

CURRICULUM VITAE

Yi Shi

Yi Shi
University of Pittsburgh
Department of Cell Biology
9049 Biomedical Science Tower 3
3501 Fifth Avenue
Pittsburgh, PA 15260
Phone: 412-383-3242 (office)
Lab: 412-383-3243 (lab)
Email: wally.yis@gmail.com

EDUCATION & TRAININGS

2006.8-2011.3	Ph.D.	Baylor College of Medicine
2011.5-2014.10	Postdoctoral Associate	The Rockefeller University
2014.10-2016.11	Research Associate	
2017.01-	Assistant Professor (Tenure-stream)	Dept of Cell Biology University of Pittsburgh School of Medicine

RESEARCH INTERESTS

- Mass Spectrometry & Proteomics
- Integrative Structural Biology
- DNA damage and Autophagy
- Antibody and Immunology

PUBLICATIONS*Selected publications (in chronic order)*

1. Fernandez-Martinez, J.*, Kim, S.J.*, **Shi, Y.***, Paula, U.*, Pallerin, R.*, Zenklusen, D., Chemmama, I, Nudelman, I., Wang, J.J., Timney, B., Williams, R., Strokes, D.L., Chait, B.T., Sali, A., and Rout, M.P. (2016). Structure and function of the cytoplasmic mRNA export platform. *Cell* 167 (5), 1215-1228. (* equal contribution. Preview by Gozalo, A., and Capelson, M. *Cell* 167 (5), 1159-1160)
2. Chait, B.T., Cadene, M., Olinares, P.D., Rout, M.P. & **Shi, Y.** (2016). Revealing Higher Order Protein Structure Using Mass Spectrometry. *JASMS* 27, 952-965.
3. **Shi, Y.**, Pellarin, R., Fridy, P.C., Fernandez-Martinez, J., Thompson, M.K., Li, Y., Wang, Q.J., Sali, A., Rout, M.P., and Chait, B.T. (2015). A strategy for dissecting the architectures of native macromolecular assemblies. *Nature Methods* 12, 1135-1138.
4. Sun, J., **Shi, Y.**, Georgescu, R.E., Yuan, Z., Chait, B.T., Li, H., and O'Donnell, M.E. (2015). The architecture of a eukaryotic replisome. *Nat Struct Mol Biol* 22, 976-982.
5. Cevher, M.A., **Shi, Y.**, Li, D., Chait, B.T., Malik, S., and Roeder, R.G. (2014). Reconstitution of active human core Mediator complex reveals a critical role of the MED14 subunit. *Nat Struct Mol Biol* 21, 1028-1034.
6. **Shi, Y.***, Fernandez-Martinez, J.*, Tjioe, E.*, Pellarin, R.*, Kim, S.J.*, Williams, R., Schneidman-Duhovny, D., Sali, A., Rout, M.P., and Chait, B.T. (2014). Structural Characterization by Cross-linking Reveals the Detailed Architecture of a Coatomer-related Heptameric Module from the Nuclear Pore Complex. *Molecular & Cellular Proteomics* 13, 2927-2943.
7. Malovannaya, A., Lanz, R.B., Jung, S.Y., Bulynko, Y., Le, N.T., Chan, D.W., Ding, C., **Shi, Y.**, Yucer, N., Krenciute, G., *et al.* (2011). Analysis of the human endogenous coregulator complexome. *Cell* 145, 787-799.
8. **Shi, Y.**, Xu, P., and Qin, J. (2011b). Ubiquitinated proteome: ready for global? *Molecular & Cellular Proteomics* 10, R110 006882.
9. **Shi, Y.**, Chan, D.W., Jung, S.Y., Malovannaya, A., Wang, Y., and Qin, J. (2011a). A data set of human endogenous protein ubiquitination sites. *Molecular & Cellular Proteomics* 10, M110 002089.

Other published works

10. Hunziker, M., Barandun, J., Petfalski, E., Tan, D., Delan-Forino, C., Molloy, K.R., Kim, K.H., Dunn-Davies, H., **Shi, Y.**, Chaker-Margot, M., et al. (2016). UtpA and UtpB chaperone nascent pre-ribosomal RNA and U3 snoRNA to initiate eukaryotic ribosome assembly. *Nature Communications* 7, 12090.
11. LoPiccolo, J., Kim, S.J., **Shi, Y.**, Wu, B., Wu, H., Chait, B.T., Singer, R.H., Sali, A., Brenowitz, M., Bresnick, A.R., et al. (2015). Assembly and Molecular Architecture of the Phosphoinositide 3-Kinase p85alpha Homodimer. *Journal of Biological Chemistry* 290, 30390-30405.
12. Morris, D.H., Yip, C.K., **Shi, Y.**, Chait, B.T., and Wang, Q.J. (2015). Beclin 1-Vps34 Complex Architecture: Understanding the Nuts and Bolts of Therapeutic Targets. *Frontiers in biology* 10, 398-426.
13. Algret, R., Fernandez-Martinez, J., **Shi, Y.**, Kim, S.J., Pellarin, R., Cimermancic, P., Cochet, E., Sali, A., Chait, B.T., Rout, M.P., et al. (2014). Molecular architecture and function of the SEA complex, a modulator of the TORC1 pathway. *Molecular & Cellular Proteomics* 13, 2855-2870.
14. Kim, S.J., Fernandez-Martinez, J., Sampathkumar, P., Martel, A., Matsui, T., Tsuruta, H., Weiss, T.M., **Shi, Y.**, Markina-Inarrairaegui, A., Bonanno, J.B., et al. (2014). Integrative structure-function mapping of the nucleoporin Nup133 suggests a conserved mechanism for membrane anchoring of the nuclear pore complex. *Molecular & Cellular Proteomics* 13, 2911-2926.
15. Yucer, N., **Shi, Y.**, Wang, Y. (2013) Protein Ubiquitination in IR-Induced DNA Damage Response. *Intech*
16. Krenciute, G., Liu, S.F., Yucer, N., **Shi, Y.**, Ortiz, P., Liu, Q.M., Kim, B.J., Odejimi, A.O., Leng, M., Qin, J., et al. (2013). Nuclear BAG6-UBL4A-GET4 Complex Mediates DNA Damage Signaling and Cell Death. *Journal of Biological Chemistry* 288, 20547-20557.
17. Fan, Y.*, **Shi, Y.***, Liu, S.*, Mao, R., An, L., Zhao, Y., Zhang, H., Zhang, F., Xu, G., Qin, J., et al. (2012). Lys48-linked TAK1 polyubiquitination at lysine-72 downregulates TNFalpha-induced NF-kappaB activation via mediating TAK1 degradation. *Cell Signal* 24, 1381-1389.
18. Fan, Y., Yu, Y., **Shi, Y.**, Sun, W., Xie, M., Ge, N., Mao, R., Chang, A., Xu, G., Schneider, M.D., et al. (2010). Lysine 63-linked polyubiquitination of TAK1 at lysine 158 is required for tumor necrosis factor alpha- and interleukin-1beta-induced IKK/NF-kappaB and JNK/AP-1 activation. *Journal of Biological Chemistry* 285, 5347-5360.
19. Sun, W., Tan, X., **Shi, Y.**, Xu, G., Mao, R., Gu, X., Fan, Y., Yu, Y., Burlingame, S., Zhang, H., et al. (2010). USP11 negatively regulates TNFalpha-induced NF-kappaB activation by targeting on IkappaBalpha. *Cell Signal* 22, 386-394.
20. Xu, G., Tan, X., Wang, H., Sun, W., **Shi, Y.**, Burlingame, S., Gu, X., Cao, G., Zhang, T., Qin, J., et al. (2010). Ubiquitin-specific peptidase 21 inhibits tumor necrosis factor alpha-induced

nuclear factor kappaB activation via binding to and deubiquitinating receptor-interacting protein 1. *Journal of Biological Chemistry* 285, 969-978.

Manuscripts in preparation/ submission

21. **Shi, Y.***, Nudelman, I.*, Kim, S.J.*, Fernandez-Martinez, J., Upla, P., Chemmama, I., Barak, R., Ignatius, C., Wang, J.J., Zhang, W.Z., Pellarin, R., Ludtke, S. J., Akey, C., Chait, B.T., Sali, A., Rout, M.P. Molecular Architecture of the Nuclear Pore Complex. (*in preparation; *equal contribution*)
22. Wang, J.J., **Shi, Y.**, and Chait, B.T. CX-Circos: A Web-based Tool for Visualization and Analysis of Chemical Cross-linking Data. (*In preparation*).
23. Jishage, M., **Shi, Y.**, Yu, X.D., Malik, S., Chait, B.T., Asturias, F., Roeder, R.G. A mechanism of Mediator-dependent Pol II(G) transcription. (*In preparation*).

PROFESSIONAL SOCIETIES

- Member, American Society for Mass Spectrometry
- Member, The New York Academy of Sciences
- Committee, Clinical & Pharmaceutical Solutions through Analysis Meeting (CPSA)
- Board, Advancing Mass Spectrometry (AMS) for Biophysics and Structural Biology

EXPERIENCE OF NIH GRANT APPLICATION

- NIH U54GM109824, P41RR00086 and P41GM103314 (*actively participated in grant writings*)
- NIH Advisory Board Meeting (GM103314). Grant presentation: “Dissecting the Architectures of Native Macromolecular Assemblies”. 05/19/2015. New York.
- NIH site visit for grant application (GM103314). Talk: “Methodological Developments for Structural Analysis of Endogenous Protein Complexes.” 11/27/2012. New York.
- NIH site visit for grant renewal (RR00086). Talk: “A Novel Proteomic Strategy for Elucidating the Repertoires of HIV Broadly Neutralizing Antibodies “.11/14/2011. New York.

RESEARCH FUNDING INFORMATION:

- Research Development Funds, University of Pittsburgh School of Medicine
2017/01/01-2020/01/01
Role: Principle Investigator
- RO1 (with Judith Yanowitz)
04/01/2017 to 03/31/2022 NIH (Pending)
“Coupling double-strand break formation with meiotic crossover repair”
Role: Co-investigator

CONFERENCES & AWARDS

- Ubiquitin Drug Discovery and Diagnostics 2010. *August 2010, Philadelphia, PA.(Speaker)*
- International Conference of SUMO, Ubiquitin, UBL Proteins: Implications for Human Diseases. *2010. MD Anderson Cancer Center, TX*
- Society of Chinese Bioscientist in America (SCBA) Annual Symposium, *TX. 2010. (Speaker's award)*
- Biochemistry and Molecular Biology & Pharmacology Research Conference, *2010, Baylor College of Medicine, Houston, TX.(Speaker's award)*
- 58th American Society for Mass Spectrometry (ASMS) Conference on Mass Spectrometry and Allied Topics. *May 2010. Salt Lake City, Utah. (Poster)*
- Tong Ji University. *June 2012. (Invited speaker)*
- PELS Family Chemical and Structural Biology Conference. *November 16–17, 2012, New York. (Speaker)*
- 2013 Anderson Center for Cancer Research Retreat. *Feb, 2013 New York. (Speaker)*
- National Center for Dynamic Interactome Research Conference (NCDIR). *March 2014. (Speaker)*
- Rockefeller University PDA Retreat. *September, 2013 New Jersey, NY.(Speaker)*
- 62th American Society for Mass Spectrometry (ASMS) Conference on Mass Spectrometry and Allied Topics. *Baltimore, Maryland, June 2014.*
- Career Development Travel Award (PDA), Rockefeller University, 2015
- 2015 Anderson Center for Cancer Research Retreat. *Tarrytown, NY. April 2015. (Speaker)*
- 63rd American Society for Mass Spectrometry (ASMS) Conference on Mass Spectrometry and Allied Topics. *St. Louis, Missouri, June 2015. (Speaker)*
- Eukaryotic DNA Replication & Genome Maintenance CSHL Meeting. *September 2015.*
- Department of Cell Biology, Pittsburgh School of Medicine. *Dec 2015. (Invited talk).*
- Department of Chemistry, Scripps Research Institute. *Dec 2015. (Invited talk).*
- Department of Biochemistry, University of Michigan. *Jan 2016. (Invited talk).*
- Pittsburgh Cancer Institute. *Jan 2016. (Invited talk).*
- Department of Epigenetics and Carcinogenesis, MD Anderson Cancer Center. *Jan 2016. (Invited talk).*
- National Cancer Institute, NIH. *Feb 2016. (Invited talk).*
- Department of Medicinal Chemistry, University of Washington. *March 2016. (Invited talk).*
- National Center for Protein Sciences, Beijing China. *April 2016. (Invited speaker).*
- Zhejiang University Medical School, Hangzhou China. *April 2016. (Invited talk).*
- Jiaotong University, Shanghai China. *Oct 2016. (Invited talk)*
- Zhejiang University Life Science Institute, Hangzhou China. *Oct 2016. (Invited talk)*
- Dalian Institute of Chemical Physics, Chinese Academy of Science, Dalian China. *Oct 2016. (Invited talk)*