



## Scientist Profile

Name : Dr. A.K. Hemanth Kumar  
Designation : Scientist "C"  
Date of Birth : April 20, 1959  
Date of Joining : March 1985  
Date of joining present post : August 2014  
Discipline : Biochemistry & Clinical Pharmacology  
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### Educational Qualifications (*begin with descending order*)

DEGREE	INSTITUTION AND LOCATION	YEAR(s)	FIELD OF STUDY
Ph.D.	The Tamil Nadu Dr. MGR Medical University, Chennai	2001	Biomedical Sciences
M.Sc.	Madras University, Chennai	1982	Botany

### 1. Research Experience

#### Research focus: Pharmacokinetics of anti-TB and antiretroviral drugs

Worked on the following projects:

1. Bioavailability of rifampicin in fixed-dose combination drugs
2. Impact of HIV infection on the pharmacokinetics of anti-TB drugs
3. Drug-drug interactions among first-line anti-TB drugs and NNRTIs
4. Quality check of anti-TB & antiretroviral drugs
5. Pharmacokinetics of anti-TB and antiretroviral drugs in Indian patients
6. Significance of pharmacogenetics in anti-TB and antiretroviral therapy
7. Pharmacokinetics of moxifloxacin
8. Pharmacokinetics of rifabutin
9. Pharmacokinetics of second-line anti-TB drugs in MDR TB patients
10. Pharmacokinetic studies in children

These study findings have had important clinical implications and provided useful information and evidence to the National TB and AIDS Control programmes. Our study findings and methodologies have been published in peer-reviewed journals and highly cited. I consider my

expertise in the method development and validation by HPLC and LCMS and the interest in solving the problems related to it as my strength.

Our laboratory has gained a lot of visibility at national and international level. We are approached by several researchers to be part of their studies and contribute on the pharmacokinetic component.

## **2. Membership/Fellowship of Professional Societies/Associations :**

Life Member – Indian Association of Biomedical Scientists

## **3. Workshops/Conferences/Symposiums**

1. Hands on training in WinNonlin Software version 5.0.1, conducted by Pharsight Corporation during 11-12 April, 2006 at North Carolina, USA.
2. Seminar on “Automation in the analytical development department” conducted by Waters (India) Pvt. Ltd., at Chennai during September 14, 2006
3. Workshop on “Statistics in Clinical Research” organized by National Institute of Pharmaceutical and Educational Research (NIPER), at Mohali, Punjab during October 27-29, 2006
4. Paper presented in the 61<sup>st</sup> National Conference on Tuberculosis and Chest Diseases, held at Udaipur, during February 23-25, 2007
5. Participated in the “Indo-Australian Conference on Human Variations and Pharmacogenomics” held at Manipal University, Manipal, during March 17-19, 2007
6. Seminar on “Solutions for Pharmaceutical Applications” conducted by WATERS India Pvt. Ltd. at Chennai on May 04, 2007
7. Training on “Principles of LCMS, LCMS Solutions” conducted by Shimadzu analytical (India) Pvt. Ltd., at Mumbai, during June 13-14, 2007
8. Participated in the “Scientific writing workshop” conducted by the University of Alabama at Birmingham, under the ICER Program, at Chennai, during August 21-24, 2007
9. Presented paper in the 64<sup>th</sup> National Conference on Tuberculosis & Chest Diseases held at Kolkata, India during Dec.2009
10. Participated in 2nd National Conference on “Frontiers in MS Technology and Emerging Applications” held at Chennai on November 19<sup>th</sup>, 2012 organised by Indian Institute of Chromatography & Mass Spectrometry.
11. Workshop on “Good Clinical Laboratory Practices” organized by the National Institute of Allergy and Infectious Diseases and NIRT, Chennai, during August 2013
12. Workshop on “Intellectual Property Rights in Medical Research” organized by Indian Council of Medical Research during September 10<sup>th</sup> & 11<sup>th</sup>, 2013
13. Oral presentation in the 44<sup>th</sup> Union World Conference on Lung Health, held in Paris, France, from October 30 – November 3, 2013, organized by the International Union Against Tuberculosis and Lung Disease (The Union)
14. Presented two papers in the 68<sup>th</sup> National Conference on Tuberculosis and Chest Diseases, held at New Delhi, during February 23-26, 2014
15. Presented paper in the 69<sup>th</sup> National Conference on Tuberculosis and Chest Diseases, held at Mumbai, during February 5 - 7, 2015
16. Participated in the residential training programme on “Accountability and Responsiveness In Scientific Organizations” conducted by Department of Science & Technology (DST), at Vadodara (Baroda), Gujarat, during October 12 – 16, 2015.
17. Poster presentation National Conference on “Frontiers in MS Technology and Emerging Applications” organised by Indian Institute of Chromatography & Mass Spectrometry at Chennai on November 30, 2015.
18. Attended workshop on Bio specimen and FreezerPro, on Feb 17, 2016 at NIRT, organised by National Institute of Allergy and Infectious Diseases.

19. Poster presentation in the Conference on Retroviruses and Opportunistic Infections organised by International Antiviral Society (IAS) – USA in Boston, USA during February 22 -25, 2016.

#### 4. Awards

1. Awarded fellowship under an International program (International Centre for Excellence in Research) to undergo training focused on estimation of antiretroviral drugs, protease inhibitors, in particular, in biological fluids, at the Department of Pharmacology and Toxicology, University of Alabama at Birmingham, USA (Mentor: Dr. Edward Acosta), and hands on training in the WinNonlin Software, version 5.1 at Pharsight Corporation, North Carolina, USA. During the period February 6<sup>th</sup> – April 26<sup>th</sup>, 2006.
2. Awarded fellowship under an international program (FOGARTY – AITRP) to undergo training on method development by LCMS for the estimation of anti-TB drugs in biological fluids, at the Department of Pharmacology, Tuft’s University at Boston, USA (Mentor: Dr. Michael Court) during the period August 12<sup>th</sup>, 2011 – October 31<sup>st</sup>, 2011.
3. Awarded travel grant under the Union for oral presentation in the 44<sup>th</sup> Union World Conference on Lung Health (IUATLD), held in Paris from October 30 – November 3, 2013, organized by the International Union Against Tuberculosis and Lung Disease (The Union).
4. Awarded travel grant for oral presentation in the 45<sup>th</sup> Union World Conference on Lung Health, held in Barcelona, Spain from October 28 – November 1, 2014, by the International Union Against Tuberculosis and Lung Disease (The Union).
5. Awarded travel grant for poster presentation in the Conference on Retroviruses and Opportunistic Infections, held at Boston, Massachusetts, USA during February 22 – 25, 2016, organised by the International Antiviral Society (IAS) – USA.

#### 5. Miscellaneous

1. Chairperson, Legal Cell, NIRT
2. Chairperson, Grievance Committee, NIRT
3. Member-Secretary, Vigilance Committee, NIRT
4. Public Information Officer, NIRT
5. Member, Library Committee, NIRT
6. Member, Purchase Committee, NIRT
7. Attended selection committee meetings as an expert for recruitment of permanent positions as well as project posts
8. Project guide for M.Phil., M.Sc (Biochemistry) and B.Tech (Biotechnology) students

#### 6. Publications (Last 5 years)

1. Geetha Ramachandran, **Hemanth Kumar A K**, Kannan T, Bhavani P K, Ramesh Kumar S, Poorana Gangadevi N, Banurekha VV, Sudha V, Venkatesh S, Ravichandran N, Kalpana S, Mathevan G, Sanjeeva GN, Dipti Agarwal, Soumya Swaminathan.  
Low serum concentrations of rifampicin and pyrazinamide are associated with poor treatment outcomes in HIV-infected children treated with intermittent regimens in India.  
**Ped Infect Dis Jour 2016; 35 (5):530-534**
2. **A K Hemanth Kumar**, G Narendran, S Ramesh Kumar, Geetha Ramachandran, L Sekar, K Raja, Soumya Swaminathan  
Rifampicin exposure is lower in HIV-infected TB patients receiving intermittent than daily anti-TB treatment  
**Int J Tuberc Lung Dis 2015 (July); 19(7): 805-807**

3. Sivaraman V, **Hemanth Kumar A K**, Kiran Kumar A, Sudha V, Geetha Ramachandran .  
UFLC/MS method for the estimation of ethambutol in human plasma and its application in tuberculosis patients  
**Asian J Biomed and Pharm Sci**, 2015; **5(41): 1- 6**
4. Geetha Ramachandran, **AK Hemanth Kumar**, PK Bhavani, T Kannan, S Ramesh Kumar, N Poorana Gangadevi, VV Banurekha, L Sekar, N Ravichandran, G Mathevan, GN Sanjeeva, Rajeshwar Dayal, Soumya Swaminathan  
Pharmacokinetics of first-line anti-TB drugs in HIV-infected children with TB treated with intermittent regimens in India  
**Antimicrobial Agents and Chemotherapy**, 2014; **59(2): 1162-67**
5. **Hemanth Kumar A K**, Sudha V, Geetha Ramachandran.  
Simple and rapid method for simultaneous estimation of isoniazid and acetyl isoniazid in urine by HPLC  
**Asian J Biomed and Pharm Sci**, 2014; **4(34): 46-50**
6. Sagarika Devi, **Hemanth AK Kumar**, Geetha Ramachandran, Chandrasekarethiran Subramanian, Perumal Karuppan  
Growth and Mass Spectrometry profile of alternaria alternate pigment grown in maize grain extract.  
**J Microbiol, Biotech and Food Sci** , 2014; **4(2): 179-184.**
7. **Hemanth Kumar A K\***, Sudha V, Geetha Ramachandran  
Simple and rapid high pressure liquid chromatography method for estimation of ethionamide in plasma  
**Asian J Biomed and Pharm Sci**, 2014; **4 (38): 1- 5.**
8. Ezhilarasi K, Sudha V, Geetha Ramachandran, Dhamodharan Umapathy, Rama Rajaram, Indira Padmalayam, Vijay Viswanathan and **Hemanth Kumar A K**  
A Simple and Specific Method for Estimation of Lipoic Acid in Human Plasma by High Performance Liquid Chromatography  
**J Chromatograph Separat Techniq**, 2014; **5(6): 1- 5.**
9. C. Padmapriyadarsini, P. K. Bhavani, Alice Tang, **A.K. Hemanth Kumar**, C. Ponnuraja, G. Narendran, Luke Elizabeth Hannah, C. Ramesh, C. Chandrasekhar ,Christine Wanke , Soumya Swaminathan  
Early changes in Hepatic functions among HIV/TB patients treated with Nevirapine or Efavirenz along with Rifampicin-based anti-tuberculosis ATT  
**International Journal of Infectious Diseases**, 2013
10. Geetha Ramachandran, PK Bhavani, **AK Hemanth Kumar**, R Srinivasan, K Raja, V Sudha, S Venkatesh, C Chandrasekaran, Soumya Swaminathan.  
Pharmacokinetics of rifabutin during atazanavir/ritonavir co-administration in HIV-infected with TB in India.  
**Int J Tuberc Lung Dis**, 2013 (2): **1564-1568**
11. Geetha Ramachandran, V Chandrasekaran, **AK Hemanth Kumar**, Puneet Dewan, Soumya Swaminathan, Aleyamma Thomas.  
Estimation of anti-TB drug content supplied in different treatment centres in the RNTCP: an observational study.  
**Tropical Medicine and International Health** 2013; **18(9): 1141-1144**

12. Geetha Ramachandran, **AK Hemanth Kumar**, C. Ponnuraja, K. Ramesh, Lakshmi Rajesh, Chandrasekharan, Soumya Swaminathan.  
Lack of association between plasma NNRTIs and virological outcomes during rifampicin co-administration in HIV-infected TB patients.  
**Indian J Med Res 2013; 138:955-961**
13. Geetha Ramachandran, **A K Hemanth Kumar**, P K Bhavani, N Poorana Gangadevi, L Sekar, D. Vijayasekaran, VV Banu Rekha, S Ramesh Kumar, N Ravichandran, G Mathevan, Soumya Swaminathan  
Age, nutritional status and isoniazid acetylator status influence pharmacokinetics of anti-TB drugs in children  
**Int J Tuberc Lung Dis, 2013; 17(6):800-806**
14. **A.K. Hemanth Kumar**, V. Sudha, Geetha Ramachandran.  
Simple and rapid liquid chromatography method for simultaneous determination of isoniazid and pyrazinamide in plasma.  
**SAARC Journal of Tuberculosis Lung Diseases & HIV/AIDS, 2012:IX(I):13-18**
15. **A.K. Hemanth Kumar**, V. Sudha, Geetha Ramachandran.  
Simple and rapid liquid chromatography method for determination of rifabutin in plasma.  
**SAARC Journal of Tuberculosis Lung Diseases & HIV/AIDS, 2012:IX(2): 26-29.**
16. Geetha Ramachandran, **AK Hemanth Kumar**, R Srinivasan, A Geetharani, P Sugirda, B Nandakumar, R Nandini, CB Tharani.  
Effect of rifampicin and isoniazid on the steady state pharmacokinetics of moxifloxacin.  
**Indian J Med Res 136, December 2012, pp 979-984**
17. Shah I, S Swaminathan, G Ramachandran, **AK Kumar**, A Goray, U Chaddha, S Tayal, M Lala.  
Serum nevirapine and efavirenz concentrations and effect of concomitant use of rifampicin in HIV-infected children on antiretroviral therapy.  
**Indian Pediatr 2011; 48: 943-7**
18. **A K Hemanth Kumar**, V.Sudha, R.Srinivasan, Geetha Ramachandran.  
Simple and rapid liquid chromatography method for determination of moxifloxacin in saliva  
**J Chromatogr B, 2011; 879: 3663-3667**
19. Soumya Swaminathan, Geetha Ramachandran, **Hemanth Kumar Agibothu kuppamam**, Vasantha Mahalingam, Lakshmi Soundararajan, Bhavani Perumal Kannabiran, Poorana Ganga Devi Navaneethapandian, Ira Shah, Ramesh Karunaianandham and Rajasekaran Sikhmani  
Factors influencing plasma nevirapine levels: a study in HIV-infected children on generic antiretroviral treatment in India  
**J Antimicrob Chemother, 2011;66:1354-1359**
20. Geetha Ramachandran, **A K Hemanth Kumar**, Soumya Swaminathan  
Pharmacokinetics of anti-tuberculosis drugs in children (Review article)  
**Indian J Paediatr, (April) 2011;78(4):435-42**