

## BIOGRAPHICAL SKETCH

NAME <b>Dr. N. SELVAKUMAR</b>		POSITION TITLE <b>Scientist 'F'</b>	
EDUCATION/TRAINING ( <i>Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.</i> )			
INSTITUTION AND LOCATION	DEGREE ( <i>if applicable</i> )	YEAR(s)	FIELD OF STUDY
Madras University JIPMER Madras University Annamalai University	B.Sc. I Class M.Sc. II Class Ph.D	1970 1973 1980	Chemistry, Physics, Botany Medical Microbiology Marine Biology

### **A. Research and/or Professional Experience**

**33 years** of teaching and research experience in Microbiology.

**International Training:** Molecular techniques in Mycobacteriology at London School of Hygiene and tropical Medicine, London. Six months in 1995.

**Consultant:** WHO - Short Term Consultant (Myanmar, Bangladesh, North Korea, India, Bhutan)  
IUATLD – Regional Advisor for RNTCP in India  
WHO - Member of sub group on TB laboratory strengthening.

### **Honours**

1. ICMR award for Biomedical Research for the Development of simple procedures for the isolation of *M. tuberculosis*. August 22, 1997. New Delhi.
2. Second Best Poster award for the paper entitled "Rapid identification of multi-drug resistant tuberculosis" by Cheruvu Mani, Selvakumar, N., Vanaja Kumar, Sujaytha Narayanan, Narayanan, P.R. at the National level conference on "50 years of DNA" held at Ethiraj College for Women, Chennai, Feb. 2003.
3. Tamil Nadu TB Association Endowment Lecture. 25.2.04. University of Madras. Recent research activities to improve the Ziehl Neelsen Microscopy for the diagnosis of Tuberculosis".
4. UNION (International Union against Tuberculosis and Lung Diseases) Regional Advisor for Mycobacteriology (2003 till date).
5. Indian Association of Applied Microbiology – Lifetime Achievement Award for promoting knowledge and research in Applied Microbiology. 12<sup>th</sup> Jan 2007. Kancheepuram. India.

## Membership on Committees

**Member of Professional bodies:** Advisory committee member IAMM Chennai and Pondy Chapter. Board Member in Madras, Madurai and Cochin Universities for MSc and Ph D examinations.

## B. Selected Publications

**Publications: 70 in National and International Journals (Listed below only selected publications)**

1. Cheruvu Mani, **N.Selvakumar**, Sujatha Narayanan and PR Narayanan. Mutations in the rpoB gene of multi-drug resistant *Mycobacterium tuberculosis* isolates from India. **J Clin Microbiol.** 2001; **39**: 2987-2990.
2. **Selvakumar,N.**, Fathima Rahman, Renu Garg, S.Rajasekaran, Nalini Sunder Mohan, K. Thyagarajan, V.Sundaram, T.Santha, Thomas R. Frieden, and P.R.Narayanan. Evaluation of the Phenol Ammonium Sulfate Sedimentation Smear Microscopy Method for Diagnosis of Pulmonary Tuberculosis. **J. Clin. Microbiol.** 2002; **40**: 3017-3020.
3. **Selvakumar,N.**, Fathima Rahuman, S.Rajasekaran, P.R.Narayanan, and Thomas R. Frieden. Inefficiency of 0.3% Carbol Fuchsin in Ziehl-Neelsen Staining for Detecting Acid-Fast Bacilli. **J. Clin. Microbiol.** 2002; **40**: 3041-3043.
4. **Selvakumar,N.**, E.Prabhakaran, F.Rehman, T.Santha. Washing of new microscopic glass slides in dichromate solution does not influence sputum AFB smear results. **Int. J. Tuberc. Lung Dis.** 2002; **6**: 270-272.
5. **Selvakumar,N.**, M.Gomathi, F.Rahman, P.R.Narayanan. Evaluation of a two-reagent cold staining method detection of acid-fast bacilli. **Int. J. Tuberc. Lung Dis.** 2002; **6**: 728-731.
6. **Tuberculosis Research Centre (ICMR).** Shortening short course chemotherapy. A randomized clinical Trial for treatment of smear positive pulmonary tuberculosis with regimen using ofloxacin in the intensive phase. **Ind. J. Tub.** 2002. 27-38.
7. **Selvakumar N.** Role of laboratory in RNTCP. **JIMA.** 2003; 101: 173-174.
8. Santha T, Garg R, Frieden TR, Subramani R, Gopi PG, Chandrashekharan V, **Selvakumar N**, Thomas A, Rajeshwari R, Balasubramanian R, Kolappan C, Narayanan PR. Are community surveys to detect tuberculosis in high prevalence areas useful? Results of a comparative study from Tiruvallur District, south India. **Int J Tuberc Lung Dis** 2003; 7: 258-265.
9. Cheruvu Mani, **N. Selvakumar**, Vanaja Kumar, Sujatha Narayanan and P.R. Narayanan. Comparison of DNA sequencing, PCR-SSCP, and PhA assays with indirect sensitivity test for detection of rifampicin resistance in *Mycobacterium tuberculosis*. **Int J Tuberc Lung Dis** 2003; 7: 652-659.
10. Cheruvu Mani, **N. Selvakumar**, N. Gajendiran, B. Panigrahi, P. Venkatesan, P. R. Narayanan. Standardization and evaluation of DNA-Lanthanide Fluorescence Spectroscopy for determining rifampicin resistance in *Mycobacterium tuberculosis* clinical isolates. **Int J Tuberc Lung Dis** 2003; 7: 873-878.
11. **Selvakumar N**, Dakshayani Govindan, Naik Ashok Chandu, Thomas R Frieden, P.R. Narayanan. Processing sputum specimens in a refrigerated centrifuge does not increase the rate of isolation of *Mycobacterium tuberculosis*. **J Clin Microbiol** 2003; **41**: 469-71.
12. **Selvakumar N**, E.Prabhakaran, Fathima Rahman, Naik Ashok Chandu, S.Srinivasan, T.Santha, L.S. Chauhan and P.R. Narayanan. Blinded rechecking of sputum smears for acid-fast bacilli to ensure quality and usefulness of re-staining of smears to assess false-positive errors. **Int J Tuberc Lung Dis.** 2003; 7: 1077-82.
13. Tuberculosis Research centre (ICMR) Chennai. Trends in initial drug resistance over three decades in a rural community in South India. **Indian J Tub.** 2003; **50**: 75-86.
14. **Selvakumar N**, S. Sudhamathi, M. Duraipandian, Thomas R Frieden\*, and P.R. Narayanan. Reduced detection by Ziehl-Neelsen method of acid-fast bacilli in sputum samples preserved in cetylpyridinium chloride solution. **Int J Tuberc Lung Dis** 2003; **8**: 248-252.
15. Sulochana Das, Sujatha Narayanan, Lalitha Hari, Nalini Sunder Mohan, Sulochana Somasundaram, **N. Selvakumar** and P.R. Narayanan. Simultaneous infection with multiple strains of *Mycobacterium tuberculosis* identified by restriction fragment length polymorphism analysis. **Int J Tuberc Lung Dis.** 2003; **8**: 267-270.
16. Tuberculosis Research Centre (ICMR). Split-drug regimens for the treatment of patients with sputum smear-positive pulmonary tuberculosis- a unique approach. **Tropical Medicine and International Health.** 2004; **9**: 551-518.
17. P.G. Gopi, R. Subramani, **N Selvakumar**, T Santha, S I Eusuff, P. R. Narayanan. Smear examination of two specimens for diagnosis of pulmonary tuberculosis in Tiruvallur district, south India. **Int J Tuberc Lung Dis.** 2004; **8**: 824-28.
18. T. Santha ; R. Garg ; R. Subramani ; V. Chandrasekaran ; **N. Selvakumar** ; R. S. Sisodia ; M. Perumal ; S. K. Sinha ; R. J. Singh ; R. Chavan ; F. Ali ; S. K. Sarma ; K. M. Sharma ; D. Jagtap ; T. R. Frieden ; L. Fabio ; P. R. Narayanan. Comparison of cough of 2 and 3 weeks to improve detection of smear-positive tuberculosis cases among out-patients in India. **Int J Tuberc Lung Dis.** 2005; **9**: 61 – 68.
19. **Selvakumar N**, B.N. Murthy, S.Sivagamasundari, E.Prabhakaran, Samuel Vasanthan, R. Govindaraju, M.Perumal, L.S.Chauhan, Fraser Wares, T.Santha, P.R. Narayanan. Lot Quality Assurance Sampling of sputum AFB smears for assessment of microscopy centres. **J Clin Microbiol.** 2005. **43**: 913-915.
20. **Selvakumar N**, M.Gomathi sekar, K.J. Ilampuranan, C. Ponnuraja, P.R. Narayanan. Increased detection by re-staining of acid-fast bacilli in sputum samples transported in cetylpyridinium chloride solution. **Int J Tuberc Lung Dis.** 2005; **9**: 195-199.
21. **Selvakumar N**, S.Sivagamasundari, E.Prabhakaran, R.Govindaraju, M.Perumal, Rueben Granich, Fraser Wares, LS Chauhan, PR Narayanan. Storage of heat-fixed unstained sputum AFB smears for panel testing in a Tuberculosis Unit in South India. India. **Int J Tuberc Lung Dis.** 2005; **9**: 223-225.
22. **Selvakumar N**, M. Gomathi Sekar, Fathima Rahman, A. Syam Sunder, M. Duraipandian, P.R. Narayanan. Comparison of variants of carbol-fuchsin solution in Ziehl-Neelsen staining method for detection of acid-fast bacilli. **Int J Tuberc Lung Dis.** 2005; **9**: 226-229..

23. **Selvakumar N**, E. Prabhakaran, B.N. Murthy, S. Sivagamasundari, Samuel Vasanthan, R. Govindaraju, M. Perumal, Fraser Wares, Reuban Granich L.S. Chauhan, T. Santha and P.R. Narayanan. Application of Lot Sampling of sputum AFB smears for assessment of microscopy centres. **Int J Tuberc Lung Dis.** 2005; 9: 306-309.
24. **Selvakumar N**, Vanaja Kumar, P.G. Goi, S. Sivagamasundari, E. Prabhakaran, Samuel Vasanthan, M.Perumal\*, P.R. Narayanan. Sputum AFB smears reading capability of Senior Tuberculosis Laboratory Supervisor trainees under training at a reference laboratory in India. **Ind J Tub.** 2005; 52: 11-14.
25. Santha T, Thomas A, Chandrasekaran V, **Selvakumar N**, Gopi PG, Subramani R, Rajeswari R, Rani B, Paramasivan CN, Perumal, Wares F, Narayanan PR Drug susceptibility profile of *Mycobacterium tuberculosis* among pulmonary tuberculosis patients diagnosed under the TB control programme in a rural setting of south India. **Int J Tuberc Lung Dis.** 2006; 10: 52-57.
26. **Selvakumar N**, D. Ravikumar, S. Sivagamasundari, P.G. Gopi, P.R. Narayanan. A novel method of staining acid-fast bacilli (AFB) in sputum containers. **Indian J Med Res.** 2006; 123: 776-780.
27. Pauline Joseph, Chandrasekaran V, Thomas A, Gopi PG, Rajeswari R, Balasubramanian R, Subramani R, **Selvakumar N**, Santha T, Narayanan PR. Influence of drug susceptibility on treatment outcome and susceptibility profile of 'failures' to Category II regimen: a report from a rural area in south India. **Indian Journal of Tuberculosis.** **Ind J Tub** 2006; 53: 141-148.
28. **Selvakumar N**, M. Gomathi Sekar, Vanaja Kumar, D.Vijaya Bhaskar Rao, Fathima Rahman, P.R. Narayanan. Sensitivity of Ziehl-Neelsen method for centrifuged deposit smears of sputum samples transported in cetyl-pyridinium chloride. **Indian J Med Res.** 2006; 124: 439-442..
29. **N. Selvakumar**, Vanaja Kumar, S. Sivagamasundari, and P.R. Narayanan. Contamination of stored sputum AFB smears with environmental mycobacteria. **Int J Tuberc Lung Dis.** 2006; 10: 1299-1301.
30. R.Subramani, T.Santha, T.R.Frieden, S.Radhakrishna, P.G.Gopi, N. **Selvakumar**, K. Sadacharam, P.R.Narayanan. Active community surveillance of the impact of different tuberculosis control measures in a rural population in India: 33 years of follow-up including the impact of 2.5 years of DOTS implementation. **Int J of Epidemiology.** Advance Access published 22 September 2006, 2007; 36: 387-393.
31. Gilpin, C., Kim, S.J., Lumb, R., Rieder, H.L., Van Deun, A. Working Group on Sputum Smear Microscopy, Critical appraisal of current recommendations and practices for tuberculosis sputum smear microscopy [Workshop Report]. *The International Journal of Tuberculosis and Lung Disease*, Volume 11, Number 9, September 2007, pp.946-952(7). Publisher: International Union Against Tuberculosis and Lung Disease.
32. P.Angra, M.Becx-Bleumink, C.Gilpin, M.Joloba, K.Jost, K.M.Kam, S.J.Kim, R.Lumb, S.Mitarai, A.Ramsay, J.Ridderhof, H.L.Rieder, N.Selvakumar, S.Van Beers, M.Van Cleeff, A.Van Deun, V.Vincent. Ziehl-Neelsen staining: strong red on weak blue, or weak red under strong blue? *Int J Tuberc Lung Dis.* 2007; *The Union.* 11(11): 1160-1161

**Conferences: 110 National / International conferences/ workshops/ meetings/ symposia etc.**

## **C. Research Support**

Supporting Bacteriological aspects of all the Controlled Clinical Trials for pulmonary and extra pulmonary tuberculosis, monitoring and supervising the various research projects including Phage, Genomics, Drug Resistant Surveillance, Molecular mechanism of Drug Resistance and improving sputum AFB microscopy.