

Molecular Genetics & Microbiology Graduate Program Newsletter

Winter 2018 Vol. 11, No. 4



2018 Publications

Aznarez, I., **Nomakuchi, T.T.**, Tetenbaum-Novatt, J., Rahman, M.A., Fregoso, O., Rees, H., and Krainer, A.R. (2018). Mechanism of nonsense-mediated mRNA decay stimulation by splicing factor SFSF1. *Cell Reports* 23(7): 2186-2198.

Bhagwat, A.S., Lu, B., and Vakoc, C.R. (2018) Enhancer dysfunction in leukemia. *Blood* 131: 1795-1804.

Bryan, A. M., & Del Poeta, M. Lipid Metabolism in Model Fungi: The Achilles Heel of Fungal Pathogens. In *Reference Module in Life Sciences* (Elsevier, 2018). doi:10.1016/B978-0-12-809633-8.12085-0

Bryan, A.M., and Del Poeta, M. (2018). Sphingosine-1-phosphate receptors and innate immunity. *Cell Microbiology* 20(5): e12836.

Diago-Navarro, E., Motley, M.P., Ruiz-Perez, G., Yu, W., Austin, J., Seco, B.M.S., Xiao, G., **Chikhalya, A.**, Seeberger, P.H., and Fries, B.C. (2018). Novel, broadly reactive anticapsular antibodies against carbapenem-resistant *Klebsiella pneumoniae* protect from infection. *MBio* 9(2): e00091.

Diago-Navarro, E., **Motley, M.P.**, Ruiz-Perez, G., Yu, W., Austin, J., Seco, B.M.S., Xiao, G., Chikhalya, A., Seeberger, P.H., and Fries, B.C. (2018). Novel, broadly reactive anticapsular antibodies against carbapenem-resistant *Klebsiella pneumoniae* protect from infection. *MBio* doi: 10.1128/mBio.01831-18.

Dong, Q., Smith, K.R., Oldenburg, D.G., Shapiro, M., **Schutt, W.R.**, Malik, L., Plummer, J.B., Mu, Y., MacCarthy, T., White, D.W., McBride, K.M., and Krug, L.T. (2018). Combinatorial loss of the enzymatic activities of viral uracil-DNA glycosylase and viral dUTPase impairs murine gammaherpesvirus pathogenesis and leads to increased recombination-based deletions in the viral genome. *MBio* 9(5): e01831-18.

✦ 2018 Publications (continued)

Dong, Q., **Smith, K.R.**, Oldenburg, D.G., Shapiro, M., Schutt, W.R., Malik, L., Plummer, J.B., Mu, Y., MacCarthy, T., White, D.W., McBride, K.M., and Krug, L.T. (2018). Combinatorial loss of the enzymatic activities of viral uracil-DNA glycosylase and viral dUTPase impairs murine gammaherpesvirus pathogenesis and leads to increased recombination-based deletions in the viral genome. *MBio* 9(5): e01831-18.

Du, M., Yuan, Z., Yu, H., Henderson, N., Sarowar, S., Zhao, G., **Werneberg, G.T.**, Thanassi, D.G., and Li, H. (2018) Handover mechanism of the growing pilus by the bacterial outer-membrane usher FimD. *Nature* 562(7727): 444-447.

Espaillet, M.P., Snider, A.J., Qiu, Z., Channer, B., Conat, N., Schuchman, E.H., Kew, R.R., Sheridan, B.S, Hannun, Y.A., and Obeid, L.M. (2018). Loss of acid ceramidase in myeloid cells suppresses intestinal neutrophil recruitment. *FASEB Journal* doi/10.1096/fj.201700585R.

Frank, D., Naseem, S., Russo, G.L., Li, C., **Parashar, K.**, Konopka, J.B., and Carpino, N. (2018). Phagocytes from mice lacking the Sts phosphatases have an enhanced antifungal response to *Candida albicans*. *MBio* 9(4): e00782-18.

Khairallah, C., **Chu, T.H.**, and Sheridan, B.S. (2018). Tissue adaptations of memory and tissue-resident gamma delta T cells. *Frontiers in Immunology* 9: 2636.

Li, X.* , **Burton, E.M.***, Koganti, S., Zhi, J., Doyle, R., Tenenbaum, S.A., Horn, B., and Bhaduri-McIntosh, S. (2018). KRAB-ZFP repressors enforce quiescence of oncogenic human herpesviruses. *Journal of Virology*, in press. *Co-first authors.

Medici, N., Rashid, M., and Bliska, J.B. Characterization of pyrin dephosphorylation and inflammasome activation in macrophages as triggered by the *Yersinia* effectors YopE and YopT. *Infection and Immunity*, in press.

Munshi, M.A., **Gardin, J.M.**, Singh, A., Luberto, C., Rieger, R., Bouklas, T., Fries, B.C., and Del Poeta, M. (2018) The role of ceramide synthases in the pathogenicity of *Cryptococcus neoformans*. *Cell Microbiology* 20(5): e12836.

Patel, H.V., Li, M., and Seeliger, J.C. (2018). Opportunities and challenges in activity-based protein profiling of mycobacteria. *Current Topics in Microbiology and Immunology*, in press.

📄 2018 Publications (continued)

Sinha, R., Kim, Y.J., **Nomakuchi, T.**, Sahashi, K., Hua, Y., Rigo, F., Bennett, C.F., and Krainer, A.R. (2018). Antisense oligonucleotides correct the familial dysautonomia splicing defect in IKBKAP transgenic mice. *Nucleic Acids Research* 46(10): 4833-4844.

Stawowczyk, M., Naseem, S., **Montoya, V.**, Baker, D.P., Konopka, J., and Reich, N.C. (2018). Pathogenic effects of IFIT2 and Interferon- β during fatal systemic *Candida albicans* infection. *MBio* 9: e00365-18.

Van Skike, N.D., Minkah, N.K., Hogan, C.H., Wu, G., **Benziger, P.T.**, Oldenburg, D.G., Kara, M., Kim-Holzappel, D.M., White, D.W., Tibbetts, S.A., French, J.B., and Krug, L.T. (2018). Viral FGARAT ORF75A promotes early events in lytic infection and gammaherpesvirus pathogenesis in mice. *PLoS Pathogens* 14(2): e1006843.

Van Skike, N.D., **Minkah, N.K.**, Hogan, C.H., Wu, G., Benziger, P.T., Oldenburg, D.G., Kara, M., Kim-Holzappel, D.M., White, D.W., Tibbetts, S.A., French, J.B., and Krug, L.T. (2018). Viral FGARAT ORF75A promotes early events in lytic infection and gammaherpesvirus pathogenesis in mice. *PLoS Pathogens* 14(2): e1006843.

Van Skike, N.D., Minkah, N.K., Hogan, C.H., Wu, G., Benziger, P.T., Oldenburg, D.G., Kara, M., Kim-Holzappel, D.M., White, D.W., Tibbetts, S.A., French, J.B., and Krug, L.T. (2018). Viral FGARAT ORF75A promotes early events in lytic infection and gammaherpesvirus pathogenesis in mice. *PLoS Pathogens* 14(2): e1006843.

Werneburg, G.T., and Thanassi, D.G. (2018). Pili assembled by the chaperone/usher pathway in *Escherichia coli* and *Salmonella*. *EcoSal Plus* 8(1): doi 1128.

Yurovsky, A., Amin, M.R., **Gardin, J.**, Chen, Y., Skiena, S., and Futcher, B. (2018). Prokaryotic coding regions have little if any specific depletion of Shine-Dalgarno motifs. *PLoS One* 13(8): e0202768.

Zhang, J., Wang, Z., **Zhang, S.**, Chen, Y., Xiong, X., Li, X., Tonks, N.K., and Fan, G. (2018). Spatial regulation of signaling by the coordinated action of the protein tyrosine kinases MET and FER. *Cell Signaling*, in press.

2018 Presentations

Burton, E., Koganti, S., Li, X., and Bhaduri-McIntosh, S. Decline in TRIM28/KAP1 Sparks EBV Lytic Activation. 2018 International Conference on EBV and KSHV. July 28 - August 1, Madison, WI.

Chikhalya, A., Zheng, Y., Dittmann, M., Rice, C., and Hearing, P. Recombinant Adenovirus Vectors for Gene Therapy. April 6, 2018, Showcasing Women's Research in STEM. Graduate Women in Science and Engineering, Stony Brook University.

Chikhalya, A., and Hearing, P. Effects of IFIT3 on Adenovirus Replication. July 14-18, 2018, 37th Annual Meeting of the American Society for Virology, College Park, MD.

Medici, N., and Bliska, J.B. Studies on Bacterial Toxins and Their Regulation of Host Immune System. April 6, 2018, Showcasing Women's Research in STEM. Graduate Women in Science and Engineering, Stony Brook University.

Orner, E., and Fries, B. Microfluidics as a New Tool to Access Lifespan and Age-related Traits of *Cryptococcus neoformans*. 2018 American Society for Microbiology Microbe meeting, June 7-11, Atlanta, GA.

Psonis, J., Chahales, P., and Thanassi, D.G. Inhibition of Pilus Assembly by the Small Molecule Nitazoxanide. September 30 - October 3, 2018, Bacterial Protein Export Conference, Leuven, Belgium.

Awards

Bryan, A. (2018). Travel Award to attend the Gordon Research conference in Glycolipid and Sphingolipid Biology, February 11-16, Galveston, TX

Chikhalya, A. (2018). Teresa Haire Award, Department of Molecular Genetics & Microbiology, Stony Brook University, October 12, 2018.

Orner, E. (2018). Travel Award to attend the 2018 American Society for Microbiology Microbe meeting, June 7-11, Atlanta, GA

Orner, E. (2018). Distinguished Service Award, Department of Molecular Genetics & Microbiology, Stony Brook University, October 12, 2018.

✦ Awards (continued)

Psonis, J. (2018). Outstanding Poster Award, Department of Molecular Genetics & Microbiology, Stony Brook University, October 12, 2018.

✦ Congratulations to Our Recent Graduates

Dr. Erik Kopping (Thanassi group) defended his dissertation on December 5th. He has accepted a position as Associate Scientists in the Infectious Disease Group at Regeneron Pharmaceuticals.

Dr. Kaustubh Parashar (Carpino group) defended his dissertation on December 5th. He will be moving to Salt Lake City, Utah to begin a postdoctoral fellowship in the laboratory of Dr. Olga J. Baker at the University of Utah School of Dentistry.

✦ Save the Date!

The Department of Molecular Genetics & Microbiology will host a symposium on immunity and infection on **April 29, 2019**. Stay tuned for details!

✦ Rotation Dates for 2018 - 2019

Winter - November 26 - February 8

Spring - February 11 - May 3