

CURRICULUM VITAE

C.T. RANJITH-KUMAR

Associate Professor
University School of Bio-Technology
Guru Gobind Singh Indraprastha University
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Education

Ph.D. Department of Biochemistry, Indian Institute of Science, Bangalore, India

M.Sc. Department of Biochemistry, University of Kerala, Trivandrum, India

B.Sc. Department of Chemistry, University of Kerala, Trivandrum, India

Professional Experience

2016 – present: **Associate Professor**, University School of Bio-Technology, Guru Gobind Singh Indraprastha University, New Delhi, India

2012 – 2016: **Ramalingaswami Fellow**, Translational Health Science and Technology Institute, Gurgaon, Haryana, India

2008 - 2012: **Research Scientist**, Department of Molecular and Cellular Biochemistry, Indiana University, Bloomington, IN, USA.

2003 – 2008: **Senior Research Associate**, Department of Biochemistry and Biophysics, Texas A&M University, College Station, TX, USA

2000 – 2003: **Postdoctoral Research Associate**, Department of Biology, Indiana University, Bloomington, IN, USA.

1998 - 2000: **Postdoctoral fellow**, Department of Biological Sciences, Purdue University, W. Lafayette, IN, USA.

Area of Specialization

Molecular Virology and Innate Immunity

- Replication of RNA viruses
- Signaling by Retinoic acid inducible gene-I (RIG-I)-like receptors (RLRs) and Toll-like Receptors (TLRs)

Publications

Manuscripts Communicated

1. A. Madhvi, S. Hingane, R. Srivastava, N. Joshi, C. Subramani, R. Muthumohan, R. Khasa, S. Varshney, M. Kalia, S. Vrati, M. Surjit and **C.T. Ranjith-Kumar** (2016). A screen for novel hepatitis C virus RdRp inhibitor identifies a broad-spectrum antiviral compound.
2. C. Subramani, V.P. Nair, S. Anang, S.D. Mandal, M. Pareek, N. Kaushik, A. Srivastava, S. Saha, **C.T. Ranjith-Kumar**, and M. Surjit (2016). Host-virus protein interaction network uncovers a dual strategy for exploitation of the host translation machinery by the Hepatitis E Virus.

Manuscripts Published

1. S. Anang, C. Subramani, V.P. Nair, S. Kaul, N. Kaushik, C. Sharma, A. Tiwari, **C.T. Ranjith-Kumar**, and M. Surjit. (2016) Identification of critical residues in Hepatitis E virus macro domain involved in its interaction with viral methyltransferase and ORF3 proteins. **Scientific Reports**. 2016 Apr 26;6:25133. doi: 10.1038/srep25133. (IF: 5.228, citations: 0)
2. V.P. Nair, S. Anang, C. Subramani, A. Madhvi, K. Bakshi, A. Srivastava, Shalimar, B. Nayak, **C.T. Ranjith-Kumar**, and M. Surjit. (2016) Endoplasmic Reticulum Stress Induced Synthesis of a Novel Viral Factor Mediates Efficient Replication of Genotype-1 Hepatitis E Virus. **PLoS Pathogens**. 2016 Apr 1;12(4):e1005521. doi: 10.1371/journal.ppat.1005521. eCollection 2016 Apr. (IF: 7.562, citations: 1)
3. Y. Wen, X. Lin, B. Fan, **C.T. Ranjith-Kumar** and C.C. Kao (2015). The juxtamembrane sequence of the Hepatitis C virus polymerase can affect RNA synthesis and inhibition by allosteric polymerase inhibitors. **Virus Genes** 51(1):1-11. DOI 10.1007/s11262-015-1199-4. (IF: 1.576, citations: 0)
4. R. Vaughan, Y. Li, B. Fan, **C.T. Ranjith-Kumar**, and C. Kao (2012). RNA binding by the NS3 protease of the hepatitis C virus. **Virus Research** 169(1):80-90. (IF: 2.324, citations: 5)
5. G. Yi, J. Deval, B. Fan, H. Cai, C. Souillard, **C. T. Ranjith-Kumar**, D.B. Smith, L. Blatt, L. Beigelman, and C.C. Kao (2012). Comparative Inhibition of the Hepatitis C Virus RNA Polymerase by VX-222 and Filibuvir – a Biochemical Study. **Antimicrobial Agents and Chemotherapy**, 56 (2), 830-837. (IF: 4.476, citations: 42)
6. C. V. Subba-Reddy, B. Tragesser, Z. Xu, B. Stein, **C. T. Ranjith-Kumar** and C.C. Kao (2012) RNA Synthesis by the Brome Mosaic Virus RNA-Dependent RNA Polymerase in Human Cells Reveals Requirements for De Novo Initiation and Protein-Protein Interaction. **Journal of Virology**, 86, 4317-4327. (IF: 4.439, citations: 9)
7. **C. T. Ranjith-Kumar***, Y. Wen, N. Baxter, K. Bhardwaj and C. C. Kao (2011). A cell-based assay for RNA synthesis by the HCV polymerase reveals new insights on mechanism of polymerase inhibitors and modulation by NS5A. **PLoS ONE**, 6(7): e22575.

doi:10.1371/journal.pone.0022575. (IF: 3.057, citations: 29) ***Corresponding Author**

8. Y. Lai, S. Adhikarakunnathu, K. Bhardwaj, **C. T. Ranjith-Kumar**, Y. Wen, J. L. Jordan, L. Wu, B. Dragnea, L. San Mateo and C. C. Kao (2011). LL37 and cationic peptides enhance TLR3 signaling by viral double-stranded RNAs. *PLoS ONE*, 6(10): e26632. doi:10.1371/journal.pone.0026632. (IF: 3.057, citations: 47)
9. Y. Lai, G. Yi, A. Chen, K. Bhardwaj, R. A. Valverde, A. Zlotnick, S. Mukhopadhyay, **C. T. Ranjith-Kumar**, and C.C. Kao (2011). Viral double-strand RNA-binding proteins can enhance innate immune signaling by Toll-Like Receptor 3. *PLoS ONE*, 6(10): e25837. doi:10.1371/journal.pone.0025837. (IF: 3.057, citations: 21)
10. C. Lu, **C. T. Ranjith-Kumar**, L. Hao, C. Kao, and P. Li. (2011). Crystal structure of human RIG-I C-terminal domain bound to a blunt-ended double-strand RNA. *Nucleic Acids Research*, 39, 1565-1575. (IF: 9.202, citations: 47)
11. **C. T. Ranjith-Kumar***, Y. Lai, R. T. Sarisky and C. C. Kao. (2010). Green tea catechin, Epigallocatechin Gallate, suppresses signaling by the dsRNA innate immune receptor RIG-I. *PLoS ONE*, 5(9):e12878. doi:10.1371/journal.pone.0012878. (IF: 3.057, citations: 15) ***Corresponding Author**
12. R. Qi, S. Hoose, J. Schreiter, K. V. Sawant, R. Lamb, **C. T. Ranjith-Kumar**, J. Mills, L. San Mateo, J. Jordan, and C. C. Kao. (2010). Secretion of the human Toll-Like Receptor 3 ectodomain is affected by single nucleotide polymorphisms and regulated by UNC-93B. *The Journal of Biological Chemistry*, 285, 36635-36644. (IF: 4.573, citations: 25)
13. C. Lu, H. Xu, **C. T. Ranjith-Kumar**, M. T. Brooks, Y. T. Hou, F. Hu, A. B. Herr, R. K. Strong, C. Kao, and P. Li. (2010). The structural basis of 5' triphosphate double-stranded RNA recognition by RIG-I C-terminal domain. *Structure*, 18, 1032-1043. **(Cited as a Recommended Read by Faculty of 1000)**. (IF: 5.237, citations: 133)
14. **C. T. Ranjith-Kumar***, A. Murali, W. Dong, D. Srisathiyannarayanan, R. Vaughan, J. Ortiz-Alacantara, K. Bhardwaj, X. Li, P. Li, and C. C. Kao. (2009). Agonist and antagonist recognition by RIG-I, a cytoplasmic innate immunity receptor. *The Journal of Biological Chemistry*, 284, 1155-1165. **(Cited as a Recommended Read by Faculty of 1000)**. (IF: 4.573, citations: 47) ***Corresponding Author**
15. X. Li, **C. T. Ranjith-Kumar**, M. T. Brooks, S. Dharmiah, A. B. Herr, C. Kao, and P. Li (2009). The RIG-I like receptor LGP2 recognizes the termini of double-stranded RNA. *The Journal of Biological Chemistry*, 284, 13881-13891. (IF: 4.573, citations: 104)
16. **C. T. Ranjith-Kumar**, K. E. Duffy, J. L. Jordan, A. Eaton-Bassiri, R. Vaughan, S. A. Hoose, R. J. Lamb, R. T. Sarisky, and C. C. Kao. (2008). Single-stranded oligonucleotides can inhibit cytokine production induced by the human Toll-Like Receptor 3. *Molecular and Cellular Biology*, 28, 4507-4519. (IF: 4.777, citations: 26)
17. S. Chinnaswamy, I. Yarbrough, S. Palaninathan, **C. T. Ranjith-Kumar**, V. Vijayaraghavan, B. Demeler, S. M. Lemon, J. C. Sacchettini and C. C. Kao. (2008) A locking mechanism regulates RNA synthesis and host protein interaction by the hepatitis C virus polymerase. *The Journal of Biological Chemistry*, 283, 20535-20546. (IF: 4.573, citations: 63)

18. A. Murali, X. Li, **C. T. Ranjith-Kumar**, K. Bhardwaj, A. Holzenburg, P. Li and C. C. Kao. (2008). Structure and function of LGP2, a DExD/H helicase that regulates the innate immunity response. *The Journal of Biological Chemistry*, 283, 15825-15833. (IF: 4.573, citations: 72)
19. **C. T. Ranjith-Kumar**, W. Miller, J. Sun, J. Xiong, J. Santos, I. Yarbrough, R. J. Lamb, J. Mills, K. E. Duffy, S. Hoose, M. Cunningham, A. Holzenburg, L. Mbow, R. T. Sarisky and C. C. Kao. (2007). Effects of single nucleotide polymorphisms on Toll-like Receptor 3 activity and expression in cultured cells. *The Journal of Biological Chemistry*, 282, 17696-17705. (IF: 4.573, citations: 78)
20. **C. T. Ranjith-Kumar**, W. Miller, J. Xiong, W. K. Russell, R. Lamb,, J. Santos, K. E. Duffy, L. Cleveland, M. Park, K. Bhardwaj, Z. Wu, D. H. Russell, R. T. Sarisky, M. L. Mbow and C. C. Kao. (2007). Biochemical and functional analyses of the human Toll-like Receptor 3 ectodomain. *The Journal of Biological Chemistry*, 282, 7668-7678. (IF: 4.573, citations: 58)
21. **C. T. Ranjith-Kumar*** and C. C. Kao. (2006). Recombinant viral RdRps can initiate RNA synthesis from circular templates. *RNA*, 12, 303-312. (IF: 4.94, citations: 27)
***Corresponding Author**
22. J. Sun, K. E. Duffy, **C. T. Ranjith-Kumar**, J. Xiong, R. J. Lamb, J. Santos, H. Masarapu, M. Cunningham, A. Holzenburg, R. T. Sarisky, L. Mbow and C. Kao. (2006). Structural and functional analyses of the human Toll-like receptor 3; Role of glycosylation. *The Journal of Biological Chemistry*, 281, 11144-11151. (IF: 4.573, citations: 102)
23. Y.-C. Kim, W. K. Russell, **C. T. Ranjith-Kumar**, M. Thomson, D. H. Russell and C. C. Kao. (2005). Functional analysis of RNA binding by the Hepatitis C Virus RNA-dependent RNA polymerase. *The Journal of Biological Chemistry*, 280, 38011-38019. (IF: 4.573, citations: 37)
24. C. Zhang, Z. Cai, Y.-C. Kim, **C. T. Ranjith-Kumar**, F. Yuan, P.-Y. Shi, C. Kao and G. Luo. (2005). Stimulation of Hepatitis C Virus (HCV) nonstructural protein 3 (NS3) helicase activity by the NS3 protease domain and by HCV RNA-dependent RNA polymerase. *Journal of Virology*, 79, 8687-8697. (IF: 4.439, citations: 80)
25. **C. T. Ranjith-Kumar**, R. T. Sarisky, L. L. Gutshall, M. Z. Thomson, and C. C. Kao. (2004). De Novo Initiation pocket mutations confer multiple effects on Hepatitis C Virus RNA-dependent RNA polymerase activities. *Journal of Virology*, 78, 12207-12217. (IF: 4.439, citations: 27)
26. **C. T. Ranjith-Kumar**, L. L. Gutshall, R. T. Sarisky, and C. C. Kao. (2003). Multiple interactions within Hepatitis C Virus RNA polymerase repress primer dependent RNA synthesis. *Journal of Molecular Biology*, 330, 675-685. (IF: 4.517, citations: 53)
27. **C. T. Ranjith-Kumar**, J. L. Santos, L. L. Gutshall, V. K. Johnston, J. Lin-Goerke, M.-J. Kim, D. J. Porter, D. Maley, C. Greenwood, D. L. Earnshaw, A. Baker, B. Gu, C. Silverman, R. T. Sarisky, and C. Kao. (2003). Enzymatic activities of the GB virus-B RNA-dependent RNA polymerase. *Virology*, 312, 270-280. (IF: 3.2, citations: 23)

28. **C. T. Ranjith-Kumar**, X. Zhang, and C. C. Kao. (2003). Enhancer-like activity of a bromemosaic virus RNA promoter. *Journal of Virology*, 77, 1830-1839. (IF: 4.439, citations: 26)
29. Y. Zhu, J. Nam, J. M. Humara, K. S. Mysore, L. Y. Lee, H. Cao, L. Valentine, J. Li, A. D. Kaiser, A. L. Kopecky, H. H. Hwang, S. Bhattacharjee, P. K. Rao, T. Tzfira, J. Rajagopal, H. Yi, Veena, B. S. Yadav, Y. M. Crane, K. Lin, Y. Larcher, M. J. Gelvin, M. Knue, C. Ramos, X. Zhao, S. J. Davis, S. I. Kim S, **C. T. Ranjith-Kumar**, Y. J. Choi, V. K. Hallan, S. Chattopadhyay, X. Sui, A. Ziemienowicz, A. G. Matthysse, V. Citovsky, B. Hohn, and S. B. Gelvin. (2003). Identification of *Arabidopsis* rat mutants. *Plant Physiology*, 132(2):494-505. (IF: 6.841, citations: 141)
30. **C. T. Ranjith-Kumar**, Y.-C. Kim, L. L. Gutshall, C. Silverman, S. Khandekar, R. T. Sarisky, and C. C. Kao. (2002). Mechanism of de novo initiation by the Hepatitis C Virus RNA-dependent RNA polymerase: Role of divalent metals. *Journal of Virology*, 76, 12526-12536. (IF: 4.439, citations: 83)
31. **C. T. Ranjith-Kumar**, L. L. Gutshall, M.-J. Kim, R. T. Sarisky, and C. C. Kao. (2002). Requirements for de novo initiation of RNA synthesis by recombinant flaviviral RNA-dependent RNA polymerases. *Journal of Virology*, 76, 12513-12525. (IF: 4.439, citations: 75)
32. **C. T. Ranjith-Kumar**, J. Gajewski, R. T. Sarisky, and C. C. Kao. (2001). Terminal Transferase Activity of recombinant RNA-dependent RNA polymerases: Implication for the viral RNA synthesis. *Journal of Virology*, 75, 8615-8623. (IF: 4.439, citations: 88)
33. K. S. Mysore, **C. T. Ranjith-Kumar**, and S. B. Gelvin (2000). *Arabidopsis* ecotypes and mutants that are recalcitrant to *Agrobacterium* root transformation are susceptible to germline transformation. *Plant Journal*, 21, 9-16. (IF: 5.468, citations: 58)
34. C. S. S. Vidya, M. Manoharan, **C. T. Ranjith-Kumar**, H. S. Savithri and G. L. Sita (2000). *Agrobacterium*-mediated transformation of tomato *Lycopersicon esculentum* var. Pusa Ruby) with coat protein gene of physalis mottle tymovirus. *Journal of Plant Physiology*, 156, 106-110. (IF: 2.971, citations: 0)
35. **C. T. Ranjith-Kumar**, M. Manoharan, S. K. Prasad, S. Cherian, M. Umashankar, G. L. Sita and H. S. Savithri. (1999). Engineering resistance against physalis mottle tymovirus by expression of the coat protein and 3' noncoding region. *Current Science*, 77, 1542-1547. (IF: 0.926, citations: 5)
36. **C. T. Ranjith-Kumar**, A.-L. Haenni and H. S. Savithri. (1998). Interference with physalis mottle tymovirus replication and coat protein synthesis by transcripts corresponding to the 3' terminal region of the genomic RNA role of the pseudoknot structure. *Journal of General Virology*, 79, 185-189. (IF: 3.183, citations: 4)
37. **C. T. Ranjith-Kumar**, K. Gopinath, A. N. K. Jacob, V. Srividhya, P. Elango and H. S. Savithri. (1998). Genomic sequence of physalis mottle virus and its evolutionary relationship with other tymoviruses. *Archives of Virology*, 143, 1489-1500. (IF: 2.39, citations: 14)

38. M. Sastri, R. Kekuda, K. Gopinath, **C. T. Ranjith-Kumar**, J. R. Jagath and H. S. Savithri. (1997). Assembly of physalis mottle virus capsid protein in *Escherichia coli* and the role of amino and carboxy termini in the formation of the icosahedral particles. *Journal of Molecular Biology*, 272, 541-552. (IF: 4.517, citations: 33)

Review Articles

1. C. C. Kao, B. Fan, S. Chinnaswamy, H. Cai, **C. T. Ranjith-Kumar**, and J. Deval (2012). Assays for RNA Synthesis and Replication by the Hepatitis C Virus (Review). *Frontiers in Biology*, 7(3): 233-245. DOI: 10.1007/s11515-012-1188-0. (IF: not known, citations: 1)
2. **C. T. Ranjith-Kumar*** and C. C. Kao. (2006). Biochemical activities of the Hepatitis C Virus RNA-dependent RNA polymerase. **Hepatitis C Viruses; Genomes and Molecular Biology. Chapter 10**, 293-310. Published by Horizon Bioscience. Edited by Seng-Lai Tan. (IF: not known, citations: 22) ***Corresponding Author**
3. **C. T. Ranjith-Kumar**, and H. S. Savithri. (1999). Mechanism and application of engineered resistance to plant viruses (Review). *Journal of Plant Biology*, 26, 97-110. (IF: 1.671, citations: 0)

Patents Obtained

1. Compositions and methods related to toll-like receptor-3 (USA)
Inventors: Kao Cheng Chia and **Ranjith-Kumar Tharachaparamba**
Patent No.: 8,066,981 (Nov 29, 2011)

Patents Filed

1. Modified oligonucleotides for the treatment of Hepatitis C infection (USA)
Inventors: Kao Cheng Chia and **Ranjith-Kumar Tharachaparamba**
2. Toll-like receptor 3 modulators and uses thereof (USA)
Inventors: Duffy Karen E, **Ranjith-Kumar Cheneparath Tharachaparamba**, Jordan Jarrat L, Kao Cheng Chia, Sarisky Robert T.
3. A novel cell-based assay to identify polymerase inhibitors for viral infectious disease
Inventors: Kao Cheng and **Ranjith-Kumar Tharachaparamba**

Teaching Experience

Graduate student course at THSTI (2012-present)

Graduate student course at Indiana University (2011)

Title: Molecular mechanisms for virus infection-host interaction

Awards

Ramalingaswami Re-entry Fellowship 2012 awarded by Department of Biotechnology, Ministry of Science and Technology, Government of India.

Ramanujan Fellowship 2012 awarded by Science and Engineering Research Board, Government of India (did not avail).

Certificate of Appreciation presented by Faculty and Staff for Student Excellence (FASE) Mentoring Program, Indiana University, Bloomington, Indiana (2001 and 2002).

Travel grant for American Society for Virology annual meeting, University of Wisconsin, Madison, Wisconsin (2001).

Senior Research Fellowship awarded by the Indian Institute of Science, India (1993-1996)

Junior Research Fellowship awarded by the Indian Institute of Science, India (1991-1993)

Young Scientist Award for presenting a poster at XVI International Union of Biochemistry and Molecular Biology Congress held at New Delhi, India (1993)

Invited seminars

Structural and functional analysis of HCV NS5B (2007) ***SomaGenics Inc., Santa Cruz, CA, USA.***

Functional analysis of human Toll-like Receptor 3 (2006) ***Centocor Inc., Radnor, PA, USA.***

Mechanism of RNA synthesis by the Hepatitis C Virus RNA-dependent RNA polymerase (2002) ***Indian Institute of Science, Bangalore, India.***

Plant-microbe interactions: Identification of *Arabidopsis* rat mutants (2000) ***Indiana University, Bloomington, IN, USA.***

Generation and analyses of transgenic plants resistant to viral infection (1997) ***University of Agricultural Sciences, Bangalore, India.***

Oral Presentations at National/International Conferences

1. **C.T. Ranjith-Kumar.** Modulation of innate immune response and characterization of viral polymerases for the development of potent vaccines and antivirals. ***6th Ramalingaswami Fellows' Conclave***, Pune, India. January 4 to 6, 2017.
2. **C.T. Ranjith-Kumar.** RNA virus replication and innate immune responses. ***Symposium on New Horizons in Biology***, Department of Biochemistry, Indian Institute of Sciences, Bangalore, India. June 16 to June 17th, 2016.

3. **C.T. Ranjith-Kumar**. Modulation of innate immune response and characterization of viral polymerases for the development of potent vaccines and antivirals. *4th Ramalingaswami Fellows' Conclave*, Bhubaneswar, India. January 30 to February 1, 2015.
4. C. Cheng Kao, Yahong Wen, Neil Baxter, and **C. T. Ranjith-Kumar**. A Cell-based Assay for RNA Synthesis by the Hepatitis C Virus RNA Polymerase. *ASM conference on viral genome replication*, Banff, Canada. February 6-9, 2011.
5. R.C.Vaughan, L. Yi, **C.T. Ranjith-Kumar**, W. Running, S. Chinnaswamy, J. Reilly, C.C. Kao. Nucleic acids coordinate protease and ATPase activities of hepatitis C virus non-structural protein 3. *American Society for Virology Conference, Bozeman, Montana, USA*. July 17-21, 2010
6. **C. T. Ranjith-Kumar**, K. Duffy, Y. Liang, J. Jordan, A. Eaton-Bassiri, R. T. Sarisky, S. M. Lemon and C. C. Kao. Single-stranded oligonucleotides that modulate signaling by innate immune receptors and inhibit Hepatitis C Virus infection of liver cells. *American Society for Virology Conference, Ithaca, New York, USA*. July 12-16, 2008.
7. C. Kao, **C.T. Ranjith-Kumar**, J. Xiong, W. Miller, I. Yarbrough, R. Lamb, K. Duffy, M. Cunningham, J. Jordan, R. Sarisky. Single nucleotide polymorphisms in the ectodomain of Toll-like receptor 3 (TLR3) can affect TLR3 signalling. *American Society for Virology Conference, Corvallis, Oregon, USA*. July 14-18, 2007.
8. **C. T. Ranjith-Kumar**, R T. Sarisky, L. Gutshall, M. Z. Thomson, and C. C. Kao. Mutations in the de novo initiation pocket had multiple effects on the activities of the Hepatitis C Virus RNA-dependent RNA polymerase. *American Society for Virology Conference, Montreal, Canada*. July 10-14, 2004.
9. **C. T. Ranjith-Kumar**, L. Gutshall, R. T. Sarisky and C. C. Kao. Multiple interactions within the Hepatitis C Virus RNA polymerase repress primer-dependent RNA synthesis. *American Society for Virology, Davis, California, USA*. July 12-16, 2003.
10. **C. T. Ranjith-Kumar**, L. Gutshall, R. T. Sarisky and C. C. Kao. A trimolecular interaction dictates the mode of RNA synthesis by the Hepatitis C Virus RNA-dependent RNA polymerase. *RustBelt RNA meeting, Deer Creek, Ohio, USA*. November, 2002.
11. **C. T. Ranjith-Kumar**, J. Gajewski, L. Gutshall, D. Maley, R. T. Sarisky, and C. C. Kao. Terminal transferase activity of recombinant RNA-dependent RNA polymerases: Implication for the viral RNA synthesis. *American Society for Virology, Madison, Wisconsin, USA*. July 21-25, 2001.
12. S. Chattopadhyay, J. Nam, **C. T. Ranjith-Kumar**, A. G. Matthyse and S. B. Gelvin. Characterization of *Arabidopsis* rat mutants that are deficient in *Agrobacterium* attachment. *20th Annual Crown Gall Conference, Houston, Texas, USA*. (1999).
13. J. Nam, K. Mysore, J. Rajagopal, J. M. Humara, S. Chattopadhyay, **C. T. Ranjith-Kumar**, A. Kaiser, A. Salim, A. Kopecky, H.-H. Hwang, M. Gelvin, Y. Larcher, A. Berkshire and S. B. Gelvin. Identification of plant genes involved in *Agrobacterium*-mediated transformation. *20th Annual Crown Gall Conference, Houston, Texas, USA*. (1999).

Posters Presented at National/International Conferences

1. S. Hingane, N. Joshi, A. Madhvi, R. Shrivastava and **C. T. Ranjith-Kumar**. Modulation of RIG-I signaling by hepatitis E virus (HEV) proteins. *International Symposium on HIV and Hepatitis, South Asian University, New Delhi, India* September 1, 2016.
2. **C. T. Ranjith-Kumar**, Yahong Wen, Neil Baxter, and C. Cheng Kao. A Novel Cell-based Assay for RNA Synthesis by the Hepatitis C Virus RNA Polymerase reveals new insights on mechanism of polymerase inhibitor and modulation by NS5A. *18th International Symposium on Hepatitis C Virus and related viruses, Seattle, USA* September 8-12, 2011.
3. **C. T. Ranjith-Kumar**, Yahong Wen, Neil Baxter, and C. Cheng Kao. A Cell-based Assay for RNA Synthesis by the Hepatitis C Virus RNA Polymerase. *ASM conf on viral genome replication, Banff, Canada* February 6-9, 2011.
4. **C. T. Ranjith-Kumar**, K. Duffy, V. Sarojini, H Masarapu, L. Mbow and C. Cheng Kao. (2005). Role of N-glycosylation in TLR3 activity. *XIII International Congress of Virology, San Francisco, California, USA*. July 23-28, 2005.
5. **C. T. Ranjith-Kumar**, and C.C. Kao. Requirements for de novo initiation of RNA synthesis from RNA templates by the hepatitis C virus RNA polymerase. *Lost Pines Conference, Smithville, Texas, USA*. 2004.
6. J. Santos, **C. T. Ranjith-Kumar**, and C.C. Kao. Requirements for the initiation of plus-strand RNA synthesis by the Hepatitis C Virus RNA-dependent RNA polymerase. *Lost Pines Conference, Smithville, Texas, USA*. 2003.
7. K. Sivakumaran, **C. T. Ranjith-Kumar**, and C. C. Kao. Brome mosaic virus RNA-replicase interactions *in vitro* and *in vivo*. *RustBelt RNA meeting, Deer Creek, Ohio, USA*. 2002.
8. S. Chattopadhyay, J. Nam, **C. T. Ranjith-Kumar**, A. G. Matthyse and S. B. Gelvin. Characterization of *Arabidopsis* rat mutants that are deficient in *Agrobacterium* attachment. *20th Annual Crown Gall Conference, Houston, Texas, USA*. 1999.
9. **C. T. Ranjith-Kumar**, A.-L. Haenni, H. S. Savithri. Partial sequence of Physallis mottle tymovirus genomic RNA and generation and analysis of mutants corresponding to the pseudoknot element of the tRNA like structure. *XVI International Union of Biochemistry and Molecular Biology Congress, New Delhi, India*. 1993.

Intradepartmental presentations

1. Replication and modulation of innate immune response by RNA viruses (2013)
Translational Health Sciences and Technology Institute, India.

2. Small molecule modulators of innate immunity receptor RIG-I signaling (2010) Indiana University, Bloomington, Indiana, USA.
3. Modulating viral infection through innate immunity receptors (2008) Indiana University, Bloomington, Indiana, USA.
4. Structure-function relationship of recombinant Hepatitis C virus RNA-dependent RNA polymerase (2005) Texas A & M University, College Station, Texas, USA.
5. De novo initiation and primer-extension by the recombinant Hepatitis C Virus RNA-dependent RNA polymerase (2003) Texas A & M University, College Station, Texas, USA.
6. Mechanism of RNA synthesis by the Hepatitis C Virus RNA-dependent RNA polymerase (2002) Indiana University, Bloomington, Indiana, USA.
7. Specific requirements for initiation of RNA synthesis by recombinant RdRps (2001) Indiana University, Bloomington, Indiana, USA.
8. Terminal transferase activity of recombinant RNA-dependent RNA polymerases: Implication for the viral RNA synthesis (2001) Indiana University, Bloomington, Indiana, USA.

Persons Mentored and Projects Supervised

Graduate Students and Postdoctoral Researchers:

Rajpal S, Postdoctoral fellow, Translational Health Sciences and Technology Institute, India (2013-2016)

Project: Characterization of hepatitis E virus RNA-dependent RNA polymerase

Smita Hingane, Graduate Student, Translational Health Sciences and Technology Institute, India (2013-present)

Project: Modulation of innate immune response by hepatitis E viral proteins

Yahong Wen, Graduate Student, Indiana University, Bloomington, Indiana, USA (2009-2012)

Project: Modulation of HCV NS5B activity by NS5A in mammalian cells.

Robert Vaughan, Graduate Student, Indiana University, Bloomington, Indiana, USA (2007-2012)

Project: Regulation of HCV NS3-4A and innate immune receptors.

Kirti Sawant, Postdoctoral Research Associate, Indiana University, Bloomington, Indiana, USA (2008-2010)

Project: Role of potential adaptor proteins in Toll-like Receptor 3 signaling.

Liting Deng, Graduate Student, Indiana University, Bloomington, Indiana, USA (2008-2010)

Project: Modulation of RIG-I signaling by viral proteins.

Santhy Ayaluru, Postdoctoral Research Associate, Texas A&M University, College Station, Texas, USA (2007)

Project: Characterization of Toll-like Receptors.

Scott Hoose, Graduate Student, Texas A&M University, College Station, Texas, USA (2006-2008)

Project: Trafficking of Toll-like receptor 3 ectodomain.

Sreedhar Chinnaswamy, Graduate Student, Texas A&M University, College Station, Texas, USA (2006-2010)

Project: Analysis of hepatitis C virus polymerase.

Brock Weers, Graduate Student, Texas A&M University, College Station, Texas, USA (2004)

Project: Mechanism of RNA synthesis by bacteriophage ϕ 6 RNA polymerase.

YoungChan Kim, Graduate Student, Indiana University, Bloomington, Indiana, USA (2001-2006)

Project: Biochemical and biophysical analysis of viral RNA-dependent RNA polymerases.

Faisal Chaudhry, Graduate Student, Purdue University, W. Lafayette, Indiana, USA. (1999).

Project: Generation VirD2 mutants for protein-protein interaction studies with Histone H2A.

Research Associates:

Ian Yarbrough, Texas A&M University, College Station, Texas, USA (2004-2008)

Project: 1) Analysis of RNA interaction sites of HCV RdRp.

2) Sequence variations of Brome Mosaic Virus RNA.

Mary Park, Texas A&M University, College Station, Texas, USA (2005-2007)

Project: Analysis of Toll-like Receptor 3 and CD14.

Larissa Cleveland, Texas A&M University, College Station, Texas, USA (2006)

Project: Characterization of Toll-like Receptor 3.

William Miller, Texas A&M University, College Station, Texas, USA (2005-2006)

Project: Localization of Toll-like Receptor 3.

Jonathan Santos, Texas A&M University, College Station, Texas, USA (2004-2005)

Project: Biochemical analysis of human Toll-like Receptor 3 (TLR3).

Junior Research Fellows

M. Rajagopalan, Translational Health Science and Technology Institute, Gurgaon, India (2016-present)

Project: Identification of small molecule inhibitors of hepatitis E virus

Soumajit Mukherjee, Translational Health Science and Technology Institute, Gurgaon, India (2016-present)

Project: Modulation of innate immune response by hepatitis E virus papain-like cysteine protease

Nishant Joshi, Translational Health Science and Technology Institute, Gurgaon, India (2012-2015)

Project: Characterization of hepatitis E virus papain-like cysteine protease

Abhilasha Madhvi, Translational Health Science and Technology Institute, Gurgaon, India (2012-2016)

Project: Screening and analysis of inhibitors of HCV 3a genotype RdRp.

Shweta Varshney, Translational Health Science and Technology Institute, Gurgaon, India (2012-2013)

Project: Screening of small molecule library for viral inhibitors

Masters Students:

JanLee Santos, Texas A&M University, College Station, Texas, USA. (2002-2004).

Project: Requirements for the initiation of plus-strand RNA synthesis by the Hepatitis C Virus RNA-dependent RNA polymerase.

Sri Raja Rajeswari Kundeti, Texas A&M University, College Station, Texas, USA. (2003).

Project: Characterization of SARS viral RNA leader sequence.

Undergraduate Students:

Nielson Baxter, Indiana University, Bloomington, Indiana, USA (2009-2010)

Project: Characterization of drug resistant HCV NS5B mutants in mammalian cells.

Andrew Lyon, Indiana University, Bloomington, Indiana, USA (2009)

Project: Identification of novel bacterial modulators of Toll-like Receptors.

Matt Hickey, Texas A&M University, College Station, Texas, USA (2006-2008)

Project: Analysis of dominant negative effects of Toll-like Receptor 3.

LauraLee Shanks, Texas A&M University, College Station, Texas, USA (2004-2005)

Project: Purification and Characterization of terminal nucleotidyl transferase from plants.

Michelle Schoonover, Texas A&M University, College Station, Texas, USA (2004)

Project: Biophysical Characterization of HCV NS5B catalytic mutant D225A.

Sarita Shalini Bakhru, Texas A&M University, College Station, Texas, USA. (2003).

Project: Characterization of protein ORF3 in SARS corona virus.

Brady Tragesser, Indiana University, Bloomington, Indiana, USA. (2002).

Project: Analysis of host proteins interacting with brome mosaic virus capsid protein.

Monique Guyinn, Indiana University, Bloomington, Indiana, USA. (2001).

Project: Cloning and expression of bovine viral diarrhea virus RNA dependent RNA polymerase.

Memberships

1. *American Society for Virology*, USA. Year of initiation 2001
2. *Midwest RNA Society*, USA. Year of Initiation 2001

Manuscripts reviewed

PLoS Pathogens

Journal of Virology

Journal of General Virology

Virology

Virus Research

Virus Genes