Adam Filipowicz

335 NW 17TH AVE | Portland, OR, 97209 | (757) 450-1109
filipowi@ohsu.edu

Education

PhD Oregon Health & Science University (Portland, OR): Neuroscience, in progress.

BA University of Chicago (Chicago, IL): Biological Sciences with Specialization in Neuroscience (GPA: 3.50), June 2014.

Publications

Bohannon DG, Ko A, **Filipowicz AR**, Kuroda MJ, Kim WK. Dysregulation of sonic hedgehog pathway and pericytes in the brain after lentiviral infection. *J Neuroinflammation*. 16(1):86 (2019).

Lindgren AA*, **Filipowicz AR***, Hattler JB, Kim SO, Chung HK, Kuroda MJ, Johnson EM, Kim WK. Lentiviral infection of proliferating brain macrophages in HIV and simian immunodeficiency virus encephalitis despite sterile alpha motif and histidine-aspartate domain-containing protein 1 expression. *AIDS*. 15;32(8):965-974 (2018).

Filipowicz AR, McGary CM, Holder GE, Lindgren AA, Johnson EM, Sugimoto C, Kuroda MJ, Kim WK. Proliferation of Perivascular Macrophages Contributes to the Development of Encephalitic Lesions in HIV-Infected Humans and in SIV-Infected Macaques. *Sci Rep*. 6, 32900 (2016).

Butcher MJ, **Filipowicz AR,** Waseem TC, McGary CM, Crow KJ, Magilnick N, Boldin M, Lundberg PS, Galkina E. Atherosclerosis-Driven Treg Plasticity Results in Formation of a Dysfunctional Subset of Plastic IFNgamma+ TH1/TREGS. *Circ Res*. 119, 1190-1203 (2016).

Kim WK. McGary CM. Holder GE. **Filipowicz AR.** Kim MM. Beydoun HA. Cai Y. Liu X. Sugimoto C. Kuroda MJ. Increased Expression of CD169 on Blood Monocytes and Its Regulation by Virus and CD8 T Cells in Macaque Models of HIV Infection and AIDS. *AIDS Res Hum Retroviruses*. 31(7), 696-706 (2015).

*co-first authors

Research Experience

Oregon Health & Science University
Graduate Student, Neuroscience Graduate Program, Molecular Microbiology and Immunology
2017-Present

- Conduct research under the supervision of Dr. Alejandro Aballay, focusing on uncovering mechanisms of neuroimmune interactions and responses to microbial pathogens using the model organism *C. elegans*
- Combine powerful genetic toolbox of *C. elegans* with simple behavioral assays

Eastern Virginia Medical School
Research Assistant, Department of Microbiology and Molecular Cell Biology
2014-2017

- Conducted research under the supervision of Dr. Woong-Ki Kim, focusing on AIDS neuropathogenesis using the rhesus macaque SIV model of infection
- Utilized three main techniques: flow cytometry, immunohistochemistry, and immunofluorescent microscopy
- Collaborated with the Tulane National Primate Research Center which houses and cares for the rhesus macaques used in the studies
- As the EVMS Flow Facility Operator, assisted EVMS users with flow cytometry needs, leading to collaborative co-authorships and acknowledgements

University of Chicago
Undergraduate Research Assistant, The College
2012-2013

- Conducted research under the supervision of Dr. Sarah London, focusing on the social behavior of zebra finches in relation to developmental neurobiology and neurogenomics

Research Interests

My experience in the London Lab as an undergraduate first introduced me to the exciting field of behavioral genetics and computational neuroscience, while my time in the Kim Lab made me interested in neuroimmune interactions. I joined the Aballay Lab at OHSU, combining the fields genetics and neuroimmune interactions while taking advantage of the relative simplicity and established toolbox of *C. elegans*. My projects in the lab focus on neuronal control of behavioral and innate immune responses to bacterial pathogens such as *P. aeruginosa* and *E. faecalis*. My use of a model organism has sparked an interest in the use of models in biology broadly, while I have also recently been interested in applying computational approaches to my research.

Presentations

Filipowicz AR, Aballay A. Regulation of early avoidance behavior in response to Gram-positive pathogens by *tax-2* and *npr-1* expressing neurons in *C. elegans*. 22nd International *C. elegans* Conference. **Poster** (Los Angeles, 2019).

Filipowicz AR. *et al.* Differences between Pediatric and Adult Rhesus Macaques in CNS Myeloid Cell Populations During SIV Infection. *34th Annual Symposium on Nonhuman Primate Models for AIDS*. **Poster** (New Orleans, 2016).

Kim WK, Lindgren AA, **Filipowicz AR**, Irons DL, Kuroda MJ. Expression and Phosphorylation of SAMHD1 Increases with Viral Loads in the Brains of SIV-Infected Rhesus Macaques. *34th Annual Symposium on Nonhuman Primate Models for AIDS*. **Oral** (New Orleans, 2016).

Delery EC. **Filipowicz AR**. Blair R. Walker E. Allers C. Kuroda MJ. Kim WK. Lower Rate of SIV-Encephalitis (SIVE) in Pediatric Compared to Adult Rhesus Macaques with SIV Infection. *34th Annual Symposium on Nonhuman Primate Models for AIDS*. **Poster** (New Orleans, 2016).

Filipowicz AR. *et al.* Proliferation of perivascular macrophages in macaque models of lentiviral encephalitis: a potential mechanism for HIV/SIV persistence in the brain? *13th International Symposium on NeuroVirology*. **Poster** (San Diego, 2015).

Butcher MJ, McGary CM, **Filipowicz AR**, Galkina EV. The Pro-atherosclerotic Milieu Converts a Sub-population of Murine Peripheral T Regulatory Cells to a Non-suppressive TH1-LIKE Foxp3+IFNgamma+ Phenotype. *Arteriosclerosis, Thrombosis, and Vascular Biology/Peripheral Vascular Disease 2015 Scientific Sessions*. **Poster** (San Francisco, 2015).

Filipowicz AR. *et al.* Increased Expression of CD169 on Blood Monocytes and its Correlation with Disease Status in Macaque Models of HIV Infection and AIDS. *6th Annual Virginia Regional Herpesvirus Symposium*. **Poster** (Norfolk, 2015).

Filipowicz AR. *et al.* Proliferation of perivascular macrophages in normal and encephalitic brains of adult macaques: a mechanism of HIV/SIV persistence. *6th Semi-Annual VUARC Meeting*. **Oral** (Virginia Beach, 2015).

Teaching Experience

Oregon Health & Science University
Graduate Teaching Assistant, Neuroscience Graduate Program
Cell/Molecular Neurobiology (Fall 2018)

University of Chicago
Undergraduate Teaching Assistant, The College
Principles of Physiology (Fall 2013)

Undergraduate Teaching Assistant, The College
Introduction to Quantitative Modeling for Biology (Spring 2013)

Awards & Honors

University of Chicago
Dean's List, 2010-2014; General Honors, 2014

Technical Skills

ImageJ; FlowJo; FCSExpress; MATLAB; R; JWatcher; Immunohistochemistry; Immunofluorescent Microscopy; Confocal Microscopy; Flow Cytometry; Laser Capture Microdissection; Multiplex Immunoassay

References

- Woong-Ki Kim, Associate Professor, Eastern Virginia Medical School; kimw@evms.edu; (757)-446-5639
- Elena Galkina, Associate Professor, Eastern Virginia Medical School; galkinev@evms.edu; (757)-446-5019
- Elizabeth Kovar, Senior Lecturer, University of Chicago; ewkovar@uchicago.edu; (773)-834-2758