacy school, UU)
Daniel Curtis, fall 2013
Alex Ellredge, 2012
Dong-Hwi (Danny) Bae, 2011 (Chicago Podiatry Medical School, then UU as PhD student)
Brittany Ripley, fall semester 2010 (pharmacy school at UCSD)
Beux Dmitrich, 2010 (business school at Utah State)
Sitney Chogas, fall semester 2009 (Med Lab Sciences program, UU)
Stewart Barlow, 2008-2009 (biomedical school, Georgetown University)

Technicians and lab assistants (2)

Deepika Gaddam, June 2009-July 2013 (lab technician, Utah State University)
Nicole Stevens, 2008-2010 (scientist at DoTerra, then PhD student)

IX. SERVICE

Biology committees

2020-2021	Equity, diversity and inclusion committee (chair)
2017-2020	Executive committee, section head for Cell and Molecular Biology
2012-2019	BioKids daycare (chair)
2016-2017	Curriculum Reform Task Force
2014-2016	Graduate Admissions
2012-2014	Graduate Program Committee
2012-2014	Advisor for first year graduate students, MCEB
2009-2014	Undergraduate scholarship
2009-2012	Communications

Biology ad-hoc and search committees

2019	Search for Director of School (cochair)
2018	Faculty search in Molecular Biology/Biochemistry (chair)
2018	Faculty search in Cryo-EM/Biology
2017	Faculty search for advanced Molecular Biologist (chair)
2016	Faculty search in Cryo-EM/Biology and CCGS
2011	Faculty search committee for Microbial biologist

2009 Cochair for graduate curriculum planning committee

Interdepartmental programs and University service

2011-present Steering committee, Molecular Biology Program
2017 Advisor team for Membrane Trafficking training grant proposal
2015-2017 Advising committee for Molecular Biology Program
2014-2017 Organizer for Cell Center faculty research in progress talks
2012 Faculty search committee for Cell Center
2009-2011 Admissions committee, Molecular Biology Program (2 years)
2009-2010 Faculty search committee for Cell Center/Chemistry
2009-2010 MLK day committee, Biology department representative
ongoing Participant in campus membrane trafficking and RNA interest groups

National service: research article peer review

2008-2017

Cancer Cell	Frontiers in Genetics	PNAS
Cell	Journal of General Virology	RNA
Cell Reports	Nature	Science
ELife	Nature Immunology	Trends in Cell Biology
EMBO Journal	Nucleic Acid Research	
FEBS letters	PlosOne	

2018-

Cell Reports	Journal of Biological Chemistry	Molecular Cell
Developmental Cell	Science Advances	
EMBO Reports		
ELife		

National service: other

2019- Board of Reviewing Editors, ELife
2019 Master reviewer for textbook "Essential Cell Biology"
2019 Reviewer for "Essential Cell Biology" active learning materials
2019 Session chair, summer FASEB conference
2017 Ambassador for the American Society of Cell Biology
2017 Session chair, International conference "Proteostasis", Portugal
2012, 2016 NSF ad-hoc reviewer
2010 NSF review panel member
2009 NSF ad-hoc reviewer