Jessica J. Ciomperlik-Patton, Ph.D.

Postdoctoral Research Scientist • jciomp@tamu.edu

RESEARCH EXPERIENCE

Department of Entomology — College Station, TX
Texas A&M University
Postdoctoral Research Associate — Sept 22 - present

- Assessing the antiviral response in *Ae. aegypti* mosquitoes in response to infection with alphaviruses and flaviviruses
- Developing RT-qPCR assays to confirm suspected novel antiviral factors in *Ae. aegypti* mosquitoes
- Describing *Ae. aegypti* pathogenic response to viral and bacterial pathogens
- Assessing the contribution of the RNAi pathway to *Ae. aegypti* antiviral midgut/systemic response

Polio and Picornavirus Branch — Atlanta, GA
Division of Viral Diseases, CDC
Postdoctoral Fellow (regular) — Nov 15 – Sept 22

- Investigated innate immune responses to new poliovirus vaccines
- Determined infection and pathogenesis characteristics and differences between outbreak and historical strains of EV-D68
- Examined viral impact in iPSC-based models
- Developed assays and reagents to study EV-D68
- Assessed host cellular targets to address limited polio vaccine production
- Active in CDC Sigma Xi chapter (website chair 2016-2019) and CDC Ambassadors

Institute for Molecular Virology — Madison, WI
University of Wisconsin - Madison
PhD candidate — Dec 08 - Oct 15

- Identified the mechanisms by which EMCV phosphorylates nucleoporin proteins
- Discovered that EMCV Leader protein interacts with CRM1 host nuclear protein
- Described nucleocytoplasmic pathways inhibited during cardiovirus infections
- Developed knockdown cell lines to analyze viral:host interactions
- Collaborated on protein purification projects for *in vitro* studies/projects to demonstrate viral protein phosphorylation and subsequent activation
- Active on UW CMB Graduate Program Recruitment and Professional Development committees
- Student leader, 2012 ASV Student Social Events Committee

Plant Pathology and Microbiology Dept. — College Station, TX
Texas A&M University
M.S. candidate — Sept 06- August 08

- Examined antiviral RNA-induced silencing complexes in plants as anti-viral responses
- Discovered that plant silencing complexes can be purified from plants and re-programmed with other viral siRNAs
- Developed a method for demonstrating complementary viral silencing suppressors can be used synergistically to extend protein production in plants
- Active on Graduate Student Council as department representative

Plant Pathology and Microbiology Dept. College Station, TX
Texas AM University
Undergraduate Research Scholar 2005-2006

- Collaborated in identification of proteins involved in antiviral RNAi response in plants
- Developed assays to isolate antiviral complexes from plant tissue
- Responsible for lab reagent preparation

SUPERVISING EXPERIENCE

Texas A&M University 2022-present

- Planned/designed experiments and directed lab staff in support of independent projects
- Mentored Lab technicians, graduate and undergraduate students in molecular biology and entomological techniques

CDC PPLB 2015-2022

- Planned/designed experiments and directed lab technicians in support of independent projects
- Mentored colleagues in basic virology and immunofluorescence techniques

University of Wisconsin- Madison 2009-2015

- Mentored UW undergraduate students and graduate students in cellular and molecular biology research and biochemistry techniques
- Teaching assistant, Biology of Viruses (Biochem 575), lectured and exam synthesis

Texas A&M University 2006-2008

- Mentored TAMU undergraduates and graduate students in biochemistry techniques

EDUCATION

University of Wisconsin- Madison Madison, WI
Ph.D. in Cellular and Molecular Biology/Virology August 2015

Texas A&M University College Station, TX
M.S. in Plant Pathology and Microbiology August 2008
B.S. in Biology May 2006

PUBLICATIONS

Ciomperlik-Patton JJ, Smithee SE, Vincent AS, Wei L, Costantini V, Morantz EK, Vinjé J, Oberste MS, Burns CC, and Konopka-Anstadt JL. (2023) The Change Is Recognizable: Codon Deoptimized PV Upregulates RLRs and Early Innate Cellular Reponses. (in prep)

Ciomperlik-Patton JJ, Hetzler K, McEachin Z, Oberste MS, Burns CC, Mainou B, Konopka-Anstadt JL. (2023) Host infection characterizations associated with emerging virus Enterovirus D68. (in prep)

Wang L, Fan X, Bonenfant G, Cui D, Hossain J, Jiang N, Larson G, Currier M, Liddell J, Wilson M, Tamin A, Harcourt J, **Ciomperlik-Patton J**, Pang H, Dybdahl-Sissoko N, Campagnoli R, Shi PY, Barnes J, Thornburg N, Wentworth DE, Zhou B. (2020) SARS-CoV-2 susceptibility of cell lines and substrates commonly used in diagnosis and isolation of influenza and other viruses. (in prep)

Weldon WC, Zhao K, Jost HA, Hetzler K, **Ciomperlik-Patton J**, Konopka-Anstadt JL, Oberste

MS. (2020) Cytokine biomarkers associated with clinical cases of acute flaccid myelitis. J Clin Virol 2020 Oct;131:104591

Omarov, RT, **Ciomperlik, JJ**, Scholthof, HB (2016) An in vitro reprogrammable antiviral RISC with size-preferential ribonuclease activity. Virology. 2016 Mar;490:41-8

Ciomperlik, JJ, Basta, HB, Palmenberg, AC (2015) Cardiovirus Leader proteins bind exportins: Implications for virus replication and nucleocytoplasmic trafficking inhibition. Virology. 2016 Jan;487:19-26.

Ciomperlik, JJ, Basta, HB, Watters, KE, Palmenberg, AC. (2015) Three Cardiovirus Leader Proteins Equivalently Inhibit Four Different Nucleocytoplasmic Trafficking Pathways. Virology (2015 Oct;484:194-202.

Bacot-Davis VR, **Ciomperlik JJ**, Basta HA, Cornilescu CC, Palmenberg AC. (2014) Solution structures of Mengovirus Leader protein, its phosphorylated derivatives, and in complex with nuclear transport regulatory protein, RanGTPase. *Proc Natl Acad Sci USA*.111(44):15792-7

Basta, HB, Bacot-Davis, V.R., **Ciomperlik, JJ**, Palmenberg, A.C. (2014) Encephalomyocarditis virus leader is phosphorylated by CK2 and syk as a requirement for subsequent phosphorylation of cellular nucleoporins. *J Virol*., 88(4):2219-26

Gao SJ, Damaj MB, Park JW, Beyene G, Buenrostro-Nava MT, Molina J, Wang X, **Ciomperlik JJ,** Manabayeva SA, Alvarado VY, Rathore KS, Scholthof HB, Mirkov TE. (2013) Enhanced transgene expression in sugarcane by co-expression of virus-encoded RNA silencing suppressors. *PLoS One*. 14;8(6):e66046

Scholthof HB, Alvarado VY, Vega-Arreguin JC, **Ciomperlik** J, Odokonyero D, Brosseau C, Jaubert M, Zamora A, Moffett P. (2011) Identification of an ARGONAUTE for antiviral RNA silencing in Nicotiana benthamiana. *Plant Physiol.* 156(3):1548-55

Ciomperlik, J, Omarov, R.T., Scholthof, H.B. (2011) An antiviral RISC isolated from Tobacco rattle virus-infected plants. *Virology*, 412(1):117-24.

Omarov, R.T., **Ciomperlik, J.J.**, and Scholthof, H.B. (2007) RNAi-associated ssRNA-specific ribonucleases in *Tombusvirus* P19 mutant-infected plants and evidence for a discrete siRNA-containing effector complex. *Proc Natl Acad Sci U S A.* 104: 1714-1719.

Ciomperlik, J. (2006) Isolation and Characterization of an anti-viral RISC in plants. Senior thesis, Texas A&M University, May 2006. http://handle.tamu.edu/1969.1/3653

GRANTS AND FELLOWSHIPS:

UW-Madison CMB Travel Award	2014
American Society for Virology Travel Award	2011
TAMU Willie May Harris Charitable Trust Graduate Fellowship	2006
TAMU Graduate Assistantship	2006, 2007
Texas A&M Summer Research Internship	2002