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CURRENT POSITION:

02/2016 – present **Research Assistant Professor**, Boston College, Biology Department, Chestnut Hill, MA.

PROFESSIONAL EXPERIENCE:

05/2012 – 02/2016 Post-doctoral Research Fellow; Boston College, Biology Department, Chestnut Hill, MA.

08/2011 – 05/2012 Post-doctoral Research Fellow; University of Washington, Department of Pharmaceutics, Seattle, WA.

09/2007 – 06/2011 Visiting Fellow; Harvard Medical School, Department of Microbiology and Immunobiology, New England Primate Research Center, Southborough, MA.

06/2007 – 07/2007 Research Assistant at Friedrich-Alexander-University, Department of Plant Physiology, Erlangen-Nuremberg, Germany.

EDUCATION:

09/2007 – 03/2011 Ph.D. in the Graduate Program “Graduiertenkolleg 1071 (GK1071): Viruses of the Immune System”, Institute for Clinical and Molecular Virology, Friedrich-Alexander-University Erlangen-Nuremberg, Germany.

10/2002 – 05/2007 Diploma in Biology (combined BS/MS program), Friedrich-Alexander-University Erlangen-Nuremberg, Department of Biology, Division of Molecular Plant Physiology, Germany.

PUBLICATIONS:

- Wu F, **Kirmaier A**, LeViyang S, LeBranche C, White E, Ourmanov I, Whitted S, Matsuda K, Montefiori D, Johnson WE, Hirsch VM. Selective Pressure by Autologous Neutralizing Antibodies Delays AIDS Disease Progression in the SIV/macaque Model. In revision at *Nature Medicine*.
- 2016 Wu F, **Kirmaier A**, White E, Ourmanov I, Whitted S, Matsuda K, Riddick N, Hall LR, Morgan JS, Plishka RJ, Buckler-White A, Johnson WE, Hirsch VM. TRIM5 Resistance Escape Mutations in Capsid are Transferable between Simian Immunodeficiency Virus Strains. *J Virol* 90(24); doi:10.1128/JVI.01620-16
- 2016 McCarthy KR, Johnson WE, **Kirmaier A**. Phylogeny and History of the Lost SIV from Crab-Eating Macaques: SIVmfa. *PLoS ONE* 11(7); doi:10.1371/journal.pone.0159281
- 2015 Land AM, Wang J, Aberle R, **Kirmaier A**, Krupp A, Johnson WE, Harris R. Degradation of the Cancer Genomic DNA Deaminase APOBEC3B by SIV Vif. *Oncotarget* 6(37); doi:10.18632/oncotarget.5483
- 2015 McCarthy KR, **Kirmaier A**, Autissier P, Johnson WE. Evolutionary and Functional Analysis of Old World Primate TRIM5 Reveals the Ancient Emergence of Primate Lentiviruses and Convergent Evolution Targeting a Conserved Capsid Interface. *PLoS Pathog* 11(8); doi:10.1371/journal.ppat.1005085
- 2014 **Kirmaier A** and Johnson WE. Monkey-adapted HIV-1 Highlights in-vivo Significance of Restriction Factors. *Trends Microbiol* 22(9); doi:10.1016/j.tim.2014.07.006
- 2014 **Kirmaier A**, Krupp A, Johnson WE. Understanding Restriction Factors and Intrinsic Immunity: Insights and Lessons from Primate Lentiviruses. *Future Virol* 9(5); doi:10.2217/FVL.14.25
- 2013 Wu F, **Kirmaier A**, Goeken R, Ourmanov I, Hall L, Morgan JS, Matsuda K, Buckler-White A, Tomioka K, Plishka R, Whitted S, Johnson W, Hirsch VM. TRIM5 α drives SIVsm evolution in rhesus macaques. *PLoS Pathog* 9(8); doi:10.1371/journal.ppat.1003577
- 2013 McCarthy KR, Schmidt AG, **Kirmaier A**, Wyand AL, Newman RM, Johnson WE. Gain-of-Sensitivity Mutations in a Trim5-Resistant Primary Isolate of Pathogenic SIV Identify Two Independent Conserved Determinants of Trim5 α Specificity. *PLoS Pathog* 9(5); doi:10.1371/journal.ppat.1003352
- 2010 **Kirmaier A**, Wu F, Newman RM, Hall LR, Morgan JS, O'Connor S, Marx PA, Meythaler M, Goldstein S, Buckler-White A, Kaur A, Hirsch VM, Johnson WE. *TRIM5* suppresses cross-species transmission of a primate immunodeficiency virus and selects for emergence of resistant variants in the new species. *PLoS Biol* 8(8); doi:10.1371/journal.pbio.1000462
- 2009 **Kirmaier A**, Diehl WE, Johnson WE. Acquisition and processing of nonhuman primate samples for genetic and phylogenetic analyses. *Methods* 49(1); doi:10.1016/j.ymeth.2009.05.015
- 2008 Newman RM, Hall L, **Kirmaier A**, Pozzi L-A, Pery E, Farzan M, O'Neil S, Johnson WE. Evolution of a TRIM5-CypA Splice Isoform in Old World Monkeys. *PLoS Pathog* 4(2); doi:10.1371/journal.ppat.1000003

GRANTS & AWARDS:

- 2016 Boston College Ignite Award (intramural pilot funding)
- 2010 “Norval W. King Award for Excellence in Pathology and Comparative Medicine” for best publication in 2010, New England Primate Research Center, Harvard Medical School
- 2010 “Golden Mic” for best oral presentation at the 8th Retreat of the GK1071, Schlaifhausen, Germany. April 23 – 24.
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TEACHING EXPERIENCE:

Boston College – Woods College of Advancing Studies

2016 – 2018 Microbiology for Health Professionals, BIOL220001, 3 credits

Boston College – Biology Department

12/2017 Guest judge in Science and Technology in American Society, BIOL1503

03/2017 Guest lecturer in Microbiology, BIOL4140

02/2017 Guest reviewer in Scientific Proposal Writing, BIOL6180

CONFERENCE/SEMINAR PRESENTATIONS:

- 2018 Boston College Biology Retreat, August 20-21. **Kirmaier A**, May Catherine M, Rubert G, Garcia I, Curtis N, Hall LR Johnson WE. Characterization of a 130 million year old endogenous viral envelope gene in modern fish.
- 2018 Retroviruses, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. May 21-26. **Kirmaier A**, May CM, Garcia I, Curtis N, Hall LR, Johnson WE. Characterization of a 130 million year old endogenous viral envelope.
- 2018 Boston College Data Club, Chestnut Hill, MA. February 15. **Kirmaier A**, May CM, Garcia I, Curtis N, Hall LR, Johnson WE. Gone fishing. Env-ious?
- 2017 Boston College Biology Retreat, August 21-22. **Kirmaier A**, Garcia I, Curtis N, Johnson WE. PercomORF: a 135-million year old viral gene with a function in modern fish?
- 2016 Boston College Biology Retreat, August 22-23. **Kirmaier A**, Wu F, Hall L, Hirsch V, Johnson WE. Neutralization resistance as a determinant of viral transmission, pathogenicity and escape.
- 2016 Boston College Biology Retreat, August 22-23. Sinha A, Serra-Moreno R, **Kirmaier A**, Johnson WE. Mason-Pfizer Monkey Virus envelope glycoprotein antagonizes the antiviral activity of tetherin/BST-2 in a species-specific manner.
- 2016 Retroviruses, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. May 23-28. McCarthy KR, Johnson WE, **Kirmaier A**. SIVmfa: the lost SIV from crab-eating macaques.
- 2016 Boston College Data Club, Chestnut Hill, MA. March 17. McCarthy KR, Johnson WE, **Kirmaier A**. SIV'ing through the past: history and phylogeny of a lost virus from crab-eating macaques.

- 2015 USAMRIID/NIH, Frederick, MD. November 23. **Kirmaier A**, Johnson WE. Genetic Barriers to Interspecies Transmission & Emergence of Primate Lentiviruses.
- 2015 Retroviruses, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. May 18-23. **Kirmaier A**, Tank A, Krupp A, Hall L, Morgan J, Johnson WE. APOBEC3 and Emergence of the SIVmac lineage in Macaques.
- 2015 Retroviruses, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. May 18-23. Sinha A, Serra-Moreno R, **Kirmaier A**, Johnson WE. Mason-Pfizer Monkey Virus envelope glycoprotein antagonizes the antiviral activity of tetherin in a species-specific manner.
- 2014 Boston College Undergraduate Research Day. May 02. Tank A, **Kirmaier A**, Krupp A, Hall L, Morgan J, Johnson W. APOBEC3F diversity and its influence on lentiviral resistance.
- 2013 Retreat of the GK1071, Lenggriess-Fall, Germany, December 7-8. **Kirmaier A**, Krupp A, Wu F, Hall L, Hirsch VM, Johnson WE. Armed and ready: host restriction factors and emergence of pathogenic lentiviruses.
- 2011 University of Washington, Department of Pharmaceutics/Washington National Primate Research Center, Seattle, WA. February 17. **Kirmaier A** and Johnson WE. TRIM5 and interspecies transmission of primate lentiviruses.
- 2011 USAMRIID/NIH, Frederick, MD. January 15. **Kirmaier A** and Johnson WE. Cross-species transmission and adaptation of primate lentiviruses.
- 2010 28th Annual Symposium on Nonhuman Primate Models for AIDS, New Orleans, LA. October 19-22. **Kirmaier A**, Wu F, Newman RM, Hall LR, Morgan JS, O'Connor S, Marx PA, Meythaler M, Goldstein S, Buckler-White A, Kaur A, Hirsch VM, Johnson WE. The Rhesus Macaque TRIM5 gene and Emergence of SIVmac.
- 2010 American Society for Virology, 29th Annual Meeting, Montana State University, Bozeman, MT. July 17 - 21. **Kirmaier A**, Wu F, Newman RM, Morgan J, Hall LR, Meythaler M, Kaur A, Hirsch VM, Johnson WE. Cross-species transmission and adaptation of primate lentiviruses.
- 2010 Retroviruses, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. May 24-29. **Kirmaier A**, Newman RM, Hall L, Morgan S, Meythaler M, Kaur A, Hirsch V, Johnson WE. Escape from TRIM5 α -mediated suppression during cross-species transmission and emergence of primate lentiviruses.
- 2010 8th Retreat of the GK1071, Schlaifhausen, Germany. April 23 – 24. **Kirmaier A**, Johnson WE. Escape from *TRIM5 α* -mediated restriction during cross-species transmission and emergence of primate lentiviruses.
- 2009 27th Annual Symposium on Nonhuman Primate Models for AIDS. Boston, MA. October 28-31. **Kirmaier A**, Newman RM, Hall LR, Johnson WE. Primate Lentiviruses and Determinants of Sensitivity to Primate TRIM5 α and TRIM5-CypA Proteins.
- 2009 Retroviruses, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. May 18-23. **Kirmaier A**, Newman RM, Hall L, Johnson WE. Primate Lentiviruses and Determinants of Sensitivity to Primate TRIM5 α and TRIM5-CypA Proteins.

- 2009 7th Retreat of the GK1071, Schlaifhausen, Germany. April 20 – 21. **Kirmaier A**, Johnson WE. Primate lentiviruses and determinants of sensitivity to primate Trim5 α and Trim5-CypA.
- 2008 6th Retreat of the GK1071, Southborough, MA. September 4 – 5. **Kirmaier A**, Johnson WE. Cross-species transmission and adaptation of primate lentiviruses.
- 2008 5th Retreat of the GK1071, Schlaifhausen, Germany. April 4 – 5. **Kirmaier A**, Johnson WE. Intrinsic host defence mechanisms and retroviral infection.

MENTORING, SUPERVISORY AND TRAINING EXPERIENCE:

Boston College

- 02/2018 – present Gabriella Rubert, Boston College class of 2020; undergraduate research
- 08/2017 – 12/2017 Catherine May, Biology program graduate student; lab rotation
- 06/2017 – 05/2018 Natalie Curtis, Boston College class of 2018; summer student and undergraduate lab volunteer
- 02/2016 – 05/2018 Isabel Garcia, Boston College class of 2018; undergraduate lab volunteer and Biology Honors Thesis
- 08/2016 – 01/2017 Sara Posada, Boston College class of 2018; undergraduate lab volunteer
- 01/2016 – 02/2016 Marielle Melconian, Boston College class of 2018; undergraduate lab volunteer
- 06/2015 – 11/2016 Christine Hudson, B.S; full-time Research Assistant
- 06/2015 – 02/2016 Emily Xie, Boston College class of 2017; summer student and undergraduate research (for credit)
- 03/2014 – 05/2015 Allyson Tank, Boston College class of 2015; summer student, undergraduate research (for credit) and Biology Honors Thesis
- 06/2013 – 08/2013 Max Mangano, Boston College class of 2015; summer student
- 08/2012 – 10/2012 Arianne Babina, Biology program graduate student; lab rotation
- 06/2012 – 05/2013 M.E. Regan, Boston College class of 2013; summer student, undergraduate research (for credit) and Biology Honors Thesis

University of Washington

- 04/2012 – 05/2012 Emily Darveau, B.S; full-time Research Assistant (04/2012 – 2014)
- 01/2012 – 03/2012 Emily Darveau, University of Washington class of 2012; undergraduate lab volunteer

Harvard Medical School

- 06/2010 – 08/2010 Allison L. Wyand, University of Maryland class of 2014; summer student

COMMITTEES:

Boston College

- 06/2016 – present Institutional Animal Care and Use Committee (IACUC)

AD HOC REVIEWER:

2018 – present Proceedings of the National Academy of Sciences of the United States of America (PNAS)
2017 – present Vaccine; Elsevier
2016 – present Journal of General Virology; Society for General Microbiology
2015 – present Virology; Elsevier
2015 – present Current HIV Research; Bentham Science
2014 – present Journal of Virology; American Society of Microbiology
2014 – present Retrovirology; BioMed Central
2011 – present PLoS ONE; Public Library of Science
2010 – present AIDS Research and Human Retroviruses; Mary Ann Liebert, Inc.

PROFESSIONAL AFFILIATIONS:

2016 – present American Society for Virology (ASV), Toledo, Ohio, USA
and
2009 – 2011

2007 – 2011 Graduate Program “Graduiertenkolleg 1071 (GK1071): Viruses of the Immune System”, FAU Erlangen-Nürnberg, Germany *in collaboration with* New England Primate Research Center, Harvard Medical School, Southborough, MA

REFERENCES:

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