NC STATE UNIVERSITY

Comparative Medicine Institute

R. Michael Roe

William Neal Reynolds
Distinguished Professor

B.S. in Zoology and Chemistry, Louisiana State University, Baton Rouge
M.S. in Physiology and Biochemistry, La. State Univ., BR
Ph.D. in Entomology and Nuclear Science, La. State Univ., BR
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Insect Toxicology and Physiological Genomics

Research emphasis:

R. Michael Roe is interest in the control of arthropod pests both in livestock production, companion animals and humans using a variety of approaches which include chemical repellents, novel (natural) insecticides, mechanical insecticides, traps, robotics, the use of textiles and material sciences. We have a demonstrate record of taking technology from the lab to the store shelf and conducting collaborative work with PIs in synthetic organic chemistry, nuclear engineering, biology, natural product chemistry, molecular biology and material sciences. Also studying chemical effects on the human genome.

Application:

- Chemistry
- Molecular biology/genomics
- Arthropod bioassay
- Transgenesis
- Bioassay

Collaboration potential:

- Flies, ticks, fleas and other arthropod pests
- New control methods for pests
- Environmental chemicals and human health

Selected publications:

Gulia-Nuss et al. 2016. Genomics insights into the Ixodes scapularis tick vector of Lyme disease. Nature Communications. 7:10507.Authors, Title, publication(s) and dates

Roe, R. M. 2011. Method of repelling insects, Austria. Appl. No. 02721384.2. Patent No. 1372382.Authors, Title, publication(s) and dates

Roe, R. M. and A. L. Jones Jr. 2011. Compounds and compositions for the control of pests. US Patent Application Publication. Pub. No. US 2011/0189251 A1. Pub. Date: Aug. 4, 2011.

Roe, R. M. and A. E. Brandt. 2003. Polymer conjugates of insecticidal peptides or nucleic acids orinsecticides and methods of use thereof. United States Patent Application 20030108585. Pub. Date: June 12, 2003.