

## RAJKUMAR NATHANIEL

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### Education:

Ph.D (Microbiology)	2002	University of Florida, Gainesville, FL
M.S (Molecular Biology)	1996	University of Central Florida, Orlando, FL
B.Sc (Microbiology)	1991	Bangalore University, Bangalore, India

### Experience:

Jan 05 – Present	Assistant Professor Department of Biological Sciences, Nicholls State University, Thibodaux, LA Biology 117 - Human Anatomy and Physiology Laboratory II Biology 105 - Basic Biology I - Principles of Biology Biology 204 - General Microbiology Laboratory Biology 328 - Immunology and Serology Biology 329- Immunology and Serology Laboratory Biology 441- Molecular Biology of the Cell Laboratory Biology 416- Research Problems Research Interests: Host - pathogen interactions; Enteric pathogen virulence; Mechanisms of immune evasion
Dec 02 – Jan 05	Post Doctoral Research Specialist Mentor- Dr. Richard Benya, Dept of Medicine, University of Illinois at Chicago. (1) The role of Galanin receptor-1 in mediating chloride secretion in aged mice infected with <i>Salmonella typhimurium</i> . (2) Molecular modeling the binding interface between Galanin receptor-1 and G-protein
Aug 97 – Dec 02	Graduate Research Assistant Mentor- Dr. Richard Moyer, Dept of Molecular Genetics & Microbiology, University of Florida, <u>Dissertation:</u> Regulation of inflammation and apoptosis by CrmA during viral infection. The project involves elucidating the functions of the viral serpin CrmA and its role during <i>cowpox virus</i> infection. I have shown <i>in vivo</i> that the regulation of apoptosis and inflammation by CrmA is not linked and may involve a novel target or activity.
Aug 94 - Jul 96	Graduate Research Assistant Walt Disney Memorial Cancer Institute University of Central Florida, Orlando, FL <u>Thesis:</u> Development of monoclonal antibodies to stem cell markers Using the ML-1 cell line derived from an enriched CD34+ population of normal human cadaveric bone marrow, developed monoclonal antibodies that recognized a primitive stem cell marker.
Mar 93 - Jul 94	Research Assistant AstraZeneca Research & Development, Bangalore, India, Responsibilities included testing and evaluating PCR based kits for the rapid diagnosis of pyogenic meningitis. Member of drug discovery program for <i>Mycobacterium tuberculosis</i> .
Aug 91 - Feb 93	Demonstrator - Clinical Microbiologist Dept. of Clinical Microbiology, Christian Medical College Hospital, Vellore, India Isolation and identification of pathogens from clinical specimens.

**Publications:**

Glover S, **Nathaniel R**, Shakir L, Perrault C, Anderson RK, Tran-Son-Tay R, Benya RV.  
Transient upregulation of GRP and its receptor critically regulate colon cancer cell motility during remodeling.  
*Am J Physiol Gastrointest Liver Physiol.* 2005 Jun;288(6):G1274-82.

Matusiak D, Glover S, **Nathaniel R**, Matkowskyj K, Yang J and Benya RV.  
Neuromedin B and its receptor are mitogens in both normal and malignant epithelial cells lining the colon.  
*Am J Physiol Gastrointest Liver Physiol.* 2005 Apr;288(4):G718-28. Epub 2004 Nov 4.

Matkowskyj K, **Nathaniel R**, Prasad R, Weihrauch D, Rao M and Benya RV  
Galanin contributes to the excess colonic fluid secretion observed in dextran sulfate sodium murine colitis  
*Inflammatory Bowel Dis* 2004; 10: 408-416.

**Nathaniel R**, MacNeill AL, Wang YX, Turner PC, Moyer RW.  
*Cowpox virus CrmA*, *Myxoma virus SERP2* and *baculovirus P35* are not functionally interchangeable caspase inhibitors in poxvirus infections. *J Gen Virol.* 2004;85(Pt 5):1267-78.

Balganesh M, Lalitha MK, **Nathaniel R**  
Rapid diagnosis of acute pyogenic meningitis by a combined PCR dot-blot assay. *Molecular and Cellular Probes.* 2000;14(2):61-9

Macen J, Takahashi A, Moon KB, **Nathaniel R**, Turner PC, Moyer RW  
Activation of caspases in pig kidney cells infected with wild-type and CrmA/SPI-2 mutants of cowpox and rabbitpox viruses. *J Virology.* 1998;72(5):3524-33.

**Presentations:**

105<sup>th</sup> Annual Meeting of the American Gastroenterological Association, May 2004, New Orleans, LA  
Age-dependent differences in response to *Salmonella* enteric infection are due to alterations in galanin receptor-1 expression. **Nathaniel R**, Prasad R, Matkowskyj K, Rao M and Benya RV

105<sup>th</sup> Annual Meeting of the American Gastroenterological Association, May 2004, New Orleans, LA  
Neuromedin B and its receptor are mitogens in both normal and malignant epithelial cells lining the colon.  
Matusiak D, Glover S, **Nathaniel R**, Matkowskyj K, Yang J and Benya RV.

Seventh Southeastern Regional Virology Conference, April 2002, Georgia State University, Atlanta.  
Regulation of apoptosis and inflammation by expression from cowpox virus of the poxvirus serpins crmA and Serp2, and baculovirus p35. . **R.Nathaniel**, A.MacNeill, R.W.Moyer

American Society of Virology, 20<sup>th</sup> Annual Meeting, July 2001, University of Wisconsin, Madison.  
*Baculovirus p35* and *Myxoma virus Serp2* replacements of crmA in *Cowpox* virus fail to inhibit inflammation on chicken chorioallantoic membranes, but restore virus yield. **R.Nathaniel**, A.MacNeill, R.W.Moyer.

Fifth Southeastern Regional Virology Conference, March 1998, Georgia State University, Atlanta.  
Activation of Caspases in pig kidney cells infected with wild type and crmA/SPI-2 mutants of *cowpox* and *rabbitpox* viruses. J.Macen, A.Takahashi, K.B.Moon, **R.Nathaniel**, P.C.Turner, R.W.Moyer.

**Academic Honors:**

2003-Present	Member of the American Gastroenterological Association
2001	American Society of Virology Travel award to attend ASV, 2001 Meeting
2001-2002	Member of American Society of Virology
1996-2002	Pre-Doctoral Research Assistantship, IDP in Biomedical Sciences, University of Florida.
1994-96	Graduate Research Assistantship, Walt Disney Memorial Cancer Institute, Orlando, FL
1994-96	Graduate Teaching Assistantship, University of Central Florida, Orlando, FL
1992	Best Student Award, Dept of Clinical Microbiology, Christian Medical College, Vellore, India