

CURRICULUM VITAE

Dr. Girish K Radhakrishnan, PhD

National Institute of Animal Biotechnology (NIAB)
University of Hyderabad Campus
Central University Post Office
Prof. C. R. Rao Road
Hyderabad-500 046
Andhra Pradesh, India
Email: girish@niab.org.in, krgirish@gmail.com

Education:

Madurai Kamaraj University, Madurai, Tamil Nadu, INDIA. 2000-2006

School of Biotechnology

- Ph.D. in Biotechnology

Mahatma Gandhi University, Kottayam, Kerala, INDIA. 1996-1999

School of Biosciences

- M.Sc in Microbiology

Mahatma Gandhi University, Kottayam, Kerala, INDIA. 1993-1996

Baselius College

- B.Sc in Zoology major with Chemistry and Botany as subsidiaries

Research Grants:

1. Principal Investigator: Brucella TIR protein recruits a ubiquitin ligase to TLR adaptor protein TIRAP (NIH1 R03 AI101611-01, Funding Agency: National Institutes of Health (NIH), USA. Funding Period 2012-2013).
2. Co-Principal Investigator: TIR domain containing protein from *Brucella melitensis*. (NIH 1 R21 AI088038-01; Funding agency: NIH; Funding Period: 2010-2012; completed).

Awards and Honors:

- Member of American Association of Immunologists
- Post-doctoral Research Fellowship from University of Wisconsin-Madison, USA (2006-2010)
- Senior Research Fellowship by Council of Scientific and Industrial Research (CSIR), Government of India (2002-2005).
- Junior Research Fellowship by CSIR, Government of India (2000–2002).
- Awarded National Eligibility for Lectureship in Life Sciences by University Grants Commission, Government of India in 1999.

- Awarded a travel grant by USA-ISRAEL Binational Agricultural Research & Development Fund to attend a workshop at Eilat, ISRAEL in 2005
- Awarded University Second Rank in M.Sc.

Work Experience:

Research Assistant Professor (2011-2012)

- Department of Pathobiological Sciences, University of Wisconsin-Madison, Wisconsin, USA

Post-doctoral Research (2006-2010)

- Department of Pathobiological Sciences University of Wisconsin-Madison, Madison, Wisconsin, USA.

Research projects:

- Subversion of host innate immune responses by infectious intracellular bacteria, *Brucella*: Analyze the role of a Toll-like Receptor domain-containing protein (TcpB) from *B.melitensis*.
- Expression, purification and functional characterization of TcpB
- To develop invasive *E.coli* vaccine expressing *B. melitensis* outer membrane proteins for brucellosis.
- Studies on an anti-*Brucella* peptide Trifolitoxin (TFX) and development of TFX based drugs for brucellosis.
- Analyze the role of cytotoxic CD8 lymphocytes in long term *Brucella* infection.
- Studies on host unfolded protein response in the intracellular persistence of *B.melitensis*.

Doctoral Research (2000-2006)

- Cloning and sequencing of geminiviruses. Bioinformatics analysis of virus sequences to investigate recombination events and phylogenetic relationship.
- Over expression, purification and functional characterization of replication initiator protein and cell-to-cell movement protein of geminivirus.

Pre-doctoral Experience (1996-2000)

- Training in clinical bacteriology, virology and immunology at Sree Chitra Thirunal Institute for Medical Sciences & Technology, Thiruvananthapuram, KL, INDIA.
- M.Sc. project work on aflatoxin producing fungi in cattle feeds at School of Biosciences, Mahatma Gandhi University, Kottayam, KL, INDIA.
- Project Assistant at the National Environmental Engineering Research Institute, Govt. of India (1999-2000). Worked on bacteriological and biochemical analysis of potable water samples.

List of Publications:

1. Girish Radhakrishnan and Gary Splitter (2012) Brucella TIR domain-containing protein recruits a novel ubiquitin ligase for enhanced ubiquitination and destabilization of the toll-like receptor adaptor protein TIRAP (In preparation).
2. Judith A. Smith, Diogo Magnani, Mekail Kahn, Jerome Harms, Girish Radhakrishnan, Yi-Ping Liu and Gary Splitter (2012) Brucella Induces an Unfolded protein Response via TcpB that Enables Intracellular Replication in Macrophages. (Under revision in PLoS Pathogen).
3. Gary Splitter, Jerome Harms, Erik Petersen, Diogo Magnani, Marina Durward, Gireesh Rajashekara and Girish Radhakrishnan (2012). Studying host-pathogen interaction events in living mice visualized in real-time using biophotonic imaging. Under review in Methods in Molecular Biology. (Invited review)
4. Radhakrishnan, G. and Splitter, G. (2012) Modulation of host microtubule dynamics by pathogenic bacteria. Biomolecular Concepts. 3 (6), 571–580.
5. Gupta VK, Radhakrishnan G, Harms J, Splitter G. (2012) Invasive Escherichia coli vaccines expressing Brucella melitensis outer membrane proteins 31 or 16 or periplasmic protein BP26 confer protection in mice challenged with *B. melitensis*. Vaccine, 30, 4017-4022.
6. Durward M, Radhakrishnan G, Harms J, Bareiss C, Magnani D and Splitter, G. A (2012) Active Evasion of CTL Mediated Killing and Low Quality Responding CD8+ T Cells Contribute to Persistence of Brucellosis. PLoS ONE 7(4): e34925.
7. Radhakrishnan, G., Harms, J and Splitter, G (2011). Modulation of microtubule dynamics by a TIR domain containing protein from an intracellular pathogen *Brucella*. Biochemical Journal 439 (1) 79-83.
8. Radhakrishnan, G and Splitter, G. (2010). Biochemical and functional analysis of TIR domain-containing protein from *Brucella melitensis*. Biochemical and Biophysical Research Communications. 397(1) 59-63.
9. Radhakrishnan, G. K., Yu, Q., Harms, J. S., Splitter, G. A. (2009). Brucella TIR domain-containing protein mimics properties of the toll-like receptor adaptor protein TIRAP. Journal of Biological Chemistry 284(15): 9892-9898.
10. Anburaj. D. Barnabas., Girish. K. Radhakrishnan., Usha Ramakrishnan. (2010) Characterization of a Begomovirus causing Horsegram Yellow Mosaic disease in India. European Journal of Plant Pathology 127(1): 41-51.
11. Packialakshmi, R. M, Srivastava, N., Girish, K. R., Usha, R. (2010) Molecular characterization of a distinct begomovirus species from Vernonia cinerea and its associated DNA-beta using the bacteriophage Phi29 DNA polymerase. Virus Genes 41(1): 135-43.
12. Radhakrishnan, G. K., Splitter, G. A., Usha, R. (2008). DNA recognition properties of the cell-to-cell movement protein (MP) of soybean isolate of Mungbean yellow mosaic India virus (MYMIV-Sb). Virus Research 131(2):152-9.
13. Vadivukarasi, T., Girish, K. R., Usha, R. (2007) Sequence and recombination analyses of the geminivirus replication initiator protein. Journal of Biosciences. 32(1):17-29.

14. Girish. K. R., Palanivelu, S., Kumar, P. D., Usha, R. (2006) Refolding, purification and characterization of replication-initiator protein from soybean-infecting geminivirus. Journal of Virological Methods.136 (1-2):154-9.
15. Girish. K. R and Usha. R (2005). Molecular characterization of two soybean-infecting begomoviruses from India and evidence for recombination among legume-infecting begomoviruses from South-East Asia. Virus Research 108: 167-176.

Scientific Presentations:

1. Delivered a talk on “Studies on a TIR domain-containing protein from *Brucella melitensis*” at 63rd Annual Brucellosis Research Conference; Chicago, Illinois, USA. December 4-5, 2010
2. Invited talk on “Microbial Subversion of Innate Immune Response: Role of a TIR Domain-Containing Protein from *Brucella melitensis*” at School of Biotechnology, Madurai Kamaraj University, INDIA on 31 July 2009.
3. Delivered a talk on “Brucella protein containing a TIR Domain Inhibits NF-κB Activation” at 4th Annual NIAID Regional Centers of Excellence for Biodefense and Emerging Infectious Diseases (RCE) meeting, St. Louis, MO, USA. April 15-17, 2007.
4. Delivered a talk on “*Brucella melitensis* protein containing a TIR domain inhibits NF-κB activation and a peptide antibiotic (Trifolitoxin) exhibits anti-Brucella properties” at 4th Annual Great Lakes Regional Center of Excellence for Biodefense and Emerging Infectious Diseases Research (GLRCE) Conference, SC, USA. 30 November - 2 December 2006.
5. Delivered a talk on “Molecular characterization of two soybean-infecting geminiviruses from India” at Indo-Swiss Collaboration in Biotechnology (ISCB) Workshop on Plant Geminivirus held in School of Biotechnology, Madurai Kamaraj University, INDIA during August 25-26, 2004.
6. Presented a poster at Aqua-Terr Annual Symposium at School of Biological Sciences, Madurai Kamaraj University, INDIA on 28 February 2003.
7. Delivered a talk on “Molecular characterization of soybean yellow mosaic virus” at Annual conference of Indian Virological Society held in Indian Veterinary Research Institute, Hebbal, Bangalore, INDIA on 19 January 2002.
8. Presented a poster at National Symposium on ‘Biotechnology at the turn of the Millennium’, held in Anna University, Chennai, Tamil Nadu, INDIA during February 4-5, 2002.
9. Presented a poster at Aqua-Terr Annual Symposium at School of Biological Sciences, Madurai Kamaraj University, INDIA on 4 April 2001.

Conference Proceedings:

1. Marina Durward, Girish Radhakrishnan, Jerome Harms, Gary Splitter (2011) Evasion of CTL mediated killing and low quality responding CD8+ T cells contribute to persistence of brucellosis. Brucellosis 2011, Proceedings of International Research Conference, Buenos Aires, Argentina.

2. Girish Radhakrishnan, Jerome Harms, and Gary Splitter (2010). Studies on a TIR domain-containing protein from *Brucella melitensis*. Proceedings of 63rd Annual Brucellosis Research Conference; Chicago, Illinois, USA.
3. Marina Durward, Girish Radhakrishnan, Jerome Harms, and Gary Splitter (2010). Immunological memory and *Brucella melitensis*: a match never made? Proceedings of 63rd Annual Brucellosis Research Conference, Chicago, Illinois, USA.
4. Girish. K. Radhakrishnan, Jerome S. harms and Gary Splitter (2009). Brucella encoded TIR-like protein mimics properties of the TLR adaptor TIRAP. Proceedings of 62nd Annual Brucellosis Research conference. Chicago, IL, USA.
5. Girish. K. Radhakrishnan and Gary Splitter (2007) Brucella protein containing a TIR Domain Inhibits NF- κ B Activation". Proceedings of 4th Annual NIAID RCE Research meeting, St. Louis, MO, USA. p135.
6. Girish. K. Radhakrishnan and Gary Splitter (2006) "*Brucella melitensis* protein containing a TIR domain inhibits NF- κ B activation and a peptide antibiotic (Trifolitoxin) exhibits anti-Brucella properties". Proceedings of 4th Annual Great Lakes Regional Center of Excellence Conference, SC, USA.
7. K. R. Girish and R. Usha (2006) Molecular characterization of cell-to-cell movement protein of soybean isolate of Mungbean yellow mosaic India virus (MYMIV-Sb). Indian Virological Society XVI Annual Convention & International Symposium on Management of Vector-Borne Viruses. ICRISAT Patancheru, Hyderabad, Andhra Pradesh, INDIA. pp55 (OP9/06).
8. K. R. Girish and R. Usha (2004) Studies on the soybean-infecting geminiviruses from India. Abstracts of the 4th International Geminivirus Symposium. University of Cape Town, South Africa. p73 (W4-3).
9. K. R. Girish and R. Usha (2003) Molecular characterization of two isolates of soybean yellow mosaic virus causing Yellow Mosaic Disease of soybean in India. Proceedings of Science Day & Aqua-Terr Annual Symposium, INDIA p15.
10. K. R. Girish and R. Usha (2002) Molecular characterization of soybean yellow mosaic virus. Proceedings of Annual conference of Indian Virological Society, Bangalore, INDIA p20.

Other conferences attended:

1. 15th Annual Midwest Microbial Pathogenesis conference, University of Wisconsin-Madison, USA. September 26-28, 2008.
2. Workshop on "Inter- and intracellular dynamics of ssDNA plant pathogens: Implications for improving resistance", Eilat, ISRAEL, November 6 - 9, 2005.
3. Workshop on 2-Dimensional gel electrophoresis held in School of Biotechnology, Madurai Kamaraj University, INDIA, January 17-19, 2005.