Prof. P.Kaliraj

Curriculum Vitae

Emeritus professor of Centre for Biotechnology,

Former Vice-Chancellor (Officiating) of AnnaUniversity

Alagappa College of Technology,

Anna University,

Chennai – 600 025

Vision

Poverty alleviation and economic prosperity by translation of scientific knowledge into technological innovation through interdisciplinary higher education in science, engineering and technology

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PERSONAL DETAILS

Name	**:**	Dr. P. Kaliraj
Designation & Affiliation	**:**	Former Vice-Chancellor, Anna University & Chair Professor Dr.G.S.Laddha Professorial Chair Dept. of Chemical Engineering Emeritus professor of Centre for Biotechnology A.C.Tech, Anna University, Chennai
Date of Birth	**:**	05.01.1953
Age	:	61 years
Teaching, Research & Academic Experience	:	32 Years
Contact details	:	94440 78778; pkaliraj@gmail.com

SOCIAL AND EDUCATIONAL BACKGROUND

Born to poor parents in an economically weaker section in Kanniseripudur of the Ramnad District near Virudhunagar, an under-developed part of Tamil Nadu, my primary school education was in a village school and high school education in Tamil Medium was in a Govt. Higher Secondary School located 4 km away from the village. Having topped the class and emerged as rank-holder in the school final, my parents, though financially constrained severely, encouraged me to pursue collegiate education in Sivakasi, a small town. After Pre-University, I passed the undergraduate degree in Chemistry in Distinction, a feat that was possible owing to the discipline and personality development inculcated by ANJA College. With this distinction I could join Department of Biochemistry of University of Madras and complete the postgraduate course in Distinction. Unlike my other colleagues, who went abroad, I preferred to do research on diseases afflicting the economically and socially weaker sections of our country and joined Mahatma Gandhi Institute of Medical Sciences, a rural medical institute at Sevagram, Maharashtra. Till today I have not wavered from this goal and has been recognized by the State of Tamil Nadu and Government of India for my scientific and biotechnological contributions to the control of elephantiasis (filariasis), a neglected infectious disease. I have also effectively spread this message of developing indigenous tools for combating neglected infectious diseases for better health and performance among his colleagues, students and the public. My career in academics, especially in the premier technical University, has shown how it is very significant to mould the youngsters and develop their thought processes to address social problems with knowledge and innovative research converting them to technology.

ACADEMIC ATTRIBUTES

Doctoral Degree

1981 : **Ph.D.** (Biochemistry and Immunotechnology)
Nagpur University, Maharashtra

Graduation

1976 : **M.Sc**. Biochemistry, (First Class)
University of Madras, Chennai

1974 : **B.Sc**. (Chemistry), (First Class)
Madurai Kamaraj University, Madurai

Professional Certifications

1997 : **Certificate** course on Technology Management, USA

1992 : **Certificate** course on "***in vitro*** **cultivation of *Brugia malayi* and other filariadae**", Ministry of Health, Indonesia & WHO

1980 : **Diploma in Biomolecular Separations**, Upsala, Sweden

AWARDS/FELLOW RECOGNITION

- **BRSI Life Time Achievement Award,** 2013
- **Senior scientist Oration Award** by Indian Immunology Society, 2013
- **Dr. B.N.Singh Memorial Oration Award** by Indian Parasitology Society, 2011
- **Dr.B.P.Pandey Memorial Oration award** (Indian Parasitology society) 2010
- **BRSI Industrial medal of Biotechnology** Research Society of India, 2003
- **Prof. B.K.Aikat Oration Award** by Indian Council for Medical Research, 2002

- **Fellow**, National Academy of Biological Sciences, 2008
- **Fellow**, Biotechnology Research Society of India, 2009

POSITIONS HELD

No.	Institution / Place	Position	From (Date)	To (date)
1	A. C. Tech, Anna University	Emeritus Professor	05.06.2013	Up to 31.12.2014
2	Anna University	Vice-Chancellor (Officiating)	01.08.2012	27.05.2013
3	Anna University	Member, Vice-Chancellor Convenor Committee	June 2012	August 2012
4	A. C. Tech, Anna University	Dean	2010	2012
			2007	2008
5	Centre for Biotechnology, Anna University	Director & Head of the Department	2008	2010
			1996	2002
6	Centre for Biotechnology Anna University	Professor (Faculty of Technology)	1994	2012
7	Centre for Biotechnology Anna University	Reader (Faculty of Technology)	1989	1994
		Visiting Faculty (Faculty of Technology)	1986	1989
8	Span Research Centre, Surat	Research Director	1981	1986

***Contribution as the Faculty and Professor of Biotechnology**:*

- Associated with the development of the Centre right from its inception and from the time Biotechnology education and research was introduced in the country.
- Right from preparing the curriculum, which is still popular and widely used throughout India, was instrumental in the introduction of M.Tech. Biotechnology and B.Tech. Industrial Biotechnology.
- The establishment of advanced product-oriented biotech research facility at Taramani campus of Anna University is a seminal contribution to biotech research in India
- Proactively associated with colleagues and other professionals to expand this programme into other colleges in Tamil Nadu and other States, expanded our own programme into M.Tech. Biopharmaceutical Technology, B.Tech. Pharmaceutical Technology, B.Tech and M.Tech. Food Technology programmes.
- Administered several prestigious and major grants like Centre of Excellence programme on Diagnostic Platform, Special Assistance Programme from UGC, Indo-US PL 480 and European Union grant.

RESEARCH AND DEVELOPMENT ACTIVITIES

Ph.D.	**37** Completed (inclusive of 13 in the last 5 years). Currently – 6 are in progress.
M.S/M.Tech and B.Tech.	**51** Dissertations
Patents Filed	**3**
Products Commercialized	**1**
Products Developed	**2**
Books	**1**

Collaborations with International Institutions and Industries

- Dr. Christian Betzel - University of Hamburg, Germany
- Dr. Murray Shelkrik, Imperial College, London
- Dr. Eric A Ottesan, Emory Institute – WHO filarial programme USA
- Dr. Steeves Williams –Smiths College, Northampton, USA
- Dr. Alan Scott-Johns Hopkins University, Baltimore, USA
- Dr. Kapil Mehta – M.D. Anderson Cancer Research Institute, Houston, USA
- Dr. Ramaswamy – University of Illinois, Rockford, USA
- Dr. John Kussel – Glasgow University, UK
- Dr. Mark Blaxter – University of Edinburgh UK
- Dr. Andreas Ruppel – University of Heidelberg, Germany
- Dr. James McCarthy – University of Fermentile, Australia
- Dr. Michael Duzeingo - University of Tubingen, Germany
- Dr. Rick Maizel- University of Edinburg. UK

Publications

Research Papers **: 70** (International 55, National 15)

Scientific abstracts/ Proceedings in conference: 70 (International 20, National 50)

Books **:** Chief Editor and contributing author - **Vol 7 Biotechnology (Science and Technology Encyclopedia series, Tamil version)**

RESEARCH PROJECTS (ONGOIGN& COMPLETED) IN THE LAST 10 YEARS

No.	Title of Project	Funding Agency	Amount (Rs in Lakhs)	Date of sanction and Duration
1	Lymphatic Filariasis: Protective immunity and impact of interrupted exposure on parasite burden and morbidity	Schweizerischer National fonds		1997- 2000
2	Recombinant filarial antigen and development of DNA vaccine for immune response studies	AICTE	10.00	1997-2000
3	Developing downstream processing facility for large scale production of recombinant filarial protein	AICTE	12.55	1998-1999
4	Molecular biology studies in Filariasis	Indo US PL-480	34.72	1999-2001
5	Study of Recombinant antigen based protective immune response in experimental filariasis	University Grant Commission	8.00	1999-2002
6	Development of Compact Disc (CD) as a cost effective and versatile platform for immunoassays for infectious diseases	INCO DC	17.40	1999-2000
7	Immuno diagnosis of infectious Diseases	UGC - DRS	43.00	2002-2007
8	Development of DNA vaccine for lymphatic filariasis	DBT	14.07	2003-2006
9	Immuno prophylactic studies in Filariasis using recombinant parasitic enzymes, transglutaminase and Thioredoxin peroxidase	ICMR	19.00	2003-2006
10	Immunoprophylactic studies in experimental filariasis using recombinant Parasitic Thioredoxin and a peptide (portion of nematode Thioredoxin) unique to the parasite	CSIR	9.13	2004- 2007
11	Isolation and Evaluation of recombinant filarial antigen of diagnostic importance	ICMR	5.16	2006-2008

12	Genetic Polymorphism of *Wuchereriabancrofti* parasitic gene	ICMR	50.55	2006- 2009
13	Programme for Development &Productization of Diagnostics & Prophylactics for Neglected Infectious Diseases With Filariasis as Model	DBT	455	2007 - 2012
14	Development of Multiple Antigen Vaccines for Lymphatic Filariasis	UGC	14.91	2007 – 2010
15	Diagnosis and preventive vaccines and therapy for infectious diseases	UGC-DRS Phase II	50.00	2008-2013
16	National network for genotyping of human lymphatic filarial parasites	ICMR	6.00	2011-2013
17	Centre of excellence for training and research on biomedical application	MHRD	Proposal selected	2012-2013
18	Departmental Funds generated (as Director/HoD) (a) MTech Teaching Programme (b) DST FIST Programme (c) BTIS grant (d) UGC - DRS Under Special Assistant Programme		500	(1996-2002/ 2008-2010)
19	Institutional Funds	TEQIP (Technical Education Quality Improvement Programme) from World Bank & MHRD	520	2007 – 2008 2010 – 2012
20	Vision 2023 – Establishment of centre of excellence in various engineering & technology programme. ➢ E-governance and management in engineering higher education ➢ Centres of Excellence ➢ Developments in higher education & employability ➢ Innovation capabilities & soft-skill development	Govt of Tamil Nadu (Under Public Private Partnership)	3950 Crores Worth of programmes	2013-2023

Selected peer-reviewed publications

- Ansel Vishal L, Y Nazeer, N.Mahalakshmi, R. Ravishankaran, Kaliraj P. Evaluation of Rapid Blood Sample Collection in the Detection of Circulating Filarial Antigens for Epidemiological Survey by rWbSXP-1 Capture Assay. PLOS ONE (DOI: 10.1371/journal.pone.0102260) 2014.
- Sakthidevi M, Hoti SL, **Kaliraj** P Functional analysis of a highly conserved abundant larval transcript-2 (alt-2) intron 2 repeat region of lymphatic filarial parasites. **Infect Genet Evol. 2014** Jun;24:177-82.
- Jeya Prita Parasurama Jawaharlal, Rajendran Ravishankaran, Radhika Nagamangalam Shridharan, Ansel Vishal Lawrence, Anjali Anoop Karande, **Kaliraj P**. Evaluation of Brugia malayi sheath protein (Shp-1) as a diagnostic antigen for human lymphatic filariasis. **Diagn Microbiol Infect Dis.2014** Mar 27:78(3): 249-254.
- Aparnaa R, **Kaliraj** P. Immunomodulation of ALT-2 and TLR may collude in antigen specific T cell hyporesponsiveness: proposed mechanism for elevated IL-10 levels in Balb/C mice. **Acta Parasitol. 2014** Mar;59(1):25-30.
- Mahalakshmi N, Aparnaa R, Ansel Vishal L, **Kaliraj P**. Molecular characterization and evaluation of Oncocerca volvulus secreted larval acidic protein 1 (SLAP1) as a putative vaccine candidate on endemic population of lymphatic filariasis. **Parasitol Res**. **2013** Sep:112(9): 3203-11.
- Anugraha G, Madhumathi, Prince R P, Jeya Prita, **Kaliraj P.** Molecular Characterisation of VAH-TRX fusion protein for immunoporphylactic potential in lymphatic filariasis, **Acta Parasitologica 2013** 58(4): 468-477.
- Sam Sharmila; Immanuel Christiana; Pote Kiran; Maryada V R Reddy, Krishnan Sankaran, **Kaliraj P.** Bacterial lipid modification enhances immunoprophylaxis of filarial Abundant Larval Transcript-2 protein in Mastomys model. **Parasite Immunology 2013** 35 (7-8): 201-213.
- Rohit Sharma, S. L. Hoti, R. L. Meena, V. Vasuki, T. Sankari, **Kaliraj P**. Molecular and functional characterization of macrophage migration inhibitory factor (MIF) homolog of human from lymphatic filarial parasite *Wuchereria bancrofti*. **Parasitology Research. 2012**, 111:2035–2047 DOI 10.1007/s00436-012-3051-2
- Sharmila S, Christiana I, Kiran P, Reddy M V R, **Kaliraj P.** The adjuvant-free immunoprotection of recombinant filarial protein Abundant Larval Transcript-2 (ALT-

2) in Mastomys coucha and the immunoprophylactic importance of its putative signal sequence, **Experimental Parasitology. 2011**, 129, 247–253.

- Vivek Pandey, Jayaprakasam Madhumathi, Anjali A. Karande, **Kaliraj P.** Antigen detection assay with parasite specific monoclonal antibodies for diagnosis of lymphatic filariasis,**Clinica Chimica Acta, 2011.** 412, 1867–1873
- Madhumathi J, Anugraha G, Prince P.R and **Kaliraj P**., Proliferative responses of Brugiamalayi TPX-1 and its epitopic peptide29–43 in an endemic population of human lymphatic filariasis, **Microbes and Infection, 2011**, 13, 602-606.
- Anand S. B, Kodumudi, K.N, Reddy M.V, and **Kaliraj P**. A combination of two Brugiamalayi filarial 2 vaccine candidate antigens (BmALT-2 and BmVAH) enhances immune responses 4 and protection in jirds. **Journal of Helminthology, (2010)** 1 – 12, doi:10.1017/S0022149X10000799
- Pandiaraja P, Arunkumar C, Hoti S.L, Rao D.N, **Kaliraj P**., Evaluation of synthetic peptides of WbSXP-1 for the diagnosis of human lymphatic filariasis. **Diagnostic Microbiology and Infectious Disease 2010**
- Madhumathi J, Prince PR, Anugraha G, Kiran P, Rao DN, Reddy MV, **Kaliraj P.** Identification and characterization of nematode specific protective epitopes of Brugiamalayi TRX towards development of synthetic vaccine construct for lymphatic filariasis. **Vaccine (2010)** 28, 5038–5048
- Madhumathi J, Prince P, Rao D N, **Kaliraj P**. Dominant T cell epitopes of filarial Bm ALT-2 and their cytokine profile in Balb/c mice. **Parasite Immunology (2010)**
- Bhuvanesh S, Arunkumar C, **Kaliraj P**, Ramalingam S., Production and single-step purification of Brugiamalayi abundant larval transcript (ALT-2) using hydrophobic interaction chromatography. **J Ind. Microbiol. Biotechnol. 2010.** DOI 10.1007/s10295-010-0753-2
- Madhumathi J., Prince P.R., Gayatri S. C., Aparnaa R.and **Kaliraj P.** Identification of a highly immunoreactive epitope of *B.malayi*TPx recognized by the endemic sera. **J. Parasitol**., **2010**.
- Madhumathi J., Pradiba D., Prince P. R., Rao D. N. and **Kaliraj P**. Crucial epitopes of Wuchereriabancrofti abundant larval transcript recognized in natural infection. **Eur. J. Clin. Microbiol. Infect. Dis. 2010**. DOI 10.1007/s10096-010-1026-8.

- Pandiaraja P., Murugan V., Hoti S.L. and **Kaliraj P**. Molecular characterization of a truncated antigen (Wb14) of SXP-1 of Wuchereriabancrofti from four endemic regions in India. **Exp. Parasitol.(2010)** doi:10.1016/j. exppara. 2010.01.027
- Janardhan S., Pandiaraja P., VivekPandey, Anjali Karande and **Kaliraj P**. Development & characterization of monoclonal antibodies against WbSXP-1 for the detection of circulating filarial antigens. **J. Helminth. 2010** (doi:10.1017/S0022149X10000118)
- Sakthidevi M., Murugan V., Hoti S.L., **Kaliraj P**. Lymphatic Filarial species differentiation using evolutionarily modified tandem repeats: Generation of new genetic markers. **Inf. Gen. & Evol. 2010.** 10 :591-594.
- Uma V , Prince R. Prabhu, Vivek P. Gajalakshmi D, M.V.R. Reddy, **Kaliraj P**, Immune responses generated by intramuscular DNA immunization of *Brugia malayi* transglutaminase (BmTGA) in mice**. Parasitology. 2009** ; 136 (8) : 887 – 94.
- Uma V, Vivek P., Prince R. Prabhu, Gajalakshmi D, M.V.R. Reddy, **Kaliraj P.**, Immune responses of *B. malayi*transglutaminase evaluation of immunoprophylactic efficacy of *B. malayi*transglutaminase(BmTGA) in single and multiple antigen vaccination with bmalt-2 and bmtpx for human Lymphatic Filariasis**. Am. J Trop. Med. &Hyg. 2009 –** 08-0401.R1
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- Janardhan S, Srinivasa Babu K,. **Kaliraj P**, Meenakshisundaram S Optimization of Media for Expression and Economic Production of Recombinant Proteins of Therapeutic and Diagnostic Interest in a Novel Osmotically Inducible *E.coli* GJ1158. **Res. J Biotech. (2007)** 2(1):49-55.
- S. Janardhan, P.Pandiaraja, S.Thiruganam, M.N. Balamurali, Kennedy Fernando, S. Meenakshisundaram and **P. Kaliraj** "Optimization of Production, Purification and Applications of a Diagnostically Important Recombinant Protein WbSXP-1 Expressed inSalt Inducible***E.coli*** ", **J of Ind. Microbiol & Biotech. 2007** 1: 675-683.
- SettyBalakrishnanAnand ,MunirathinamGnanasekar, Mani Thangadurai, Prince R. P., **Kaliraj** P and Ramaswamy K. Immune response studies with Wuchereriabancroftivespid allergen homologue (WbVAH) in human lymphatic filariasis, **Parasitol. Res. 2007.** 10.1007/s00436-007-0571-2

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- Uma V., Geetha M., V.Murugan and **Kaliraj P.** Isolation and Characterization of recombinant Brugian parasitic Transglutaminase. **Ind. J. of Biotech. 2006**, Vol 5 (suppl), pp 317-326
- Sasisekhar. B., Aparna. M., Augustin.D. J., **Kaliraj P.** Kar.S. K., Nutman. T. B., and Narayanan. R.B. Diminished Monocyte function in microfilaremic patients with lymphatic filariasis and its relationship to altered lymphoproliferative responses. **Infect. Imm. 2005.**Vol. 73(6): 3385 –3393
- Lammie P J, Gary W, Rahmah N, **Kaliraj. P**, "Recombinant antigen-based antibody assays for the diagnosis and surveillance of lymphatic filariasis – a multicenter trial" **Fil. J 2004.**3:9; 1-5.
- Vijay Bhaskar, Lakshmi Kanthan, Srikanth T, Suba S, Mody H, Desai P, **Kaliraj P,** Development and evaluation of a rapid flow through immunofiltration test using recombinant filarial antigen for diagnosis of Brugian and Bancroftianfilariasis. **crobiol. Immunol. 2004,** Vol 48, No.7: 519-525
- Nookala S, Srinivasan S, **Kaliraj P,** Narayanan RB, Nutman TB. Impairment of tetanus-specific cellular and humoral responses following tetanus vaccination in filariasis. **Infect .and Immun. 2004,** Vol 72 (5):2598-604
- Ravi V, Kubofcik J, Bandopadhyaya S, Geetha M, Narayanan RB, Nutman TB, **Kaliraj P**.*W. bancrofti*: cloning and characterization of heat shock protein 70 from the filarial parasite.**Exp. Parasitol**.**2004.** 106(1-2):1-10.
- Fred Engelbrecht, Tobias Oettl, Usrula Herter, Claudia Link, Diana Philipp, Henry Edeghere, **Kaliraj P.,** Felicia Enwezor, Analysis of Wuchereriabancrofti infections in a Village community in northern Nigeria: Increased prevalence in individuals infected with Onchocerca volvulus", **Parasitol. Int. 2003,** 52, 13-20.
- Gnanasekar, M., Rao, KVN., Chen L., Narayanan, RB., Geetha M., Scott, AL., Ramaswamy K**. Kaliraj P.** Molecular characterization of a calcium binding translationally controlled tumor protein homologue from the filarial parasites., **Mol. &Biochem. Parasitol. 2002,** 121, 107-118.

- Lalitha, P., Eswaran, D., Gnanasekar, M., Rao, KVN., Narayanan RB., Scott, AL., Nutman TB. and **Kaliraj P.** Development of antigen detection ELISA for diagnosis of brugian and bancroftianfilariasis using antibodies to recombinant filarial antigens BmSXP-1 and Wb-SXP-1, **Microbiol & Immunol. 2002,** Vol.46, No.5, 327-332.
- Suba, S., Ravichandran, M., Lalitha, P., Narayanan, R.B., Jayaraman, K., Boothby, J.T. and **Kaliraj P.** Diethylcarbamazine (DEC) Therapy and Modulation of Immune Response in Microfilariasis with *Wuchereria bancrofti* infection. **Biomed Res**. **2000,** Vol.11 (3), 321-325.
- Williams S, **Kaliraj P.,** Blaxter M et al. Deep within the Filarial Genome: Progress of the Filarial Genome Project", **Parasitology Today. 1999.** Vol.15, (6): 219-224

PATENTS FILED

- Indian Patent Aplication No: 1366/CHE/2011 "Dominant T epitope of filarial transglutaminase and chimeric peptide vaccines for lymphatic filariasis" Inventors: Madhumathi.J, Prince.R. Prabhu, **Kaliraj. P**.
- Indian Patent application No: 1367/CHE/2011 "Peptide immunogens of lymphatic filarial ALT-2 and lymphatic filarial vaccine composition comprising" Inventors: Madhumathi.J, Prince.R. Prabhu, Anugraha.G, **Kaliraj. P**.
- Indian Patent application No: 2035/CHE/2011 "A process to enhance the immunoprophylactic efficacy of a filarial protein using bacterial lipid modification" Inventors: Sharmila Sam, Christiana Immanuel, K. Sankaran, **Kaliraj. P**.

PRODUCTS DEVELOPED

Rapid flow-through diagnostic kit for filariasis detection

Filariasis as a chronic health problem of our country in which neither the pharmaceutical industry nor the developed countries are interested. Sustained research on the molecular pathogenesis and genomics on this important disease, which affects millions in our country, has led to the development of a two-minute detection kit, which is being commercialized by Ms. Span diagnostics, Surat. This was achieved with years of international and national collaborations like Indo-US PL480 programme and industrial collaborations in which Ph.D. students were trained in advanced techniques and international quality work was published in reputed scientific journals as mentioned below.

Since early diagnosis and vaccination are the successful national programmes to fight infectious diseases as a partner of WHO-sponsored filarial genome project involving 6 countries the entire genome of the filarial parasite has been sequenced and 15 molecules of diagnostic and prophylactic importance were identified. These contributions have been duly recognized by WHO and enabled to receive an invitation from WHO, as an expert to discuss on the development of a diagnostic tests for filariasis in the meeting at Denver, USA in Nov 2002 and selected our diagnostic kit for multi-centre evaluation for global screening and received excellent comments from WHO. The product has been commercialized after Hon'ble Minister of Science and Technology and Earth Sciences, Dr. KabilSibel, launched the product on DBT Founder's Day in April 2007. Now the product has been licensed by Drug Controller of State of Gujarat, Several lakhs of this kit has been sold in Indian and African markets in short time.

SIGNAL - MF

Owing to the success of this approach of translating basic scientific knowledge into technological products useful to society and its effectiveness in combating infectious diseases, DBT has granted Rs. 4.5 crores in programme support under Centre for Excellence in Biotechnology to develop platform for Diagnostic products and efficacious vaccines.

Selected International Visits (In the last 3 Years)

Date	Place	Purpose of Visit
10th – 16th Nov, 2012	61st Annual Meeting American Society of Tropical Medicine and Hygiene Philadelphi, USA	Presentation of research findings to international scientists working in Neglected tropical diseases (Lymphatic filariasis) Initiate collaboration with biomedical scientists to establish pilot research facility at Centre for Biotechnology in cancer vaccine studies
3rd – 12th Dec, 2011	60th Annual Meeting American Society of Tropical Medicine and Hygiene Philadelphi, USA	Presentation of research finding to international scientists working in tropical diseases and strengthen collaboration and research
28th Feb-1st Mar, 2011	Visit to Dubai, Muscat Educational institutes	To interact and initiate collaborations for NRI admissions with all the of Anna University campus deans.
20-30th Mar, 2009	Visit to German Universities (Heidelberg, Dortmund, Duisburg, Braunshweigh, Helmholtz center for infection and research, Hamburg)	The faculty members got exposure in various disciplines and could update their knowledge on the modern developments of Technology in Germany. It was possible for most of the faculty members to establish contact with the German professors for future academic activities and research training.
10th- 20th Sep, 2009	University of Edinburg	Follow-up of collaborative research in filarial molecular studies
Nov, 2008	Visit to University of Hamburg/DESY, Hamburg, Germany	Follow-up of collaborative research in filarial structural studies

MANAGERIAL AND LEADERSHIP SKILLS

Contribution as Vice Chancellor (Officiating)

- Owing to my long association of holding key positions at the University and I could achieve the following administrative acumen in a short-time of 4 months :
- Smooth merger of AUTs and establishment of effective administration including the appointment of Regional Directors for smooth functioning
- Solutions for long-pending issues like hostel facilities and academic infrastructure in constituent colleges
- Smooth conduct of B.E./B.Tech and M.E./M.Tech. single-window admissions and orientation programme for the new set-up in all University colleges
- As vision 2023 Coordinator worked with the Government to initiate programmes worth Rs. 3,950 Crores
- Satellite based faculty development programmes to augment teaching capabilities in constituent and affiliated colleges.
- Mentorship programme for the institutional development in constituent and university colleges
- Strengthening of programmes like Centre for Technology development and Transfer to promote translational research
- Submission of LoI and necessary documents to get the University accredited by NAAC for global competitiveness
- Two-tier scheme to enhance the standards of needy affiliated colleges and employability of their students to bring uniform quality engineering education across the State
- Introduced academic audit to monitor teaching, learning and evaluation process
- Initiative to bring DTH (Direct To Home) into teaching and training students and faculty at home beyond college timings
- Strengthened CFD for improving quality of teachers
- First syndicate meeting after merger for resolving pressing issues
- First convocation and graduation day of the university after merger

Contribution as DEAN of A.C. Tech Campus

- Up-gradation of academic and research programme of the 5 Technical departments, namely Chemical Engineering, Textile Technology, Leather Technology Ceramic Technology and Centre for Biotechnology and secured NBA accreditation with high credits
- Started PG courses in the emerging frontier areas such as nanotechnology, Food Technology and Apparel Technology were introduced
- Learning experience of the students and research capabilities of the staff were enhanced with additional modernized class rooms, laboratories, workshops, campus networking, sophisticated instrumentation and infrastructure for research
- Special coaching in English for Tamil medium students to cope with change of medium
- With emphasis on increased placement of students in core industries we have been able to reverse the blind IT trend much to the benefit of the students and technological advancement of our country
- Contributed proactively to the policies and guidelines of services and recruitment of faculties
- Hostels have been modernized with latest kitchen facilities
- Instrumental in rationalizing and simplifying purchase procedures
- Implemented a highly successful training programme for faculty and students both at national and international levels to build futuristic competence in emerging areas
- As a coordinator of technology Quality Improvement Programme (TEQIP) funded by World Bank, I have brought about all round development of A.C. Tech Campus, from beautification to Computer Net-working to benefit both faculty and students
- Several Service to Society programmes were conducted with the conviction of taking useful engineering and technology knowledge to common man
- First MHRD Centre of Excellence for Biomedical Application proposed with the budget of Rs. 10 Crores was selected for funding

Contribution as the Director-Centre for Biotechnology

- DBT grant for M.Tech. teaching programme: Rs. 75 Lakhs in the 9th plan and 1 crore in the 10th plan.
- DBT-sponsored national BTIS programme: Rs. 50 Lakhs in the 9th plan and 2 crores for 10th plan
- Under FIST programme in a national competitive evaluation DST rated the Centre as a unique teaching facility in Biotechnology and awarded Rs. 50 Lakhs for the upgradation of its practical laboratory for HRD programme
- Projected advancements in Infectious diseases research as a thrust area and got the induction of Departmental Special Assistance programme of UGC to the tune of Rs. 1 crore from Phase I and II. This will lead to getting financial assistance for next 20 years till establishment of advanced centre.
- Impressed NAAC committee with the achievements of the department, including international publications and funding, and helped to get the five star status for Anna University
- Student exchange programmes have been implemented with foreign universities like UTC, France and University of Leicester, UK., University of Glasgow, UK, Aim Shan University, Egypt, University of Heidelburg, Germany, University of Rockford and NIH, USA
- Negotiated successfully for student placement in other universities like National University of Singapore, KRDL Singapore etc.
- The Centre was developed into the best model in Biotech education and research in University set-up, as revealed by the interest shown by DBT and a number of institutions in the nation to adopt our curriculum and training.
- In fact, the department was recognized by major funding agencies like DST under FIST programme and UGC under DSA programme. These special recognitions and funding were used to vastly improve infrastructure and advance in frontier areas of research in infectious diseases especially filariasis and diarrhoeal diseases.
- In a major capacity expansion owing to the public demand and the Government's policy the annual intake for UGprogramme increased from 20 to 60 and five other such Centres were opened in constituent Government Engineering Colleges of Tamil Nadu; Intake of M.Tech. Went up from to 12 to 40.

- Research was diversified in to new and emerging areas of Biotechnology and more Ph.D. students were enrolled, their strength increasing from 22 to 40.
- Having had the benefit of both industrial experience and academic insight, intensified product-oriented research to develop products and process. This led to 2 products by self and several products, prototypes and process from colleagues.
- For the first time in India a Technology Business Incubator for Biotechnology was started at the Centre with a seed grant from DST-UNDP in 2003. Within the past 5 years many small entrepreneurs have made use of this facility and it has now become a self-supporting entity.
- Industrial consortium which plays crucial role in the running of the department, was increased several fold and the funds generated was used to create faculty positions, enhanced infrastructure.

COORDINATION WITH GOVERNMENT DEPARTMENTS, STATUTORY BODIES AT STATE AND NATIONAL LEVEL

- Coordinator Biotechnology National Entrance Examination – 1995 to 2002
- Coordinator UGC-sponsored Special Assistance Programme since 2001
- Coordinator DBT-sponsored M.Tech. Biotechnology programme – 1995-2002
- Coordinator DBT-sponsored BTIS programme – 1995-2002
- Coordinator FIST programme of DST, 2000-2002
- UGC Nominee for Joint Task Force Committee of DBT and UGC on Manpower Development, 1998
- Member Task Force Committee of DBT, New Delhi, 1999-2002
- Expert committee member of project monitoring, DSA, COSIST programmes of UGC, 1995 onwards
- Expert committee member of AICTE Human Resource Development 2002
- Member of Selection Committee, Executive Committee, Board of Studies, Academic Council of many Universities and Institutions such as Anna University, University of Madras, Cochin University, Bharathidasan University, Bharathiyar University, Tamil Nadu Veterinary University, Tamil Nadu Agricultural University, Pondicherry University, Indian Institute of Sciences.

- Advisory Committee member of various educational institutions offering Biotechnology programme at UG and PG level.
- AICTE Accreditation expert committee member
- Expert committee member of WHO high power committee meeting on developing diagnostic test for filariasis, Denver, USA, Nov.2002
- Expert committee member on Natural Products in Developing Countries, UNESCO, Nairobi, 1993
- High power committee member of Technology Incubator Park of Govt. of Tamil Nadu, since 2000
- Coordinator of UNDP-DST-sponsored technology business incubator
- DBT Nominee to monitor the Bio-safety Committee of M.K.University, Madurai 1995-onwards
- DBT Nominee to monitor the Bio-safety Committee of University of Madras, Chennai
- Member of Research Advisory Committee (RAC), Span Research Centre, Surat, Gujarat
- Since 2004 – ICMR Task Force Member of Molecular Biology of Filariasis
- Member of high power Committee constituted by Govt. Tamil Nadu for establishing Biotechnology Park in Tamil Nadu.
- Governing Council member of TICEL BioPark.
- Member of the Woman Biotechnology Park.
- BTIS NET Co-ordinator for Centre for Biotechnology, Anna University

MEMBERSHIP IN SCIENTIFIC & PROFESSIONAL SOCIETIES

- ❖ Member, American Society for Tropical Medicine & Hygiene, USA
- ❖ Member, Royal Society of Tropical Medicine & Hygiene, UK
- ❖ Member, International Society of Lymphology
- ❖ Member, Indian Immunological Society
- ❖ Member, Microbiologists Society of India
- ❖ Member, Biochemical Society of India