

Jamnalal Bajaj Tropical Disease Research Centre & Department of Biochemistry (www.jbt-drc.org)

Jamnalal Bajaj Tropical Disease Research Centre (JBTDRC) is an advanced centre for Tropical Disease Research established in 1994 at Mahatma Gandhi Institute of Medical Sciences, Sevagram to expand the Institute's ongoing research programmes in tropical diseases such as filariasis and tuberculosis prevalent in this region. It is the result of sustained problem based research activity for more than two decades at MGIMS with support from ICMR, CSIR, DST, WHO/TDR, INDO US-STI and DBT. The main thrust will be to apply the latest and sophisticated techniques of hybridoma and genetic engineering in developing tools for immunodiagnosis, monitoring, immunoprophylaxis, surveillance and their application in the field for better management and control of these diseases. Foundation stone was laid for the centre on February 23, 1991 in the hands of former Prime Minister Shri Chandrasekhar. Late Dr. Sushila Nayar, our esteemed Founder Director who has been the source of inspiration and our Guide performed 'Bhoomi puja' for the centre on Feb. 12, 1992 in the gracious presence of Dr. U. Koko, former Regional Director, WHO - SEARO. A humble beginning in giving a shape to the centre started with the Bajaj Group giving financial support for the building. Shri Dhuru S. Mehta, President, KHS, was instrumental in getting this support and the construction of the building admeasuring 16,000 sq.ft. was completed in 1994. Our Founder Director Dr. Sushila Nayar, did 'Vastu puja' of the centre on July 11, 1994. The centre became fully operational under Dr. B. C. Harinath as Director – Professor and then as Director from 2002.

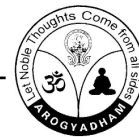


Biochemistry Department:

The Department of Biochemistry whose sole piece of equipment was a small colorimeter way back in 1969 was nurtured over the past two decades by its dedicated team of staff and postgraduate students to its present level of sophistication. In their endeavour the department has enjoyed the continued support of the Institute's management and financial assistance from various funding agencies from time to time. Shri H. N. Abhyankar and Dr. Bharti Banerjee were looking after the Division of Biochemistry, which was part of the Physiology Department at its inception. Dr. B. C. Harinath joined the department in April 1970 and the Department of Biochemistry became independent since 1974 and was nurtured by Dr. B.C. Harinath as the Head of the Department up to September 2002. Dr. M. V. R. Reddy, joined in 1980 took over the department as Professor & Head from October, 2002 with Dr. Satish Kumar, Professor (joined in 1996), Dr. Mrs. Neelam Garg, Professor (joined in 1993), Dr. Kalyan Goswami, Assoc. Professor (joined in 2005), Dr. Kanchan Mohod, Lecturer (joined in 2008) and Dr. Pranita Kamble, Lecturer (joined in 2009) are actively involved in the development of the Department.

Facilities:

The centre has acquired sophisticated instruments such as FPLC – System (Pharmacia), Freeze drier (Virtis), ELISA Reader (ERBA), Cryopreservation equipment (Forma scientific), Thermocycler (PCR) equipment (Biometra), CO₂ Incubator (Forma Scientific), Orbital-Shaker (Forma Scientific), Ultracentrifuge (Kontron), Spectrophotometer (Gilford), Minicold Lab with Chromatography equipment, ELISA Reader (DynaTech), Walk in cold room, Gamma



Isotope Counters, SDS-PAGE & Sub-marine multiphoresis electrophoresis apparatus, -70°C Freezers (Forma & Revco) and Millipore Biocel Water Purification System, Gel-Doc System (Kodak), Pellicone Ultrafiltration System (Millipore) and Liquid Scintillation Counter (Packard) for biomedical research. In addition the centre has National Repository for filarial parasites supported by DBT, insectarium and animal house with filarial animal models. *B.malayi* is being maintained in rodents (Swiss and Desert rats), the second institute in India.

Research Thrust Areas:

Immunodiagnosics, Immunomonitoring, Immunoprophylaxis & Molecular studies related to Filariasis and Tuberculosis.

Teaching:

The Department conducts teaching programme for MBBS, MD, and Ph.D. courses. The first batch of undergraduate students had passed out in 1970. The department has been recognized for Ph.D. in Science faculty since 1977 and for MD and Ph.D. in Medicine faculty since 1979 and 1985 respectively. Both Ph.D. and MD degrees were first awarded in 1980. As of now 26 students have been awarded MD (Biochemistry) and 22 students with Ph.D. Degrees.

Hospital Biochemistry Laboratory service:

Round the clock clinical biochemistry lab service with about 30 types of investigations including tests like lipid profile, CPK-MB, microalbuminuria are being provided by the department. ELISA based tests are being done for routine immunodiagnosis and immunomonitoring of filariasis and tuberculosis for this institute's and as well outstation patients. In addition to this, there is a facility for the hormone assays in collaboration with Thyrocare Diagnostics Pvt. Ltd., Mumbai. The lab is equipped with two fully automatic, one semiautomatic analysers, one electrolyte analyzer and one blood gas analyzer.

Research Publications in National & International Journals:

Total: 200

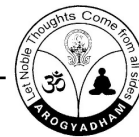
Patent Awarded:

1. "A process of isolation and purification of *M. tuberculosis* excretory-secretory (*M.tb ES-31*) protein for use in antibody based or antigen based assay for detecting the presence & monitoring *M. tuberculosis* infection" (Indian Patent No: 184510 granted on June 2, 2001).
2. "A process for the preparation of *Brugia malayi* microfilarial excretory-secretory (mf ES-22) glycoprotein" (Indian Patent No: 224560 granted on October 17, 2008).

National Conferences & Training Courses organised by Department of Biochemistry & JBTDR

Conferences:

- 1989 – XVI Annual Conference of Indian Immunology Society
- 1994 – XX Annual Conference of Association of Clinical Biochemists of India
- 1997 – International Symposium on Recent Trends In Tropical Disease Research
- 2002 – International Symposium on Ayurveda, Yoga and Naturopathy & C.M.E. on Alternative System of Medicine for Positive Health and Chronic Aliments in Feb, 2002 (in collaboration with Department of Ayurveda).
- 2004 – National Symposium on Medical Informatics & C.M.E. on Hospital Information System (September 2004).
- 2005 – National Seminar on Biomedical Informatics (December, 2005)



2006 – National Symposium on Science of Holistic Living and Its Global Application & C.M.E. on Therapeutic Life Style Changes for Management of Chronic Health Problems (November 2006).

Training courses in Disease Diagnostics:

Fifteen National level short term training courses on ELISA and other immunodiagnostic techniques with special reference to tropical diseases have been successfully conducted with the support of Department of Biotechnology, Ministry of Science & Technology, New Delhi and JBTDRC in 1987, 1989, 1991, 1993, 1995 1996, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 & 2010.

Workshops in Biomedical Informatics:

Thirteen National level Workshops in Medical / Health Informatics have been successfully conducted in 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010 with the support of Department of Biotechnology, Ministry of Science & Technology, New Delhi.

Awards:

Amrut Modi award	1986	(Dr. B.C. Harinath)
Kurup award (SBC)	1991	(Dr. B.C. Harinath)
Awadesh Saran Oration award (ACBI)	1992	(Dr. B.C. Harinath)
Dr. B. C. Roy award (MCI)	1994	(Dr. B.C. Harinath)
GS Seth Medical College &	2004	(Dr. M.V.R. Reddy)
KEM Hospital Oration award (ACBI)		
ACBI – AJ Thakur Award for Distinguished Clinical Biochemist	2009	(Dr. B.C. Harinath)

1980: 10th year Assessment

The evaluation committee 1980 is particularly impressed with the Biochemistry department, where a considerable amount of research activity of a very high standard in the field of immunology of filariasis is being carried out. This work is probably the best in the field in the country and will easily measure upto international standards. This department has demonstrated that the rural location of the institute is no deterrent to the development of scientific excellence.

(Excerpt from a report of 10 years' evaluation committee consisting of Dr. K. L. Wig, Dr. C. Gopalan & Dr. H. I. Jhala, 1980).

1995: 25th year Assessment

'Department of Biochemistry is actively involved in research. In this department research on the diagnostic techniques for filariasis has been going on for several years and has received due recognition from national and international organizations. The filarial research in this department stands out prominently.

(Excerpt from a report of 25 years' evaluation committee consisting of Prof. P. N. Chhuttani, Prof. B. K. Anand, Prof. B. N. Tandon & Prof. K. S. Chugh, 1995)

1998: An Assessment by Institute Development Committee

This Dept. has developed filariasis kit after two decades of excellent work in immunological diagnosis of filariasis and getting enquiries from endemic areas for the test kits.

(Excerpt from development committee meeting minutes in 1998, consisting of Prof. Dave, Prof. J. L. Gupta, Prof. Manu Kothari, Dr. Ashok Vaidya & Dr. G. M. Taori)