



Frank Scholle



Associate Professor,  
Biological Sciences

BS University of Tubingen,  
Germany  
PhD University of North Carolina  
Chapel Hill, NC

**Address:**  
Department of Biological Sciences  
North Carolina State University  
College of Sciences  
110 Derieux Pl.  
Raleigh, NC 27695-7614

**Phone:** 919-513-7574  
**Email:** frank\_scholle@ncsu.edu

### Flaviviruses: innate immune modulation, diagnostics and anti-infective materials

#### Research emphasis:

Dr. Scholle is a virologist who specializes in flaviviruses, especially West Nile virus, dengue and more recently Zika virus. Current projects focus on the development of broadspectrum anti-infective materials. Other research interests involve host-virus interactions, the innate immune system, and development of novel point of care diagnostics for viral infections.

#### Application:

- Innate immune signaling
- Virology
- DNA aptamers

#### Collaboration potential:

- Virologic assay development
- Diagnostics development
- Pathogen-immune system interactions

#### Selected publications:

Carpenter BL, Scholle F, Sadeghifar H, Francis AJ, Boltersdorf J, Weare WW, Argyropoulos DS, Maggard PA, **Ghiladi** RA. Synthesis, Characterization, and Antimicrobial Efficacy of Photomicrobicidal Cellulose Paper. *Biomacromolecules*. 2015 Aug 10;16(8):2482-92.

Wilson, J.R. Florez de Session, P. Leon, M.A. and Frank Scholle. 2008. West Virus Nonstructural Protein 1 Inhibits Toll-like receptor-3 Signal Transduction. *Journal of Virology*, Vol 82, September 2008, p. 8262-8271.

Crook KR, Miller-Kittrell M, Morrison CR, Scholle F. Modulation of innate immune signaling by the secreted form of the West Nile virus NS1 glycoprotein. *Virology*. 2014 Jun;458-459:172-82.

Alayli F, **Scholle F**. Dengue virus NS1 enhances viral replication and pro-inflammatory cytokine production in human dendritic cells. *Virology*. 2016 Sep;496:227-36