



- *Assistant Professor*
- *Department of Biomedical Research*

Conditions Treated:

Research Areas:

- *Autoimmunity*
- *Leukemia/Lymphoma*
- *Lymphocyte Migration*

Research Interests

My laboratory is interested in understanding how a network of proteins called the cytoskeleton regulates the migration and cell-cell interactions of lymphocytes. In particular we focus on how the cytoskeleton generates the mechanical forces and shape changes required for lymphocyte migration and trafficking during homeostasis and disease.

Currently, a research focus of the lab is on a mouse model of multiple sclerosis, a chronic autoimmune-mediated disease of the central nervous system. Our work is aimed at understanding which specific cytoskeletal molecules play a role in lymphocyte exit from the blood flow and entry into the brain and spinal cord. Our goal is to prevent the accumulation of autoreactive lymphocytes in the brain and spinal cord where damage neurons.

A second focus of the lab is related to leukemia and lymphoma models. Our goal is to determine how cytoskeletal remodeling mediates the steps required for leukemia and lymphoma cell extravasation and infiltration into tissues to prevent or inhibit metastasis of these types of tumors.

My laboratory includes Scott Thompson, PhD student, Robert Long, Lab Researcher and Former Alum, Miriam Estin, PhD (MD/PhD student).

Education

- 1997 University of Rome 'La Sapienza', Rome, Italy, BS and MS, Biology
- 2002 University of Rome 'La Sapienza', Rome, Italy, PhD, Immunology

Affiliations with the University of Colorado Denver

Joint appointment through the Immunology Department as Assistant Professor at the University of Colorado Denver.

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Publications

Wigton E.J., Thompson S.B., Long R.A., Jacobelli J. 'Myosin-IIA regulates leukemia engraftment and brain infiltration in a mouse model of acute lymphoblastic leukemia.' *Journal of Leukocyte Biology*. 2016 Jan 20. pii: jlb.1A0815-342R.

Beemiller P.J., Jacobelli J., Krummel M.F. 'Integration of the movement of signaling microclusters with cellular motility in immunological synapses.' *Nature Immunology*. 2012. Aug; 13(8):787-95.

Friedman R.S., Beemiller P.J., Sorensen C.M., Jacobelli J., Krummel M.F. 'Real-time analysis of T cell receptors in naive cells in vitro and in vivo reveals flexibility in synapse and signaling dynamics.' *Journal of Experimental Medicine*. 2010 Nov 22;207(12):2733-49.

Jacobelli J., Friedman R.S., Conti M.A., Lennon-Dumenil A-M., Piel M., Sorensen C.M., Adelstein R.S., Krummel M.F. 'Confinement-optimized three-dimensional T cell amoeboid motility is modulated via myosin IIA-regulated adhesions.' *Nature Immunology*. 2010 Oct;11(10):953-61.

Jacobelli J., Bennett F.C., Pandurangi P., Tooley A., Krummel M.F. 'Myosin-IIA and ICAM-1 regulate the interchange between two distinct modes of T cell migration.' *Journal of Immunology*. 2009 Feb 15;182(4):2041-50.

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