



Scott Laster



Professor of Microbiology and Immunology
Associate Head, Department of Biological Sciences

B.S. University of Maine, Orono
M.S. Florida State University
Ph.D. Florida State University

Department of Biological Sciences
North Carolina State University
Raleigh NC 27695

Phone: 919-515-7958

Email: scott_laster@ncsu.edu

Inflammation

Research emphasis:

Dr. Laster's lab is focused on defining new treatments for the damaging inflammatory response that often accompanies infection. A number of plant-derived compounds are under investigation including polyphenols, alkaloids, and alkylamides. Understanding the mechanism of action of these compounds is of prime importance. Too many unwanted side-effects have emerged from the compounds currently used to treat inflammation. The Laster lab is also investigating the relationship between infection and allergy, specifically the effects of infection on cytokine production by dendritic cells.

Application:

- Immunopathology
- Small molecule inhibitors
- Molecular inflammation
- Rodent and porcine models

Collaboration potential:

- Bioassay guided fractionation
- In vitro models of inflammation
- Mechanisms of cytotoxicity
- Respiratory viruses

Selected publications: (limit 4)

Cecil, C.E., Cech, N., Davis, J., and S.M. Laster, 2011. Inhibition of H1N1 influenza A virus growth and induction of inflammatory mediators by the isoquinoline alkaloid berberine and extracts of goldenseal (*Hydrastis canadensis*). *Int. Immunopharmacol.* 11:1706-1714.

Pollara, J.J., Spesock, A.H., Pickup, D.J., Laster, S.M. and I. T. D. Petty. 2012. Production of prostaglandin E₂ in response to infection with modified Vaccinia Ankara Virus. *Virology*, 428:146-155.

Todd, D.A., Gullledge, T.V., Britton, E.R., Oberhofer, M., Leyte-Lugo, M., M., Moody, A.N., Shymanovich, T., Grubbs, Juzumaite, M., Graf, T.N., Oberlies, N.H., Faeth, S.H., Laster, S.M., and N. B. Cech. 2015. Ethanolic *Echinacea purpurea* extracts contain a mixture of cytokine-suppressive and cytokine-inducing compounds, including some that originate from endophytic bacteria. *PLoS ONE* 10(5):e0124276. doi:10.1371/journal.pone.0124276.