# Molecular Genetics & Microbiology
# Graduate Program Newsletter

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## 2016 Publications

**Bhagwat, A.S.**, Roe, J.S., Mok, B.Y., Hohmann, A.F., Shi, J., and Vakoc, C.R. 2016. BET bromodomain inhibition releases the mediator complex from select *cis*-regulatory elements. *Cell Reports* 15(3): 519-530.

**Bridges, R.G.**, Sohn, S.Y., Wright, J., Leppard, K.N., and Hearing, P. 2016. The adenovirus E4-ORF3 protein stimulates SUMOylation of general transcription factor TFII-I to direct proteasomal degradation. *MBio* 7(1): e02184-15.

**Bryan, A.M.**, and Del Poeta, M. 2016. Secretory aspartyl proteinases induce neutrophil chemotaxis *in vivo*. *Virulence* 30: 1-3.

**Chahales, P.**, Hoffman, P.S., and Thanassi, D.G. 2016. Nitazoxanide inhibits pilus biogenesis by interfering with folding of the usher protein in the outer membrane. *Antimicrobial Agents and Chemotherapy* 60(4): 2028-2038.

**Chung, L.K.**, and Bliska, J.B. 2016. Yersinia vs. host immunity: how a pathogen evades or triggers a protective response. *Current Opinion in Microbiology* 29: 56-62.

**Chung, L.K.**, and Bliska, J.B. 2016. Gut check: IFNγ delays mucosal recovery during antibiotic therapy. *Cell Host Microbe* 20(2): 128 - 129.

**Chung, L.K.**, Park, Y.H., Zheng, Y., Brodsky, I.E., Hearing, P., Kastner, D.L., Chae, J.J., and Bliska, J.B. 2016. The Yersinia virulence factor YopM hijacks host kinases to inhibit type III effector-triggered activation of the pyrin inflammason. *Cell Host Microbe* doi: 10.1016/j.chom.2016.07.018.

Cieniewicz, B., **Santana, A.L.**, Minkah, N., and Krug, L.T. 2016. Interplay of murine gammaherpesvirus 68 with NF-kappaB signaling of the host. *Frontiers in Microbiology* 7: 1202-.

Cieniewicz, B., Santana, A.L., **Minkah, N.**, and Krug, L.T. 2016. Interplay of murine gammaherpesvirus 68 with NF-kappaB signaling of the host. *Frontiers in Microbiology* 7: 1202-.

Fan, G., **Zhang, S.**, Gao, Y., Greer, P.A., and Tonks, N.K. 2016. HGF-independent regulation of MET and GAB1 by nonreceptor tyrosine kinase FER potentiates metastasis in ovarian cancer. *Genes and Development* 30(13): 1542-1557.

## Publications (continued)

**Ivanova, E.**, and Carpino, N. 2016. Negative regulation of TCR signaling by ubiquitination of Zap-70 Lys-217. *Molecular Immunology* 73: 19-28.

Jain, N., Bouklas, T., Gupta, A., Varshney, A.K., **Orner, E.P.**, and Fries, B.C. 2015. ALL2, a homologue of ALL1, has a distinct role in regulating pH homeostasis in the pathogen *Cryptococcus neoformans*. *Infection and Immunity* 84(2): 439-451.

**McLaughlin, P.**, and van der Velden, A.W. 2016. *Salmonella* gives MARCH9ing) orders to MHC-II. *Cell Host and Microbe* 5(9): 551-552.

**McLaughlin, P.**, McClelland, M., Yang, H.-J., Porwolik, S., Bogomolnaya, L., Chen, J.-S., Andrews-Polymenis, H., and van der Velden, A. Contribution of asparagine catabolism to Salmonella virulence. *Infection and Immunity*, in press.

Mukherjee, K., **Gardin, J.**, Futcher, B., and Leatherwood, J. 2016. Relative contributions of the structural and catalytic roles of Rrp6 in exosomal degradation of individual mRNAs. *RNA* 22(9): 1311-1319.

**Nomakuchi, T.T.**, Rigo, F., Aznarez, I., and Krainer, A.R. 2016. Antisense-oligonucleotide-directed inhibition of nonsense-mediated mRNA decay. *Nature Biotechnology* 34(2): 164-166.

Pham, T., Henderson, N.S., **Werneburg, G.T.**, Thanassi, D.G., and Delcour, A.H. 2016. Electrostatic networks control plug stabilization in the PapC usher. *Molecular Membrane Biology* 16: 1-10.

Pham, T., **Werneburg, G.T.**, Henderson, N.S., Thanassi, D.G., and Delcour, A.H. 2016. Effect of chaperone-adhesin complex on plug release by the PapC usher. *FEBS Letters* 590(14): 2172-2190.

Sarowar, S., Hu, J., **Werneburg, G.T.**, Thanassi, D.G., and Li, H. 2016. The *Escherichia coli* P and type 1 pilus assembly chaperones PapD and FimC are monomeric in solution. *Journal of Bacteriology* 198(17): 2360-2390.

Schoberle, T.J., **Chung, L.K.**, McPhee, J.B., Bogin, B., and Bliska, J.B. 2016. Uncovering an important role for YopJ in the inhibition of caspase-1 in activated macrophages and promoting *Yersinia pseudotuberculosis* virulence. *Infection and Immunity* 84(4): 1062-1072.

Torres, A., Luke, J.D., **Kullas, A.L.**, Kapilashrami, K., Botbol, Y., Koller, A., Tonge, P.J., Chen, E.I., Macian, F., and van der Velden, A.W. 2016. Asparagine deprivation mediated by Salmonella asparaginase cuases suppression of activation-induced T cell metabolic reprogramming. *Journal of Leukocyte Biology* 99(2); 387-398.

**Zheng, Y.**, Stamminger, T., and Hearing, P. 2016. E2F/Rb family proteins mediate interferon-induced repression of adenovirus immediate early transcription to promote persistent viral infection. *PLoS Pathogens* 12(1): e1005415.

## 2016 Presentations

**Bridges, R.G.**, Sohn, S.-Y., Wright, J., Leppard, K.N., and Hearing, P. The Adenovirus E4-ORF3 Protein Stimulates SUMOylation of the General Transcription Factor TFII-I to Direct Proteasomal Degradation. DNA Tumor Virus Meeting 2016. July 18-23, Montreal, Canada.

**Burton, E.**, Koganti, S., Li, X., and Bhaduri-McIntosh, S. Kruppel-associated Box (KRAB)-associated protein (KAP)-1 is Repressed and Post-translationally Modified Early During Epstein-Barr virus Lytic Cycle. 17th International Symposium on Epstein-Barr Virus and Associated Diseases. August 8-12, 2016, Zurich, Switzerland.

**Chung, L.** Infection by Injection: How Pathogenic Yersinia Activate and Subvert Immune Responses. Provost's Graduate Student Lecture Series. March 24, 2016, Stony Brook, NY.

**Espaillat, M.P.** The Lipids in Your Gut: Defining the Role of Sphingolipids in Inflammatory Bowel Disease. Research Café Series, Center for Inclusive Education. March 21, 2016. Stony Brook, NY.

Fan, G., Bonham, C., **Zhang, S.**, Haque, A., and Tonks, N.K. Interplay between PARP1 and PTP1B Modulates Signaling in Insulin-Resistant HepG2 Cells. The PARP Family and ADP-Ribosylation. April 13-16, 2016. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.

**Kopping, E.J.**, and Thanassi, D.B. TolC-Dependent Modulation of Host Cell Death by *F. novicida*. Gordon Research Conference on Microbial Toxins and Pathogenicity. July 10-15, 2016. Waterville Valley, NH.

**Werneberg, G.** Dissection of Usher-Chaperone-Subunit Interactions during Pilus Biogenesis in *Escherichia coli*. Provost's Graduate Student Lecture Series. March 24, 2016, Stony Brook, NY.

**Zhang, S.**, Hao, Y., Hammell, M., Wilkinson, J.E., and Tonks, N.K. A Functional Study in Animal Models Identifies PTPN23 as a Tumor Suppressor in Breast Tumorigenesis through Modulation of FYN Activity. 81st Cold Spring Harbor Laboratory Symposium on Quantitative Biology. June 1-5, 2016. Cold Spring Harbor, NY.

## 2016 Awards

**Bridges, R.** 2016 SBU Sigma Xi Travel Award, $150.

**Bridges, R.** 2016 MGM Annual Retreat Poster Award, $100.

**Bryan, A.** 2016 Teresa Haire Award, $250.

**Burton, E.** Third Place Oral Presentation Award. 17th International Symposium on Epstein-Barr Virus and Associated Diseases. August 8-12, 2016, Zurich, Switzerland.

**Chung, L.** 2016 Abrahams Award for Outstanding Achievement by a Graduate Student, $1000.

**Kopping, E.** 2016 Ruth L. Kirschstein National Research Service Award for Individual Predoctoral Fellows (F31). National Institutes of Allergy and Infectious Diseases.

**Kopping, E.** 2016 Distinguished Travel Award, $700. Stony Brook University Graduate Student Organization.

## 2016 Awards (continued)

**Kopping, E.** 2016 Distinguished Service Award, $350.
**Zhang, S.** (2016) MGM Annual Retreat Poster Award, $100.

## 2016 Graduations

Dr. Anand Bhagwat, PhD (Mentor: Christopher Vakoc). Anand is in the clinical phase of the Medical Scientist Training Program at Stony Brook University.

Dr. Lawton Chung, PhD (Mentor: James Bliska). Lawton has accepted a postdoctoral research position in the laboratory of Dr. Manuella Raffatellu in the Department of Microbiology and Molecular Genetics at the University of California at Irvine School of Medicine.

Dr. Justin Gardin, PhD (Mentor: Bruce Futcher). Justin has accepted a postdoctoral research position at the Jackson Laboratory in Bar Harbor, Maine.

Dr. Elitza Ivanova, PhD (Mentor: Nicholas Carpino). Ellie has accepted a postdoctoral research position in Sergei Koralov's group in the Department of Pathology at NYU.

Dr. Patrick McLaughlin, PhD (Mentor: Adrianus van der Velden). Patrick will continue working in the van der Velden laboratory as a postdoctoral fellow in collaboration with St. Georges University School of Veterinary Medicine.

Dr. Tomoki Nomakuchi, PhD (Mentor: Adrian Krainer). Tomoki is in the clinical phase of the Medical Scientist Training Program at Stony Brook University.

Dr. Hirel Patel, PhD (Mentor: Jessica Seeliger). Hiren, a member of the Medical Scientist Training Program, is in the clinical phase of his medical school training.

Dr. Glenn Werneberg, PhD (Mentor: David Thanassi). Glenn is in the clinical phase of the Medical Scientist Training Program at Stony Brook University.

## 2017 MGM Graduate Student-Hosted Seminar Speakers

MGM graduate students have invited two leading scientists to speak in the MGM seminar series in 2017. Dr. Harmit Malik, Principal Investigator at the Fred Hutchinson Cancer Research Center, will speak on March 13, 2017 and Dr. Martin Blaser, the Muriel and George Singer Professor of Medicine and Director of the Human Microbiome Project at NYU, will speak on April 17, 2017. Please contact hosts Nick Van Skike (Nick.VanSkike@stonybrook.edu) or Arielle Bryan (Arielle.Scardino@stonybrook.edu) if you would like to speak with either Dr. Malik or Dr. Blaser during their visits.

## NIAID F31 Fellowship Award - Erik Kopping

Congratulations to Erik Kopping on being awarded an NIH F31 predoctoral fellowship!

## New MGM Training Faculty Member - Dr. Pawan Kumar

Please help welcome Dr. Pawan Kumar to the Department of Molecular Genetics & Microbiology and the MGM PhD Program. Dr. Kumar earned a DVM from Ranchi Veterinary College in India, a Master of Veterinary Sciences from the University of Liverpool, U.K., and a PhD in dermatopharmacology from the University of Southampton, UK. Dr. Kumar completed two postdoctoral fellowships in immunology, the most recent in the laboratory of Dr. Jay Kolls at the University of Pittsburgh. The focus of his research in MGM will initially be on the role of IL-17 receptor signaling in intestinal homeostasis and in autoimmune neuroinflammation.