



***Institute of Biochemistry, Molecular Biology
and Biotechnology
University of Colombo***

Annual Report – 2012



Contents

	Page
Quick Reference	154
Director's review	155
Performance 2012 at a Glance	156
Board Members	157
Vision & Mission	158-159
International Recognition	160
Human Resource Development	161-164
National Development through National/International Agencies	164
Research Activities	165-175
Visitors to the IBMBB	175
Human Resources	176
Constraints	176
Staff	177
Current Researchers, Research Collaborators and Research students	178-179
Research Publications	180-185
List of MPhil /PhD projects	186-189
Research Funding	190-191
List of MSc Dissertations	192-193
Snapshots of events	194-196
Annual Financial Report	197-204
Annual Report of Audit Committee -2012	205
Report of the Auditor General	206-214
Failures and Justifications	215
Plan of work for 2012	216-217
Summary of Annual Report and Accounts – 2012	218-223



Quick Reference

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Director's Review: Civil construction and equipment of the Institute of Biochemistry, Molecular Biology and Biotechnology (IBMBB) was funded by a soft loan of 15 million Swedish Kroners (SEK) provided by the Swedish International Development Agency (SIDA) to the Government of Sri Lanka. The initial design of the IBMBB was funded by the Asian Development Bank's Science and Technology Personnel development project.

Institute of Biochemistry, Molecular Biology and Biotechnology (IBMBB) was ceremonially declared open on 28th April, 2004 by Her Excellency Anne Marie Fallenius, the Head of Mission, Embassy of Sweden, Colombo, and Prof. Ulf Pettersson, Vice-Rector, University of Uppsala, Sweden. The Ordinance of the Institute was gazetted by Gazette Extra-ordinary No. 1282/25 of 3rd April, 2003. The building is located in the main campus of the University of Colombo. The IBMBB is equipped with all modern instruments used in molecular life sciences such as fully automated DNA sequences, microarray scanner, FPLC, HPLC, Fluorescence and Phase contrast microscopes, laminar flow hoods, cell culture facilities, insectary, cold rooms, local area net working, access to internet via dedicated optical fiber cable and is fully air-conditioned.

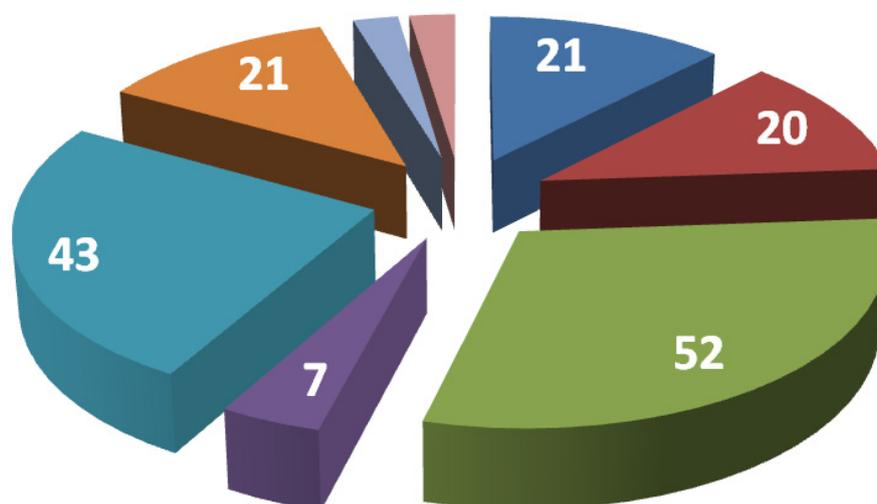
The IBMBB does not admit undergraduate students but will cooperate with undergraduate teaching programmes of the university. The main thrust areas of activities are MSc, MPhil and PhD programmes. IBMBB conducts three full time MSc programmes. These are in Molecular Life Sciences, in Cellular and Molecular Immunology and in Bioinformatics. The main objective of these courses is to provide focused training in current areas of molecular life sciences relevant to the development of Sri Lanka and also to encourage young graduates to proceed for further advanced studies leading to PhD. Also novel methods of teaching such as assignments, workshops, seminars, formulation of research proposals are used.

One International Travel Awards was won by a research student. Three National Awards were received by MSc students. 17 students registered at the IBMBB and 6 students registered at other Higher Educational Institutes carried out research work leading to MPhil/PhD at the IBMBB. Two PhDs and one MPhil were successfully completed. One PhD is under examination. Eleven new MSc students were admitted in February 2012, for MSc in Molecular Life Sciences and a new Msc programme in Bioinformatics conducted jointly with University of Colombo School of Computing commenced in May 2012. Eleven students were admitted to this course. A Certificate Course in Molecular Biological Techniques was held in August. Six original research papers were published in International Journals, one paper was in press and three papers were under review by International Journals during the year 2012. Forty three research presentations including eight at International conferences (including two held in Sri Lanka) were made by IBMBB staff and students. These are described in detail elsewhere in this document.



Performance 2012 at a Glance

- Output of MSc, MPhil, PhD
- Output certificate course
- New Intake & Continuing Students
- International Research Publications
- Research Presentations
- Dissertations/Theses
- Research Awards
- New Research Grants





Director:

Professor Kamani H Tennekoon

Board of Management

Director (Chairman)

Secretary/Ministry of Higher Education, Ex-officio or his/her nominee

Professor E R Jansz, UGC Nominee (up to 20/10/2012)

Professor Eric H Karunanayake, UGC Nominee

Prof. S Mohanadas, UGC Nominee

Professor Ira Thabrew, UGC Nominee

Mr. H.M.N. Warakulle, Council Nominee

Mr C. Maliyadde, Council Nominee

Prof. M.H.R.Sheriff, Senate nominee

Ms. W. I. Nanayakkara, Senate Nominee

Dean/Medicine, University of Colombo, Ex-officio

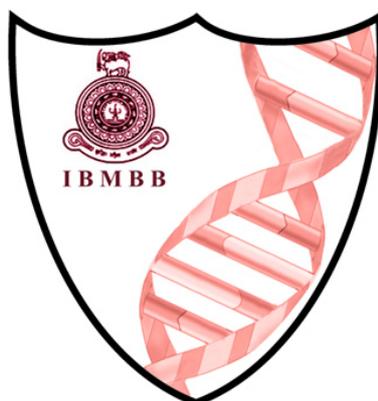
Dean/Science, University of Colombo, Ex-officio

Head/Biochemistry & Molecular Biology, Faculty of Medicine, Ex-officio

Director, University of Colombo School of Computing, Ex-officio



Vision



“To be

an

International

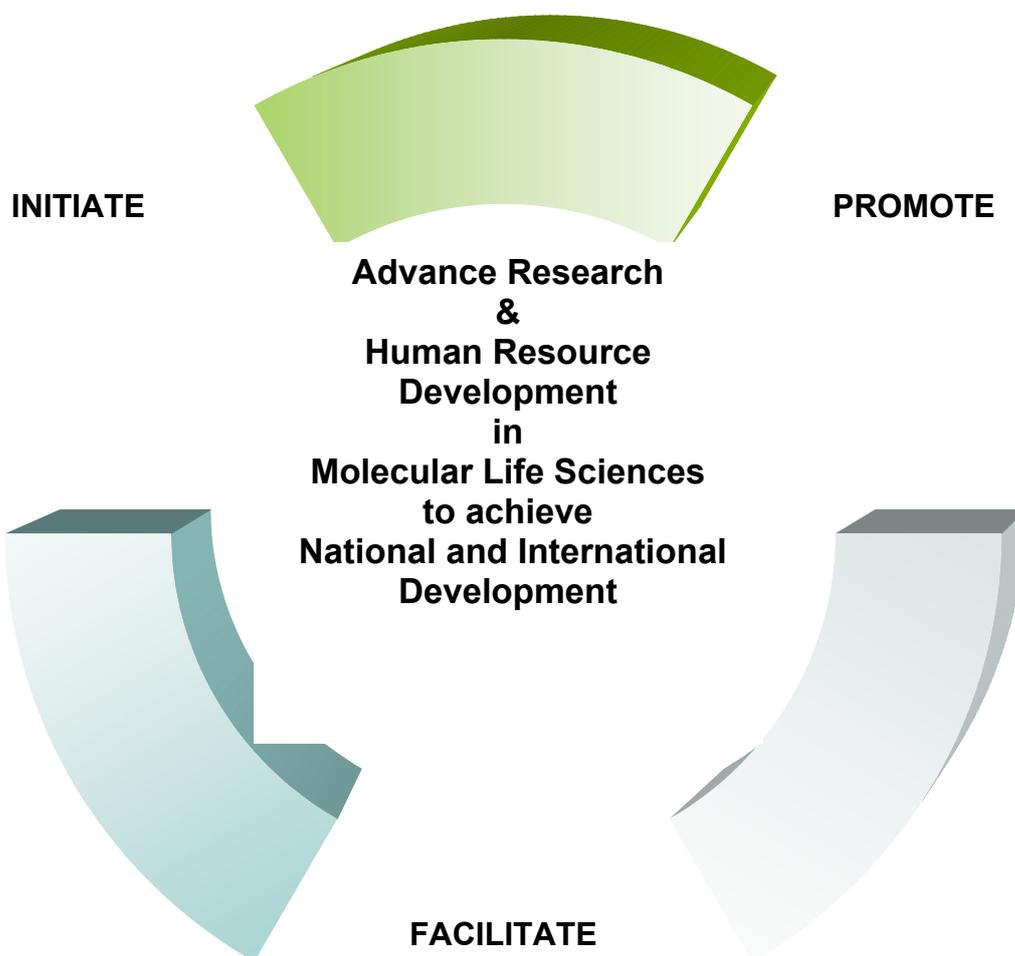
Centre of Excellence

in

Molecular Life Sciences”



Mission





International Recognition: **IBMBB continued as a Resource Centre for Molecular Life Sciences in Asia for the International Programme in Chemical Sciences (IPICS), University of Uppsala and as the National Node for European Molecular Biology Network (EMBnet).**

IBMBB staff and students were able to publish their research findings in International Journals and present their findings at several International conferences. Details are given elsewhere. One PhD student won the under 34 competition held by the International Society for Gynecological Endocrinology (based on abstracts submitted by authors under 34 years) to present his work at the 15th World Congress on Gynecological Endocrinology in March 2012 in Florence, Italy.

Human Resource Development

Postgraduate Programmes

MPhil/PhD Programmes

Seven new MPhil/PhD students registered during 2012. Ten students who registered previously at the IBMBB continued their work. Research programmes on which MPhil/PhD work is based are described under Research activities.

Six students registered at other Higher Educational Institutes for MPhil/PhD carried out all or part of the studies at the IBMBB. These included one student registered at the Faculty of Science, University of Colombo; one student registered at the University of Kelaniya, Four students registered at the University of Sri Jayawardenapura (See Table 1 for a list of ongoing MPhil/PhD projects)



MSc Programmes

Eighth batch of students was admitted for the MSc in Molecular Life Sciences in March 2012, with 11 students registering for the course. First batch of 11 students were admitted to the MSc Bioinformatics which commenced as a joint programme with UCSC. Teaching programme of MSc Molecular Life Sciences was conducted without any interruption due to the Trade Union action of University Academics but unfortunately the teaching programme of MSc Bioinformatics conducted by visiting faculty was interrupted to some extent. All students in the 2011 intake except one in Molecular Life Sciences and two in Cellular & Molecular Immunology qualified to proceed to third semester.

Eleven MSc Research projects were carried out. Nine in Molecular Life Sciences and two in Cellular and Molecular Immunology. Dissertations were submitted for examination in the year 2012.

Professor Eric H Karunanayake Gold Medal for the Best Student in MSc in Molecular Life Sciences and the GlaxoSmithKline Gold Medal for the Best Student in MSc in Cellular and Molecular Immunology were awarded in 2012 to Ms. GLIM Premathilake and to Ms. AMDSD de Silva respectively.

Dr. OVSDJ Weerasena continued as the Coordinator of the MSc in Molecular Life Sciences and Dr. Shiroma Handunnetti continued as Coordinator of the MSc in Cellular and Molecular Immunology. Mr. Kanchana Senanayake was appointed as the co-ordinator of MSc in Bioinformatics.

The following academics / visiting faculty gave lectures and/or conducted tutorials/practical classes for the MSc in Molecular Life Sciences: Prof. Eric H. Karunanayake, Prof. Kamani H Tennekoon (IBMBB), Prof. Ira Thabrew, Prof. Vasanthi Arsaratnam (Faculty of Medicine, University of Jaffna), Prof. Rohini Fernandopulle (Faculty of Medicine, University of Colombo), Prof. Rohini Hewamanne (Faculty of Science, University of Colombo), Dr. Jagath Weerasena (IBMBB), Dr. Nilanthi Dassanayake (University of Sri Jayawardenapura), Mrs. Kantha Lankathilake (Faculty of Medicine, University of Colombo), Dr. Shyamala Tirimanne (Faculty of Science, University of Colombo), Dr. Sumithra Tissera (Family Planning Association), Mrs Sumedha Wijeratne (Faculty of Medicine, University of Colombo), Dr. Nalinda Silva (University of Sri Jayawardenapura). Ms. Sudeshini Hewage, Ms Sumadee De Silva and Mr. Kanishka Senathilake assisted with the practical course.

The following academics / visiting faculty gave lectures for the MSc in Cellular and Molecular Immunology. Prof. Eric H Karunanayake (IBMBB), Prof. Anura Weerasingha (Faculty of Medicine, University of Kelaniya), Prof Sunil Premawansa (Faculty of Science, University of Colombo), Dr. Shiroma Handunnetti (IBMBB), Dr. Suranjith Seneviratne (Clinical Immunologist, Imperial College, London), Dr. Enoka Corea (Faculty of Medicine, University of Colombo), Drs. Rajiva de Silva, Omala Wimalaratne, Janaka Munasinghe and Preethi Perera (Medical Research Institute), Dr. Dharshan De Silva (Genetech), Dr. S. Ginige (Epidemiology Unit, Ministry of Health), Dr. Saroja Siriwardena (National Hospital, Sri Lanka), and Dr. Baddhika



Jayarathne and Dr. Damayanthi Peiris (Cancer hospital, Maharagama). Ms. MJR Niloofa assisted the practical course.

Prof. Eric H. Karunanayake, Prof. Kamani H Tennekoon, Dr. Jagath Weerasena, Mr. Sameera Samarakoon (IBMBB) Dr. D.A.S. Atukorale, Dr. H. A. Caldera, Dr Mahen Jayawardane, Dr. Nalin Ranasinghe, Dr Ruwan Weerasinghe, Ms Rupika Wijesinghe (UCSC), Professor Mahesan Niranjana (University of Southampton), Dr. Nalinda Silva (USJP) gave lectures for the MSc in Bioinformatics.

Applications for the 2013 intake of students were invited, selection examination was held and the interviews are scheduled for January 2013. (See Table 3 for MSc Dissertation of those who will graduate in 2013 having completed Dissertation work in 2012)

Short Courses

Certificate Course in Molecular Biological Techniques

In order to provide an exposure to molecular biology and genetics, a 5 day certificate course in molecular biological techniques was conducted from 20.08.2012 to 24.08.2012. In total 20 participants, (04 males and 16 females) participated in this course. The workshop was highly rated by the participants. The participants included staff members from other Universities / Research Institutes/ Government Departments. Some of them were supported by their respective Institutes.

Stem Cell Course

Stem Cell Course was conducted at the IBMBB on 20th November 2012 with the assistance of five overseas resource persons. These were Professor Gerald Schatten (Professor and Vice Chair, Ob/Gyn and Reproductive Sciences, University of Pittsburgh School of Medicine), Professor Richard Leach (Professor and Chair of Obstetrics, Gynecology and Reproductive Biology, Michigan State University), Professor Asgerally Fazleabas (Professor and Associate Chair, Department of Obstetrics, Gynecology and Reproductive Biology, Michigan State University.), Professor Primal De Lanerolle (Professor, Department of Physiology and Biophysics, College of Medicine, University of Illinois), and Dr. Sudha Warriar (Assistant Professor, Manipal Institute of Regenerative Medicine). Professors Eric Karunanayake (Founder Director / IBMBB and Chairman, National Research Council), Harsha Seneviratne (Former Dean and Former Professor of Obstetrics and Gynecology, Faculty of Medicine) and Sumedha Wijeratne (Professor in Reproductive Biology, Faculty of Medicine), and Dr. Kanishka Karunaratne (Director, National Cancer Institute) chaired the sessions. 44 participants attended the course of which 11 were registered participants from outside the IBMBB and 15 were invitees (research collaborators from other Institutes).



Fifth Annual Scientific Sessions

Fifth Annual Scientific Sessions of IBMBB was held on 27th April 2012. Vice Chairman, University Grants Commission and other distinguished academics/scientists attended the opening sessions. The highlight of this event was the Institute Lecture delivered by Prof. Ira Thabrew, Emeritus Professor of Biochemistry, University of Kelaniya. She spoke on “Discovering Natural Leads for Cancer Therapy”. There were four update lectures, 9 oral presentations and 16 poster presentations. Out of these, 6 oral presentations and 15 poster presentations were from IBMBB researchers and postgraduate students.

Supervision of research projects of MSc students and Undergraduate students registered at other Institutes and Faculties of the University of Colombo

Dr Shiroma Handunnetti supervised research projects of one MSc student from Department of Chemistry, Faculty of Science, UoC, one 4th year undergraduate student from Department of Zoology, Faculty of Science, UoC, two 4th year undergraduate students from Department of Chemistry, Faculty of Natural Sciences, University of Sri Jayawardenapura. Dr OVDSJ Weerasena supervised one MSc student (Molecular Medicine) from Postgraduate Institute of Medicine and one undergraduate student from Wayamba University. Prof. Kamani Tennekoon, Ms. Sumadee De Silva and Dr. Nalinda Silva supervised one undergraduate student from Vellore Institute of Technology University.

Exposure of Undergraduate students to Molecular Biology and Immunology

Students from the Faculty of Agriculture and Plantation Management Wayamba University had a one day visit to the IBMBB for an exposure to Biotechnology Applications. Dr Shiroma Handunnetti contributed to a Field visit for Biotechnology by the Biotechnology Special students from Wayamba University and provided a lecture and demonstrations on immunodiagnostic methods. IBMBB staff conducted practical demonstrations in Molecular Biology for BSc (Hons) Biomedical Science students from BMS.

Staff Development and Welfare

A Dhamma talk was delivered by Ven Dr. Medagoda Abhayatissa Thero on 27th February 2012 at IBMBB in memory of late Ms Shalini Anuradha Wickramasinghe, MSc student in Cellular and Molecular Immunology who tragically passed away in December 2011.

Dr Shiroma Handunnetti completed a one year Post-Graduate Diploma in Buddhist Ayurvedic Counseling at the Buddhist and Pali Post-Graduate Institute of University of Kelaniya.



Staff Development Programmes for other HEIS and Research Institutes

One probationary lecturer from University of Sri Jayawardenapura and one probationary lecturer from Institute of Indigenous Medicine carried out part of their PhD studies at the IBMBB. These studies were supervised by IBMBB staff. One scientist from Tea Research Institute carried out her MPhil studies at the IBMBB and the research was co-supervised by IBMBB staff.

National Development through National/International Agencies

Collaborative research programmes with the Tea Research Institute, Plant Genetic Resources Centre, National Cancer Hospital Maharagama, Castle Street Hospital for Women, National Hospital Sri Lanka, North Colombo Teaching Hospital, Ragama, District General Hospital, Gampaha, Base Hospital Homagama, Medical Research Institute, Faculties of Medicine and Science, University of Colombo and Sri Jayawardenepura University, Faculty of Medicine, University of Kelaniya, Agri Biotechnology Centre, University of Peradeniya, Open University, Wayamba University and Industrial Technology Institute were continued during the year.

Director, Prof. Kamani Tennekoon served as a member of the National Coordinating Committee on Reproductive Health Research. She also took part in the Stake Holders meeting on a Draft National Policy on Human Genetic Material and Data for Sri Lanka organised by the National Science Foundation in 2012. She functioned as a member of the Editorial Board of Ceylon Medical Journal and reviewed research papers for several International Journals including Perinatal Medicine, and research proposals and progress reports to the National Science Foundation, National Research Council, other Faculties and Universities. She was an Advisor for the Scientific Committee and a reviewer for 3rd South Asian Associations of Physiological Societies Conference and delivered a plenary lecture on “Physiology in the Molecular Era” at 3rd SAAP conference held in Colombo.

Dr. Shiroma Handunnetti was a member of the Biotechnology Research Panel of the National Science Foundation, a Council member of Allergy and Immunology Society of Sri Lanka (AISSL) and Secretary of the AISSL in August 2012. She contributed in organizing the 6th Biennial Scientific Sessions, Immunology Course to laboratory Technologists and symposium on “Of Bites & Stings: Arthropods and marine invertebrates” conducted by AISSL. She was an Evaluator at the Young Scientists Forum Symposium of NASTEC and an examiner for undergraduate Dissertations, MSc and PhD, reviewer of PhD proposals for other Faculties/Universities. She was a reviewer for Annual Scientific Sessions of the SLAAS and two international journals, Acta Tropica and Pharmaceutical Biology and Journal of Environmental professionals Sri Lanka.



Dr. Jagathpriya Weerasena functioned as a Visiting Lecturer to the Wayamba University and Post Graduate Institute of Medicine. Dr. Handunnetti and Dr. Weerasena participated in the workshop organized by the National Science Foundation to discuss the “Draft Biosafety Act: A Dialogue with Scientists”

Mr. Kanchana Senanayake, Assistant Network Manager who is also in charge of the EMBnet node at the IBMBB was involved in designing of the new EMBnet Digest which is the e-news letter of the EMBnet and is involved in the content building of the new EMBnet website.

Emeritus Professor Eric Karunanayake continued to function as Chairman, National Research Council. He also served as a reviewer to International Science Foundation, Stockholm, Third World Academy of Sciences and to the Ministry of Science and Technology for the Programme on Indo-Sri Lanka collaboration.

Research Activities: A number of research programmes are in progress at the IBMBB in the fields of Tropical Diseases, Molecular Medicine (Cancer Genetics, Reproductive and Developmental Biology, human DNA variation) and Plant Molecular Biology. Each research programme has several projects which provide research training for MPhil/PhD and MSc students under the supervision of the Director, Collaborating Scientists and some of the academic staff of the Institute. Students, research projects and supervisors are listed in Table 1.

There were a total of 7 full papers in peer reviewed International Journals (6 published and 1 in press), and 3 papers were under review by International Journals. 43 research communications were presented at scientific meetings, 7 of them at International meetings. Publications and Communications are listed at the end of this document. Research Programmes and MPhil/PhD studies were funded by competitive research grants obtained by Academic Staff members, except two studies for which the PhD students (one student from the Tea Research Institute and the other student from the University Grants Commission and National Coordinating Committee on Reproductive Health Research) obtained funds. The latter two studies received partial support from the IBMBB. Details of funds obtained by Academic Staff / Visiting Professors are given in Table 2. In addition to the International Travel award received by a Research student, three National award were received by MSc students.

1) Research Programmes on Parasitic and Infectious Diseases

Parasitic and infectious diseases still contribute significantly to the disease burden of Sri Lankan population. A long standing disease, lymphatic filariasis, though is not fatal by itself has considerable morbidity and treatment options are limited. Leptospirosis (rat fever) and Dengue fever prevalence has recently increased alarmingly and both conditions are associated with significant morbidity and mortality. Delayed diagnosis and lack of understanding of the mechanisms underlying



disease process are responsible for higher number of deaths seen with these two diseases. Several research programmes are in place to address these issues.

A) Filariasis

i) Cloning and characterization of selected genes from *Setaria digitata*

Aimed at identifying drug targets for human lymphatic filariasis using the Cattle filarial parasite as the model organism.

Investigators: PI: Prof Eric H Karunanayake (IBMBB), Dr. Jagathpriya Weerasena (IBMBB), Mr Sameera Samarakoon (Scientific Assistant/IBMBB), Mr. Kanishka Senathilake (MSc student/IBMBB), Ms Eranga Mendis (MSc student/IBMBB)

Funding: SAREC to Prof EHK, IBMBB (MSc studies)

ii) Expression and characterisation of a growth factor like protein from *Setaria digitata*

Aimed at characterizing a protein isolated from *Setaria digitata* in order to understand its functions

Investigators: Dr. Jagathpriya Weerasena (IBMBB), Prof Eric H Karunanayake (IBMBB), Prof RS Dassanayake (Faculty of Science, UoC), Ms Wasana Rodrigo (PhD student/UoC), Dr. Wimal Ubhayasekara and Dr. Sanjeevani Sooriyarachchi (University of Uppsala)

Funding: SAREC to Prof EHK, Research Grants to Prof RS

B) Leptospirosis (rat fever)

Two projects were in progress in 2012.

i) Rapid immunodiagnostic tests for early detection of rat fever

Aimed at comparison of rapid immunodiagnostic tests. Available for leptospirosis diagnosis and to establish an in-house ELISA as a new rapid diagnostic assay.

Investigators: PI: Dr. Shiroma Handunnetti (IBMBB), Prof. Senaka Rajapakse (UoC), Prof. Sunil Premawansa (UoC), Prof. Janaka de Silva (University of Kelaniya) and Dr. Lilani Karunanayake (Medical Research Institute). Ms. M.J.R. Niloofa (MPhil/PhD student/IBMBB), Mr. T. Wolttan (MSc student/IBMBB)

Funding: National Science Foundation to Dr SH, IBMBB (MSc students)

One MSc completed in 2012



ii) Studies on factors contributing to pathogenesis of severe leptospirosis (rat fever) in Sri Lanka

Aimed to investigate different factors (host factors such as cytokines and genetic factors etc) that would have a predisposition for developing severe leptospirosis

Investigators: PI: Dr. Shiroma Handunnetti (IBMBB), Prof. Senaka Rajapakse (UoC), Prof. Sunil Premawansa (UoC), Dr. Lilani Karunanayake (Medical Research Institute), Ms. TRG Narmada Fernando (MPhil/PhD student/IBMBB), Mr. T Wolttan (MSc student/IBMBB)

Funding: National Research Council to Dr SH, IBMBB (MSc student)

One MSc completed in 2012

C) Dengue

One project was in progress in 2012

i) To examine the involvement of reactive nitrogen and reactive oxygen species (RNS & ROS) in Dengue infections in Sri Lanka

Aimed at understanding mechanisms underlying the disease and its complications so that information can be used by clinicians for providing better treatment

Investigators: Dr. Shiroma Handunnetti (IBMBB), Prof. Sunil Premawansa (UoC), Dr Gayani Premawansa (North Colombo Teaching Hospital) and Dr. Dharshan De Silva (GeneTech Research Institute), 4th year undergraduate student, Faculty of Science, UoC

Funding: National Institutes of Health, USA for “Dengue Population Genetics Program, McMaster University”, GeneTech, Faculty of Science, IBMBB (partial support for undergraduate project)

2) Research Programmes in Molecular Medicine

Several projects in biomedical sciences were carried out requiring either human or animal experimentation. These include studies on cancer, pregnancy and fetal growth, gynaecological diseases, pregnancy induced hypertension and human DNA variation etc.



A) Cancer

Cancer prevalence in Sri Lanka has increased recently and breast cancer affects approximately 1: 25 women. Some breast cancers are hereditary (cancer causing genes pass from mother to daughters) whereas others are sporadic (women with no family history of cancer developing the disease). Obesity is a factor predisposing to sporadic breast cancer, but how obesity causes cancer is not clear.

Two projects were in progress in 2012

i) Mutation analysis of DNA from clinically confirmed breast cancer patients and ovarian cancer patients

Aimed at identifying genetic mutations leading to hereditary breast cancer and ovarian cancer with the aim of developing diagnostic tests once mutations are identified

Investigators: Prof Kamani H Tennekoon (IBMBB), Prof Eric H Karunanayake (IBMBB), Drs. Indrani Amarasinghe and Kanishka Karunaratne (National Cancer Institute, Maharagama), Prof Preethika Angunawela (Faculty of Medicine, Colombo), Ms Sumadee De Silva (PhD student/IBMBB), Dr Prasanna Bandara (MSc student/IBMBB)

Funding: SAREC to Prof EHK and Prof KHT

One PhD submitted for examination in 2012

ii) Role of obesity hormone leptin in breast cancer

Aimed at identifying possible role of the obesity hormone leptin, its receptor and leptin and leptin receptor genotype in breast cancer

Investigators: Prof Kamani H Tennekoon (IBMBB), Prof Eric H Karunanayake (IBMBB), Dr. Indrani Amarasinghe (National Cancer Institute, Maharagama), Ms Chrishani Rodrigo (MPhil/PhD student/IBMBB)

Funding: National Research Council to Prof KHT

B) Reproductive and Developmental Biology

Three projects were in progress in 2012

i) Maternal and newborn factors (genomic and proteomic) affecting Birth weight

Aimed at identifying the role of the

- a) Leptin system in relation to birth size



b) IGF2 and H19 genotypes in relation to birth size

Investigators: PI: Prof.Kamani H Tennekoon (IBMBB), Ms.Sudeshini Hewage (MPhil/PhD student/IBMBB), Dr. JM Kumarasiri, Dr. Ajita Wijesundera (Castle Street Hospital for Women)

Funding: National Research Council to Prof KHT

ii) Role of heavy metals in Endometriosis

Aimed at studying the role of heavy metals in the development of endometriosis, using endometrial stromal cells isolated from patients

Investigators: Prof. K Tennekoon (IBMBB), Prof Hemantha Senanayake (UoC) and Prof Roshini John-Peiris (formerly of USJP), Dr. Nalinda Silva (PhD student, a probationary lecturer from USJP)

Funding: University Grants Commission, National Coordinating Committee on Reproductive Health Research of Sri Lanka to Dr. NS

One PhD submitted for examination in 2012 to USJP

C) Human DNA variation

One project was in progress in 2012.

i) Mitochondrial D loop sequences and haplotypes in Sri Lanka

Aimed at establishing a data base of mitochondrial D loop sequences of Sri Lankans which will be useful in forensic DNA testing and in evolutionary studies.

Investigators: Prof.Kamani H Tennekoon (IBMBB), Prof Eric Karunanayake (IBMBB), Ms.Ruwindi Ranasinghe (PhD student/IBMBB), Ms.Sreegowri (Msc student/IBMBB), Dr. Marie Allen (University of Uppsala)

Funding: National Research Council to Prof KHT

One MSc submitted for examination



D) Molecular studies on short stature

One project was in progress in 2012.

I. Growth hormone and GHRH-R mutations and short stature

Aimed at characterising mutations in the growth hormone GHRH-R genes in a cohort of children clinically and biochemically confirmed to have GH deficiency.

Investigators: PI: Prof Kamani Tennekoon (IBMBB), Prof KSH De Silva (UoC), Ms Sudeshini Hewage (IBMBB), Ms Sumadee De Silva (IBMBB), Ms. Bhavanthi Navaratne (IBMBB)

Funding: National Science Foundation to Prof KHT

Two MSc examinations completed in 2012.

3) Research programmes in Plant Molecular Biology and Plant metabolomics

A) Rice

Three projects were completed and one new project commenced in the area of Rice Molecular Biology

I. Genetic differentiation of Sri Lankan I rice varieties

Aimed at identifying genetic differences and similarities of traditional and wild rice.

Investigators: Dr. Jagathpriya Weerasena (IBMBB), Dr Kumudu Fernando (UoP), Ms Gowri Rajkumar (PhD student/IBMBB, a probationary lecturer, Department of Botany, University of Jaffna)

Funding: National Research Council to JW

One PhD (examination) completed in 2012

II. Rice fragrance gene

Aimed at Identification of molecular basis of fragrance in traditional rice variety ‘Suwandel’

Investigators: Dr. Jagathpriya Weerasena (IBMBB), Dr. Nisha Kottarachchi (Wayamba University), Ms Milani Peiris (Msc student/IBMBB)

Funding: NRC, IBMBB (Msc studies)

MSc examination completed in 2012



III. Molecular markers for herbicide resistant and susceptible rice

Aimed at investigating the possibility of developing molecular markers to identify herbicide resistant and susceptible rice

Investigators: Dr. Jagathpriya Weerasena (IBMBB), Dr. S Weerakoon (Open University), KHT Karunaratne (MSc student/IBMBB)

Funding: Open University of Sri Lanka, IBMBB (Msc studies)

MSc examination completed in 2012

IV. Assessment of Genetic diversity and tracing the origin of weedy rice

Aimed at assessing the level and distribution of genetic diversity of weedy rice population and tracing the possible genetic origin of weedy rice found in the paddy fields in Sri Lanka.

Investigators: PI: Dr. S.R. Weerakoon (Open University of Sri Lanka), Dr. Jagathpriya Weerasena (IBMBB), Ms. Dulangi Karunaratne MPhil/PhD student/IBMBB

Funding: National Science Foundation to Dr SRW

Commenced as a MPhil/PhD study in 2012

B) Tea

One study was completed, two were in progress and one new study on Tea Metabolomics commenced. The latter by National Research Council Postdoctoral Fellow.

I. Molecular characterization of tea (*Camellia sinensis L*) cultivars in Sri Lanka

Use of microsatellite markers to analyze genetic diversity of old seedling tea (*Camellia sinensis L.*) in Sri Lanka.

Investigators: PI: Dr K M Mewan (TRI), Dr S Abeysinghe (TRI), Dr, J Weerasena (IBMBB), Mr EPM Keshawa (MSc student)

MSc examination completed in 2012

Funding: National Research Council to Dr KMM

II. Genetic characterization of tea cultivars and marker for blister blight disease



Investigators: PI: Dr K M Mewan (TRI), Dr, J Weerasena (IBMBB), Mr KHT Karunaratne (PhD student/IBMBB)

Funding: National Research Council to Dr KMM

MPhil/PhD studies commenced in 2012

III. DNA phylogeny, morphology pathogenicity of fungi causing agent of stem canker in Tea

Investigators: Ms NHL Pradeepa (PhD student/IBMBB, TRI scientist), Dr, J Weerasena (IBMBB), Prof R Wijesundera (Dept of Plant Sciences, UoC), Dr S Abeysinghe (TRI)

Funding: TRI

IV. Metabolomics of tea germplasm of Sri Lanka

In this project major metabolites of tea plant such as catechins, caffeine, theobromine, flavonol glycosides, L-tyrosine, L-proline and other amino acids and carotenoids are profiled in relation to quality of tea, disease and drought resistance.

Investigator: Dr. Nimal Punyasiri (NRC Postdoctoral Fellow/IBMBB)

Funding: National Research Council to Dr. NP

C) Potato

I. Development of rapid method for detection of causative organism of brown rot of potato (*Ralstonia solanacearum*)

Aimed at developing a rapid method for detection of the causative organism of brown rot of potato which is a serious quarantine pest in imported seed potato. Collaborative study with National Plant Quarantine Service (NPQS), Katunayake and IBMBB

Investigators: PI. Dr. P.N. Dassanayake (USJP), Dr. Jagathpriya Weerasena (IBMBB), Ms. AAV Perera (MPhil/PhD student/IBMBB)

Funding: National Research Council to Dr PND

D) Mustard

I. Aimed at genetic differentiation of Sri Lankan mustard varieties and improving quality by interspecific hybridization with canola



Investigators: Dr. J Weerasena (IBMBB), Dr. S. R. Weerakoon (Open University), PKD Peiris (MPhil student/IBMBB)

Funding: National Science Foundation to Dr SRW

MPhil examination completed in 2012

E) Identifying insecticides from *Bacillus thuringiensis*

Aimed at Isolating and characterising of *Bacillus thuringiensis* strains with enhanced insecticidal activity that can be used to control rice and vegetable pests

Investigators: Dr. OVDSJ Weerasena (IBMBB), Dr. R. Samarasekera (Industrial Technology Institute), Ms. RAWMRSV Alahakoon (MPhil/PhD student/IBMBB)

Funding: National Science Foundation, National Research Council to Dr RS

MPhil/PhD commenced in 2012

4) Research on medicinal plants

A) Research on medicinal plants with Anti-inflammatory & Immunomodulatory effects

The focus of these studies was on medicinal plants used in the treatment of diseases either associated with or caused by inflammatory responses or those used as immunomodulators. Two studies were completed and one was in progress.

i) Anti-inflammatory activity of *Wallidda antidysenterica* (*Wrightia antidysenterica*) L.

Investigators: Dr. Shiroma Handunnetti (IBMBB), Prof. WD Ratnasooriya (UoC), Dr. GAS Premakumara (ITI), Ms. MTR Niloofa (MSc student /IBMBB)

Funding: IBMBB

MSc examination completed in 2012

ii) Immunomodulatory activity of *Coriandrum sativum* L. and *Coscinium fenestratum* L.

Investigators: Dr. Shiroma Handunnetti (IBMBB), Prof. WD Ratnasooriya (UoC) Dr. GAS Premakumara (ITI) Ms. Daniya Edward (MSc student/IBMBB)

Funding: IBMBB



iii) Studies on anti-inflammatory mechanisms on *Pleurotus ostreatus*, *Aegle marmalos* and *Munronia pinnata*

Investigators: Dr. Shiroma Handunnetti, Dr Sugandi Suresh (USJP), Dr Swarna D Hapuarachchi (IIM, UOC & PhD student, USJP), Two MPhil students (USJP)

Funding: University Grant Commission to Dr SDH and USJP

B) Anti-cancer effects of medicinal plants

Three studies were in progress

i) Aimed at scientifically proving purported anticancer effects of

- a) an Ayurvedic formulation containing three plants, namely *Nigella sativa* seeds, *Hemidesmus indicus* roots and *Smilax glabra* rhizomes
- b) Katupila

Investigators: Prof Ira Thabrew (NSF Fellow and Visiting Professor, IBMBB), Prof Kamani Tennekoon (IBMBB), Prof Dilip De Silva (UoC), Dr. Prasanna Galhena (probationary lecturer, University of Kelaniya and PhD student/UoK), Mr Sameera Samarakoon (PhD student/IBMBB), Ms Anuki Mendis (MSc student/IBMBB)

Funding: Dept. of Ayurveda, IBMBB, National Science Foundation

One PhD (registered at UoK) completed in 2012.

ii) *Mangifera zeylanica*, an endemic plant

Investigators: Prof Kamani H Tennekoon (IBMBB), Prof Ira Thabrew (Visiting Professor, IBMBB), Prof Dilip De Silva (UoC), Mr SSR Samarakoon (IBMBB), Mr Meran Keshawa (MPhil/PhD student/IBMBB)

Funding: National Research Council to Prof KHT
MPhil/PhD study commenced in 2012

iii) Antifilaricidal activity of selected endemic and medicinal plants

Aimed at evaluating possible antifilaricidal activity of selected endemic and medicinal plants

Investigators: Prof Eric Karunanayake (IBMBB), Prof Kamani Tennekoon (IBMBB), Prof Dilip De Silva (UoC), Mr Sameera Samarakoon (IBMBB), Mr Kanishka Senathilake (MPhil/PhD student/IBMBB)

Funding: Ministry of Higher Education
MPhil/PhD study commenced in 2012



iv) Antimicrobial activity of selected endemic and medicinal plants

Aimed at evaluating possible antimicrobial activity of selected endemic and medicinal plants

Investigators: Prof Dilip De Silva (UoC), Prof Kamani Tennekoon (IBMBB), Mr Sameera Samarakoon (IBMBB), Mr WS De Silva (MPhil/PhD student/UoC).
MPhil/PhD study commenced in 2012

5) Synthesis and characterization of novel compounds and their bioactivities

These studies are aimed at

i) Investigating the potential for Rhenium complexes as biological imaging agents

ii) Investigating the possible use of Platinum (Pt) complexes of primaquine and quinocide as improved anti-malarial agents

Investigators: Dr. Shiroma Handunnetti (IBMBB), Dr Theshini Perera (Dept of Chemistry, Faculty of Natural Sciences, USJP), Dr Inoka Perera (Faculty of Science, UoC), Two 4th year under-graduate students/USJP
Funding: USJP and IBMBB

Visitors to the Institute: The Institute had several overseas visitors during the year. The Academic visitors in 2012 included Professor Madis Metsis (PhD Professor and Chairman, Center for Biology of Integrated Systems, Tallinn University of Technology, Estonia), Dr. Achuthsankar S Nair (Director, State Inter University Centre for Bioinformatics, University of Kerala, Trivandrum, India), Dr. Hema Ramachandran (Speed IT Research Fellow College of Engineering Trivandrum, Kerala, India), Professor Gerald Schatten (Pittsburgh Development Center, Magee Institute for Women's Health, University of Pittsburgh, Pittsburgh, PA. USA), Prof Asgerally T. Fazleabas (Department of Obstetrics, Gynecology & Reproductive Biology, Michigan State University, Grand Rapids, MI. USA), Prof Primal De Lanerolle (Department of Physiology & Biophysics, University of Illinois at Chicago, IL. USA), Prof Richard Leach (Professor and Chair of Obstetrics, Gynecology and Reproductive Biology, Michigan State University), Prof A Dharmarajan (Curtin University, Australia), Prof Garry Allison (Curtin University, Australia), Prof Akram Taji (Queensland University of Technology, Australia), Dr. Suranjith Seneviratne, Lead Clinician in Immunology, St Mary's Hospital and Senior Lecturer in Immunology, Imperial College, London; Associate Professor & Team Leader, Infectious Diseases and Immunopathogenesis research Group, James Cook University Queensland, Australia.



Guest Lectures: Following guest lectures were held in 2012

Metagenomic approach to microorganism communities - from bioindication of environment to prediction of health problems – Prof Madis Metsis, Professor and Chairman, Centre for Biology of Integrated Systems, Tallinn University of Technology, Estonia

Computational drug design- Dr Achuthsankar s Nair, Director, State Inter-University for Bioinformatics, University of Kerala, Trivandrum, India

Scilab: A free software alternative to Matlab, Speed IT Research Fellow, College of Engineering, Trivandrum, Kerala, India

Cytokine and Complement deficiencies – by Dr Suranjith Seneviratne, Lead Clinician in Immunology, St Mary’s Hospital and Senior Lecturer in Immunology, Imperial College, London, UK

Immunopathogenesis of rheumatic heart disease by Prof Natkunam Ketheesan, Associate Professor & Team Leader, Infectious Diseases and Immunopathogenesis research Group, James Cook University Queensland, Australia

Human Resources

Professor Eric H Karunanayake, Founder Director and Emeritus Professor continued to work at the IBMBB in an honorary capacity, contributing significantly to teaching programmes and supervision of postgraduate students. Prof. Ira Thabrew continued to work at the IBMBB as a Visiting Professor.

Staff as at 31st December 2012 are listed in other page.

Constraints: Human Resources and Financial Resources have been the major constraint in implementing the activities as per Corporate Plan 2011-2015. After a long wait some academic cadre positions were received but the time taken for procedures involved has delayed appointment of recruited staff. Similarly Appointment of Academic Support staff had been stalled in view of instructions received not to proceed with these appointments.



Staff as at 31st December 2012

Permanent Cadre

Prof. Kamani H Tennekoon	Director and Professor of Molecular Life Sciences
Dr. Shiroma Handunnetti	Senior Lecturer Grade I
Dr. OVDSJ Weerasena	Senior Lecturer Grade II
Mrs. Anoma Ratnayake	Senior Asst Registrar
Mrs. Dammika Galkaduwa	Senior Asst Bursar
Mr. Kanchana Senanayake	Asst Network Manager
Ms. Sudeshini Hewage	Scientific Assistant
Mr. Sameera Samarakoon	Scientific Assistant
Mr. C S P Abeysinghe	Staff Technical Officer
Ms. Anoma Jayasoma	Technical Officer
Mr. N C A Gunasekera	Technical Officer
Ms. Thanuja Atapattu	Book Keeper
Ms. N K S Champika	Computer Applications Assistant
Ms. K W C S Fernando	Computer Applications Assistant
Mr. G.G.Sashika Niranjana	Computer Applications Assistant
Ms. Nadeesha Jayawardhana	Computer Applications Assistant
Mr. H Amila Sampath Chandrasoma	Library Assistant
Ms W S R Jayalath	Receptionist / Telephone Operator
Mr. Y B M N Y Bandara	Laboratory Attendant
Mr W G P M Thilakaratna	Laboratory Attendant
Mr. T S R Ruberu	Labourer

Temporary / Assignment

Ms. Sumadee De Silva	Teaching / Research Assistant
Ms MJR Nilloofa	Teaching / Research Assistant
Mr Kanishka Senathillake	Teaching / Research Assistant
Ms Priyanganie Dabare	Accounts Assistant



Current Researchers

- Prof. Kamani H Tennekoon - Director & Professor of Molecular Life Sciences, IBMBB
- Prof. Eric H Karunanayake - Emeritus Professor & Founder Director/IBMBB
- Prof. Ira Thabrew - Visiting Professor & NSF Research Fellow, IBMBB
- Dr. Shiroma Handunnetti - Senior Lecturer/Immunology, IBMBB
- Dr. O V D S J Weerasena - Senior Lecturer/Molecular Techniques, IBMBB
- Dr Nimal Punyasinghe - NRC Postdoctoral Fellow, IBMBB

Research Collaborators

- Prof. Preethika Angunawela - Professor in Pathology, Faculty of Medicine, UoC
- Prof. Dilip De Silva - Professor of Organic Chemistry, Faculty of Science, UoC
- Prof Janaka De Silva - Professor of Medicine, Faculty of Medicine, UoC
- Pr. Shamyia De Silva - Professor in Paediatrics, Department of Paediatrics, UoC
- Prof. Sunil Premawansa - Professor in Zoology, Faculty of Science, UoC
- Prof. W D Ratnasooriya - Professor of Zoology, Faculty of Science, UoC
- Prof Senaka Rajapakse - Professor in Clinical Medicine, Faculty of Medicine, UoC
- Prof. Hemantha Senanayake - Professor in Obstetrics and Gynecology, UoC
- Prof MHR Sheriff - Professor of Clinical Medicine, Faculty of Medicine, UoC
- Dr. Marie Allen - Associate Professor, Genetics and Pathology, University Uppsala
- Dr. Indrani Amarasinghe - Consultant Surgeon, National Cancer Institute, Maharagama
- Dr. Erik Rudloff-Bongcam - Associate Professor, Swedish Agricultural University, Uppsala
- Prof. Ranil Dassanayake - Dept of Chemistry, Faculty of Science, UoC
- Dr Nandana Dikmadugoda - Consultant Physician, Base Hospital, Homagama
- Dr. Kumudu Fernando - Former Director, Agri Biotechnology Centre, UoP
- Dr. Lilani Karunanayake - Consultant Microbiologist, Medical Research Institute, Colombo
- Dr. Kanishka Karunaratne - Consultant Gynaecologist, National Cancer Institute, Maharagama
- Dr. Nisha Kottearachchi - Senior Lecturer, Wayamba University
- Dr. J M Kumarasiri - Consultant Obstetrician Gynaecologist, Castle Street Hospital for Women
- Dr Aloka Pathirana - Consultant Surgeon, Colombo South Teaching Hospital
- Dr. GA Sirimal Premakumara - Senior Deputy Director, Industrial Technology Institute, Colombo
- Dr. Gayani Premawansa - Consultant Physician, North Colombo Teaching Hospital, Ragama
- Dr. R Samarasekera - Herbal Technology Division, Industrial Technology



	Institute, Colombo
Dr Praneetha Somaratne	- Consultant Microbiologist, Medical Research Institute, Colombo
Dr Sugandi Suresh	- Senior Lecturer, Dept of Biochemistry, Faculty of Medical Science, USJP
Dr S Weerakoon	- Senior Lecturer, Open University
Dr. Hasitha Wickramasinghe	- Consultant Physician, Base Hospital, Homagama
Dr. Ajita Wijesundera	- Consultant Obstetrician Gynaecologist
Mr. Harsha Wijewardena	- Consultant, University of Colombo School of Computing

Research (MPhil/PhD) students

Dr. B P Galhena	Probationary lecturer in Biochemistry, Faculty of Medicine, University of Kelaniya
Dr. Y N Silva	Probationary lecturer in Physiology, Faculty of Medical Sciences, University of Sri Jayawardenapura
Mr. B H K R Sugathadasa	Laboratory Manager, Hemas Hospital
Mr. EPM Keshawa	
Mr. Kanishka Senathilake	
Mr. Kelum Peiris	
Mr. KHT Karunaratne	
Mr. Sameera Samarakoon	Scientific Assistant, IBMBB
Mrs. Gowri Raajkumar	Probationary lecturer in Botany, Faculty of Science, University of Jaffna
Ms Chrishani Rodrigo	
Ms. AAU Perera	
Ms. KDK Karunarathna	
Ms. MJR Niloofa	
Ms. NHL Pradeepa	Research Officer, Tea Research Institute
Ms. RAWMRSU Alahakoon	
Ms. Ruwindi Ranasinghe	
Ms. Sudeshini Hewage	Scientific Assistant, IBMBB
Ms. Sumadee De Silva	
Ms. TRGN Fernando	
Ms. Wasana Rodrigo	



Research Publications: In the Authors names, staff/students /research assistants of IBMBB are indicated in bold. Students registered at other HEIs and carrying out work at the IBMBB are given in bold italic

Research Papers published in Indexed / Refereed Journals

Amarasekara DS, Wijerathna S, Fernando C, Udagama PV. Cost-effective diagnosis of male oxidative stress using the nitroblue tetrazolium test: useful application for the developing world. *Andrologia*. 2012 Nov 16. doi: 10.1111/and.12043.

Galhena BP, **Samarakoon SR**, **Thabrew MI**, Thammitiyagodage MG, Rathnasooriya WD, **Tennekoon KH**. Anti-inflammatory activity is a possible mechanism by which the polyherbal formulation comprised of *Nigella sativa* (seeds), *Hemidesmus indicus* (root), and *Smilax glabra* (rhizome) mediates its anti-hepatocarcinogenic effects. *Evidence-Based Complementary and Alternative Medicine* 2012; doi:10.1155/2012/108626.

Gunaratna RI, **Handunnetti SM**, Bulathsinghalage MRC, Somaratne P, Jayanaga A, De Silva HJ, Rajapakse S. Serum nitrite levels in Sri Lankan patients with leptospirosis. *Asian Pacific Journal of Tropical Medicine* 2012:75-78.

Perera MK, Herath NP, Pathirana SL, Phone-Kyaw M, Alles HK, Mendis KN, Premawansa S, **Handunnetti SM**. Association of high plasma TNF- α levels and TNF- α / IL-10 ratios with TNF2 allele in severe *P. falciparum* malaria patients in Sri Lanka. *Pathogens & Global Health*, Ref No PGH65 (In Press).

Samarakoon SR, **Thabrew I**, Galhena PB, **Tennekoon KH**. Effects of a standardized preparation of a decoction comprised of *Nigella sativa* (seeds), *Hemidesmus indicus* (roots), and *Smilax glabra* (rhizome) on the expression of p53 and p21 genes in human hepatoma cells (HepG2) and livers of mice with chemically induced hepatocarcinogenesis. *Tropical Journal of Pharmaceutical research* 2012; 11 (1): 51-61.

Samarakoon S, **Thabrew I**, **Tennekoon K**, Modulation of apoptosis in human hepatocellular carcinoma (HepG2 cells) by a standardized herbal decoction with anti-hepatocarcinogenic effects. *BMC Complementary and Alternative Medicine*- 2012, 12:25

Tennekoon KH, **Indika WL**, **Sugathadasa R**, **Karunanayake EH**, Kumarasiri J, Wijesundera A. LEPR c.668A>G polymorphism in a cohort of Sri Lankan women with pre-eclampsia / pregnancy induced hypertension: a case control study. *BMC Research Notes* 2012; 5: 308

Wijayalath W, Cheesman S, Tanabe K, **Handunnetti S**, Carter R, Pathiarana S. Strain-specific protective effect of the immunity induced by live malarial sporozoites under chloroquine cover. *PLoS ONE*, 2012: 7(9): e45861. doi:10.1371/journal.pone.0045861



Scientific Meetings where abstracts are published (print or electronic)

1. Arawwawala LDAM, **Thabrew MI**, Arambawela LSR and **Handunnetti SM**. *Trichosanthes cucumerina* Linn: As a potential anti-inflammatory agent. **Proceedings of the International Conference on Chemical Sciences**, Colombo, Sri Lanka, 21st June, 2012: NP12, 24.
2. De Silva J.L.P., Kalubowila H.V., Gunawardene Y.I.N.S., Dassanayake R.S., **Weerasena S.J**, Manamperi A, Jayathilake MM, Geekiyanage CM (2012) Detection and prevalence study of BCR-ABL translocations by RT-PCR in a selected cohort of Leukemic Patients in Sri Lanka and identification of atypical BCR-ABL mRNA transcripts. 13th Annual Academic session of Sri Lanka College of Hematologists, 11th August 2012, p43
3. **De Silva S, Tennekoon KH, Karunanayake EH**, Amarasinghe I, Angunawala P. A study of *BRCA1* genomic rearrangement in familial breast cancer in Sri Lanka. Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012, p40
4. **De Silva WS, Tennekoon KH, Karunanayake EH**. Breast cancer genetics: BRCA status and effect on breast cancer. Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012, p13
5. **Eugene EJ, Wickremesinghe SA, Kalugalage TL**, Rodrigo C, Wickremesinghe H, Dikmadugoda N, Somaratne P, De Silva HJ, Rajapakse S, **Handunnetti SM**. Comparison of serological diagnostic methods for Leptospirosis. Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012; 32.
6. **Eugene EJ, Wickremesinghe SA, Kalugalage TL**, Rodrigo C, Wickremesinghe H, Dikmadugoda N, Somaratne P, De Silva HJ, Rajapakse S, **Handunnetti SM**. A pilot study comparing two rapid immunodiagnostic tests with the microscopic agglutination test (MAT) for detection of leptospira antibodies. Proceedings of the 6th Biennial Sessions of the AISSL, 15th June, 2012; B1, 20. **(First Prize for Scientific Paper in Basic Immunology)**
7. **Eugene EJ, Wickremesinghe SA, Kalugalage TL**, Rodrigo C, Wickremesinghe H, Dikmadugoda N, Somaratne P, De Silva HJ, Rajapakse S, **Handunnetti SM**. A pilot study on comparison of rapid immunodiagnostic for confirmation of leptospirosis. Proceedings of the 125th Anniversary of The Sri Lanka Medical Association International Medical Congress, Colombo, Sri Lanka, 4th July, 2012; PP162,149.
8. **Eugene EJ, Wickremesinghe SA, Kalugalage TL**, Vithanage TDP, Rodrigo C, Wickremesinghe H, Dikmadugoda N, Somaratne P, De Silva HJ, Rajapakse S, **Handunnetti SM**. A pilot study on comparison of rapid immunodiagnostics for leptospirosis infections. Proceedings of the Annual Research Symposium, University of Colombo, 17th August, 2012; 259.



9. **Fernando MDM, Hewage AS, De Silva KSH, Marikar F, Tennekoon KH.** Screening for selected mutations and sequence variations in growth hormone releasing hormone receptor (GHRH-R) in children with growth hormone deficiency: Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012, p39
10. **Gammana-Liyanage I, Samarakoon SR, Thabrew I.** Effect of a herbal extract on Bcl-2 and Bax expression in endometrial carcinoma cells. Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012, p42
11. Halgaswaththa, T.; Atukorale, A.S.; Jayawardena, M.; **Weerasena, J.** (2012) Neural network based phylogenetic analysis. International Conference on Biomedical Engineering (ICoBE), IEEE, 155-160
12. **Hewage AS, Jayanthiny P, Tennekoon KH, Karunanayake EH,** Kumarasiri JM, Wijesundere APDeS. 1737 A/G Polymorphism in *H19* gene in a Sri Lankan cohort of mother-baby pairs: effect of maternal and newborn genotype on birth size. Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012, p37
13. Jayasuriya B, Suresh S, Abeytunga T, **Handunnetti SM,** Fernando G, Wanigatunga C. Anti-inflammatory activity of *Pleurotus ostreatus* mushroom in Wistar rats. The 18th Congress of the International Society for Mushroom Science, Beijing, China, 26th - 30th August, 2012, 118-119
14. Kalubowila H.V., De Silva J.L.P., Gunawardena Y.I.N.S, Manamperi A., Dassanayake R.S., **Weerasena S.J.,** Jayathilake M.M., Geekiyanage C.M. (2012) Comparative evaluation of accuracy of two widely used molecular diagnostic methods for JAK2 V617F mutation assessment; As PCR and PCR RFLP. 13th Annual Academic session of Sri Lanka College of Hematologists, 11th August 2012, p41
15. **Kariyawasam UGIU, Hewage S, Marikar F,** De Silva KSH, **Tennekoon KH.** Screening for selected mutations and sequence variants in the Growth Hormone 1 gene in children with growth hormone deficiency – A preliminary study. Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012, p38
16. **Kotigala SB, Gammana-Liyanage I, Samarakoon SR, Thabrew I, Tennekoon KH.** Effect of a decoction of *Flueggea leucopyrus* on the expression of Caspase 3 and Caspase 9 in endometrial carcinoma cells. Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012, p41
17. **Kotalawala SD,** Premakumara GAS, **Handunnetti SM** and Ratnasooriya WD. Immunomodulatory activity of combined hot water extract of *Coriandrum sativum* L. and *Coscnium fenestratum* L. in rat model. Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012; 35.
18. **Kotalawala SD,** Premakumara GAS, **Handunnetti SM** and Ratnasooriya WD. Immunomodulatory activity of combined hot water extract of *Coriandrum sativum* L. and *Coscnium fenestratum* L. in rat model. Proceedings of the 6th Biennial Sessions of the AISSL, 15th June, 2012; B4, 23.
19. **Niloofoa MJR,** Fernando GTG, Thevarajah W, Rodrigo C, Karunanayake L, De



- Silva HJ, Premawansa S, Rajapakse S, **Handunnetti SM**. Diagnosis of Leptospirosis: Confirmed vs probable cases of leptospirosis and the importance of testing paired serum samples. Proceedings of the MRI Research Day (OP 3), 23rd November 2012, 21.
20. **Peiris W.A.M.**, Kottarachchi N.S., **Weerasena, O. V. D. S. J.**, (2012) Variation in Sri Lankan aromatic rice: progress towards identification of new haplotype. Proceedings of the Fifth Annual Scientific Sessions of the Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo, 27th April 2012; p48.
 21. **Pradeepa N.H.L**, **Weerasena, O. V. D. S. J.**, Liyanaarachchi C.J., Karunajeewa D.G.N.P., Mahindapala K.G.J.P, Wijesundera R.L.C. and Abesinghe I.S.B.(2012) Sensitivity of *Macrophoma theicola* (Petch) Isolates Associated with tea in Sri Lanka to the Fungicide Hexaconazole. Proceeding of the Fourth Symposium on Plantation Crop Research, 155-161
 22. **Pradeepa N.H.L.**, **Weerasena, O. V. D. S. J.**, Liyanaarachchi C.J., Wijesundera R.L.C., Abesinghe I.S.B. (2012) Identification of *Macrophoma theicola* Petch in Tea using ITS region sequencing. Proceedings of the Fifth Annual Scientific Sessions of the Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo, 27th April 2012; p18.
 23. **Ranasinghe RACR**, **Tennekoon KH**, **Karunanayake EH**. DNA Markers in Forensic Analysis. Fifth Annual Scientific Sessions of the IBMBB, Colombo; p15
 24. **Rajkumar G.**, **Weerasena, O. V. D. S. J.**, Fernando K.K.S., Ratnasiri P.W., (2012) Morphological and Molecular comparison of *O.rhizomatis* accessions collected from different locations in Sri Lanka. Proceedings of the Fifth Annual Scientific Sessions of the Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo, 27th April 2012; p 17.
 25. Rukshala BAD, Badathurage M, **Handunnetti SM** and De Silva DE. Antioxidant and toxicity studies of some selected Sri Lankan medicinal plant extracts with potential cosmetic applications. Proceedings of the International Conference on Chemical Sciences, Colombo, Sri Lanka, 21st June, 2012: NP13, 25.
 26. **Samarakoon SR**, **Thabrew I**, **Tennekoon KH**. Cancer stem cells: implication for the treatment of cancer. Update Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012
 27. **Samarakoon SR**, **Thabrew I**, *Galhena PB* , **Tennekoon KH**. Anti-proliferative effects of *Mangifera zeylanica* bark in human hepatoma (HepG2) cells. Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012
 28. **Samarakoon SR**, **Thabrew I**, Galhena PB, **Tennekoon KH**. Evaluation of anti-carcinogenic potential of *Flueggea leucopyrus* (Willd) in human hepatoma (HepG2 cells). Sri Lanka Medical Association 125th Anniversary International Medical Congress, 2 to 6 July 2012. Ceylon Medical Journal 57: Supplement 1, June 2012 pp 145
 29. **Senathilake KS**, **Samarakoon SR**, **Karunanayake EH**. Physicochemical, functional and structural characterization of Yip1 domain containing Golgi membrane protein



from filarial parasite *Setaria digitata*. Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012

30. **Silva N, Tennekoon K**, Senanayake H, **Samarakoon S**. Association of metalloestrogen cadmium and endometriosis. At the 15th World Congress of Gynaecological Endocrinology held from 7th to 10th March, 2012. in Florence ,Italy.
31. **Silva N, Tennekoon K**, Senanayake H. Seeking answers to lingering questions on endometriosis using *in vitro* models: A review. Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012, p14
32. **Silva N, Tennekoon K**, Senanayake H, **Samarakoon S**, Fernando S, Wickramasinghe R, John RP. Establishment of human endometrial stromal cell cultures as in-vitro models to test the effects of metalloestrogens in women with or without endometriosis. Sri Lanka Medical Association 125th Anniversary International Medical Congress, 2 to 6 July 2012. Ceylon Medical Journal 57: Supplement 1, June 2012 pp 99
33. **Silva N, Tennekoon K**, Senanayake H, **Samarakoon S**, Fernando S, Wickramasinghe R. In vitro effects of cadmium on cultured human endometrial stromal cells. 3rd Biennial conference of the South Asian Association of Physiologist (SAAP3) 7th-10th November, Sri Lanka, p 84.
34. **Silva S.I.C., Weerasena, O. V. D. S. J.**, Senevirathne J.M. (2012) Differentiation of selected *Piper nigrum* L. (black pepper) cultivars in Sri Lanka using morphological and AFLP markers. Proceedings of the Fifth Annual Scientific Sessions of the Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo, 27th April 2012; p 43.
35. **Thanthrige M.R.L., Weerasena, O. V. D. S. J.**, Pushpakumara D.K.N.G., Senevirathne K.G.S.(2012) Genetic differentiation and identification of varietal specific AFLP markers for *Artocarpus heterophyllus* Lam. (Jackfruit) varieties in Sri Lanka. Proceedings of the Fifth Annual Scientific Sessions of the Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo, 27th April 2012; p 47.
36. **Tennekoon KH**, De Silva KSH, **Ganihigama D, Jayasinghe H, Hewage S, De Silva S** A mutation in the growth hormone releasing hormone receptor gene identified in a child with short stature. 125th Anniversary International Medical Congress, Sri Lanka Medical Association 2 to 6 July 2012, Ceylon Medical Journal 57: Supplement 1, June 2012 pp 91
37. **Tennekoon KH, Jayanthiny P, Karunanayake A, Jayasinghe H**, Kumarasiri JM, Wijesundera APDeS, **Karunanayake EH**. Correlation of insulin-like growth factor-1, and insulin-like growth factor binding protein-1 with leptin in healthy full term newborns. 3rd Biennial conference of the South Asian Association of Physiologist (SAAP3) 7th-10th November, Sri Lanka, p 79.
38. **Tennekoon K, Sugathadasa R**, Kumarasiri J, Wijesundera A, **Karunanayake E**. Leptin tetranucleotide (TTTC) n polymorphism, maternal leptin and birth weight in uncomplicated singleton pregnancies. 3rd Biennial conference of the South Asian



Association of Physiologist (SAAP3) 7th-10th November, Sri Lanka, p 83.

39. **Wahalathanthri YS, Kotalawala SD, Premakumara GAS, Handunnetti SM** and Ratnasooriya WD. Anti- inflammatory activity of aqueous plant extract of *Wallidda antidysenterica* (*Wrightia antidysenterica*) L. in rat model. Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012; 36.
40. **Wahalathanthri YS, Kotalawala SD, Premakumara GAS, Handunnetti SM** and Ratnasooriya WD. Anti-inflammatory activity of aqueous plant extract of *Wallidda antidysenterica* (*Wrightia antidysenterica*) L. in rat model. **Proceedings of the 6th Biennial Sessions of the AISSL**, 15th June, 2012; P6, 41. **(First Prize for Scientific Poster Joint Award)**
41. **Wickremesinghe SA, Eugene EJ, De Silva HJ, Rajapakse S, Handunnetti SM.** Assessment of oxidative stress in severe leptospirosis patients. Proceedings of the 5th Annual Scientific Sessions of the IBMBB, University of Colombo, 27th April, 2012; 34.
42. **Wickremesinghe SA, Eugene EJ, Kalugalage TL De Silva HJ, Rajapakse S, Handunnetti SM.** Assessment of serum anti-oxidant capacity and NOx levels in leptospirosis patients. Proceedings of the 6th Biennial Sessions of the AISSL, 15th June, 2012; P1, 36. **(First Prize for Scientific Poster Joint Award)**
43. **Wickremesinghe SA, Handunnetti SM, Kalugalage TL, Eugene EJ, Gunaratne RI, De Silva HJ, Rajapakse S.** Serum anti-oxidant capacity and NOx levels in leptospirosis patients. Proceedings of the Annual Research Symposium, University of Colombo, 17th August, 2012; 236.



Table 1: MPhil/PhD Degrees in Progress and New Registrations – Year 2012

Name of research student	Degree registered for and the Institute	Tentative Title of the thesis	Names of supervisors
Sumadee De Silva	PhD-IBMBB Thesis submitted for examination 2012	Characterization of mutations and sequence variants in breast cancer susceptibility BRCA 2 gene in a selected group of Sri Lankan breast cancer patients	K H Tennekoon E H Karunanayake
RACR Ranasinghe	PhD-IBMBB	A study of genetic polymorphisms in mitochondrial DNA hypervariable regions I and II of the Sri Lankan population	K H Tennekoon E H Karunanayake Marie Allen (UU)
G Raajkumar	PhD-IBMBB Degree awarded 2012	Genetic differentiation of Sri lankan rice varieties and identification of genes responsible for biotic and abiotic resistance in wild and weedy rice of Sri Lanka	OVDSJ Weerasena KKS Fernando (UoP)
S S R Samarakoon	PhD-IBMBB	Effect of a herbal decoction used in traditional medicine on the expression of NFkB and p53 genes in HepG2 cells	MI Thabrew KH Tennekoon
B H K R Sugathadasa	PhD-IBMBB	The predictive value of maternal leptin levels, soluble leptin receptor and leptin genotype in detecting pre-eclamptic toxemia / pregnancy induced hypertension	K H Tennekoon E H Karunanayake
R R Kumara	MPhil – IBMBB	Identification of anti-inflammatory active components and the mechanisms of anti-inflammatory effects of (<i>Ixora coccinea</i>)	SM Handunnetti W D Ratnasooriya (UoC) S A Deraniyagala (UoC)



Table 1 continued - MPhil/PhD Degrees in Progress and New Registrations – Year 2012

Name of research student	Degree registered for and the Institute	Tentative Title of the thesis	Names of supervisors
P K D Peiris	MPhil-IBMBB Degree awarded 2012	Differentiation of Sri Lankan mustard (<i>Brassica juncea</i>) varieties using AFLP markers and altering their fatty acid profile by interspecific hybridization with <i>Brassica napus</i> (canola)	OVDSJ Weerasena S R Weerakoon (OU)
N H L Pradeepa	MPhil-IBMBB	DNA phylogeny, morphology and pathogenicity of <i>Macrophoma theicola</i> patch, the causal agent of stem canker	S Abeysinghe (TRI) OVDSJ Weerasena R Wijesundera (UOC)
Sudeshini Hewage	MPhil-IBMBB	Selected polymorphisms of the <i>H19</i> and <i>IGF-II</i> genes in a Sri Lankan birth cohort: Effect of maternal and newborn genotype on birth size	KH Tennekoon
AAU Perera	MPhil –IBMBB	Molecular identification of <i>Ralstonia solanacearum</i> (E.F. Smith) in seed potato	PN Dassanayake (USJP) OVDSJ Weerasena
KHT Karunaratne	MPhil/PhD- IBMBB	Use of SSR markers for genetic characterization and finger-printing of recommended tea (<i>camellia sinensis L</i>) cultivars and tagging of blister blight disease resistance in tea	KM Mewan (TRI) OVDSJ Weerasena
RAWMRSU Alahakoon	MPhil-IBMBB	Isolation and characterization of <i>Bacillus thuringiensis</i> strains with enhanced insecticidal activity	OVDSJ Weerasena R Samarasekara (ITI)



Name of research student	Degree registered for and the Institute	Tentative Title of the thesis	Names of supervisors
EPM Keshawa	MPhil/PhD-IBMBB	Possible anti-carcinogenic effects of <i>Mangifera zeylanica</i> : Identification of active compounds and evaluation of molecular mechanism	KH Tennekoon Ira Thabrew ED De Silva (UoC)
KDK Karunaratne	MPhil-IBMBB	Assessment of Genetic diversity and tracing the origin of weedy rice population found in rice fields in Sri Lanka	S R Weerakoon (OUSL) OVDSJ Weerasena
Chrishani Rodrigo	MPhil/PhD-IBMBB	Determination of circulating levels of leptin, soluble leptin receptor (sOB-R) and nicotinamide phosphoribosyl transferase (Nampt), and selected leptin and leptin receptor genotypes in a cohort of sporadic breast cancer patients in Sri Lanka	KH Tennekoon EH Karunanayake
MJR Nillofa	MPhil-IBMBB	Studies on comparing rapid immunodiagnostic methods and immune status of leptospirosis patients in Western Province	S M Handunnetti
TRG Narmada Fernando	MPhil-IBMBB	Studies on factors contributing to pathogenesis of severe leptospirosis in Sri Lanka	S M Handunnetti
WWR Rodrigo	PhD, Faculty of Science, UOC	Structure and functional characterization of putative nuclear cell envelop like parasitic nematode growth factor protein from goat and sheep parasite, <i>Setaria digitata</i> and human filarial parasite <i>Wuchereria bancrofti</i>	R S Dassanayake (UOC) OVDSJ Weerasena EH Karunanayake



Name of research student	Degree registered for and the Institute	Tentative Title of the thesis	Names of supervisors
BP Galhena	PhD/UOK Degree awarded 2012	An investigation of the anti-carcinogenic mechanisms of a Sri Lankan herbal remedy and its ability to protect against radiation induced tissue injury	MI Thabrew KH Tennekoon
YN Silva	PhD/ USJP Thesis submitted for examination 2012	Association between endometriosis and heavy metals in a group of Sri Lankan women of reproductive age	Roshini John-Peris (USJP) H Senanayake (UOC) KH Tennekoon
Dr S D Hapuarachchi (IIM)	PhD – USJP	Comparison of hypoglycemic, hepatoprotective and anti-inflammatory activities of natural plants and callus cultures of <i>Munronia pinnata</i>	Dr S Handunnetti Dr Sugandi Suresh (USJP)
Ms Banukie Jayasuriya	MPhil-USJP	Anti-inflammatory activity of <i>Pleurotus ostreatus</i>	Dr S Handunnetti Dr Sugandi Suresh (USJP)
Ms KDK Peshala Kumari	MPhil-USJP	Anti-inflammatory activity of <i>Aegle marmelos</i>	Dr S Handunnetti Dr Sugandi Suresh (USJP)

ITI: Industrial Technology Institute; TRI: Tea Research Institute; OU: Open University; UoC: University of Colombo, UoK: University of Kelaniya; UoP: University of Peradeniya; UU: University of Uppsala, USJP: University of Sri Jayawardenapura

(Details on pages 7 and 11-21)



Table 2: Research Funding

Grantee	Name of the Project	Funding Agency	Funds made available in 2012
Prof. Kamani Tennekoon	A study on the genetic polymorphisms of Mitochondrial hypervariable regions I and II regions in Sri Lankans	National Research Council*	Rs. 2,000,000.00
Prof. Kamani Tennekoon	Characterisation of mutations and sequence variants in growth hormone and growth hormone releasing hormone receptor in a cohort of children with growth hormone deficiency	National Science Foundation	Rs. 810,100.72
Prof. Kamani Tennekoon	Identification of potential molecular and genetic markers of sporadic breast cancer and evaluation of selected traditional medicines as potential anti cancer drugs for breast and ovarian cancers using an <i>in vitro</i> model	National Research Council*	Rs. 321,053.00
Dr. Shiroma Handunnetti	Studies on factors contributing to pathogenesis of severe leptospirosis in Sri Lanka	National Research Council*	Rs. 99,070.00
Dr. Shiroma Handunnetti	Studies on comparing immunodiagnostic methods and immune status of leptospirosis patients in Colombo and Gampaha districts	National Science Foundation	Rs. 716,225.18
Prf. Ira Thabrew	Modification of Bleomycin induced cryogenic damages by Sri Lankan herbal decoction of <i>Nigella sativa</i> , <i>Hemidesmus indicus</i> , on peripheral blood lymphocytes and its direct cytotoxicity on human hepatoma HepG2 cells	Dept of Ayurveda	Rs. 123,333.00
Grantee	Name of the Project	Funding Agency	Funds made



			available in 2012
Dr. OVDSJ Weerasena	Two projects of which Dr. JW is co-investigator	National Research Council*	Rs. 2879, 231.42
Dr. OVDSJ Weerasena	Two projects of which Dr. JW is co-investigator	National Science Foundation	Rs. 889,278.86
Total funds provided from research grants**			Rs. 7, 838, 292.18

* These Grants are administered directly by NRC

** Excludes material supplied for a PhD project amounting to Rs.50,000.00 from Tea Research Institute; material and funds supplied for a PhD project amounting to Rs.205,000.00 by the University Grants Commission through the University of Sri Jayawardenapura and funding of MSc projects from MSc course fees.



Table 3: MSc Dissertations – 2012

Name of the Student	Gender	Year of entry	Dissertation submitted for examination	Degree Programme	Title of the Dissertation/Thesis
KVPK Bandara	M	2010	2013	MSc/MLS	Screening of ovarian cancer patients for a pathogenic mutation in <i>BRCA 2</i> gene
N Kanthakumaran	M	2010	2012	MSc/MLS	Molecular characterisation of inland and coastal populations of <i>Anopheles subpictus</i> in Sri Lanka: A mitochondrial DNA based analysis
B Sanchev	F	2010	2012	MSc/MLS	Molecular characterisation of cellulose degrading fungi and extraction and purification of cellulose
B Sinthanaichselvan	F	2010	2012	MSc/MLS	A preliminary analysis of mitochondrial haplogroups
A.P.P.R. Amarasinghe	F	2011	2012	MSc/MLS	Development of Barcodes for Sri Lankan medicinal plant <i>Plectranthus hadiensis</i>
A.S. Mendis	F	2011	2012	MSc/MLS	Evaluation of effects of methanolic extract of <i>Mangifera zeylanica</i> bark on apoptosis related gene expression in HepG2 cells
Name of the Student	Gender	Year of entry	Dissertation submitted for	Degree Programme	Title of the Dissertation/Thesis



			examination		
V.E.N. Mendis	F	2011	2012	MSc/MLS	Cloning and characterization of selected clones of <i>Seteraia digitata</i>
S. Muralitharan	M	2011	2012	MSc/MLS	Ankyrin repeat domain 30A (NY-BR-1) and Mammaglobin-B as markers for detection of micro-metastasis of breast cancer
C. Shanmuganathan	F	2011	2012	MSc/MLS	Development of multiplex RT-PCR for detection of apoptosis related gene expression in MCF7 breast cancer cell line
D. Edward	F	2011	2012	MSc/CMI	Immunostimulatory activity of combined hot water extract of <i>Coriandrum sativum</i> L. and <i>Coscinium tenstratum</i> L.
T. Wolttan	M	2011	2012	MSc/CMI	Assessment of the effect of reactive oxygen species on serum lipids and proteins in severe Leptospirosis patients
T.S.M. Fernando	M	2011	In progress	MSc/CMI	Assessment of IgM and IgG anti-leptospiral antibodies by ELISA established using <i>Leptospira biflexa</i> antigens



Annual Session



Founder Director Lighting the traditional oil lamp.



Vice Chairman UGC addressing the audience.



Prof. Ira Thabrew being awarded the Institute Lecturer plaque



A PhD student presenting her research findings



A PhD student delivering an Update Lecture



Certificate Course in Molecular Biological Techniques



Participants and Resource persons



Listening to a Lecture



Laboratory Sessions



Laboratory Sessions



Stem Cell Course



Prof. Richard E. Leach, M.D. , Department of Obstetrics, Gynecology and Reproductive Biology Michigan State University, delivering a lecture



**Professor Gerald Schatten
Professor, Vice-Chair and Division Director of Ob-Gyn & Repro Sciences, and Professor of Cell Biology & Physiology, & of Bioengineering, University of Pittsburgh School of Medicine
President, UNESCO's International Cell Research Organization, delivering a lecture**



**Asgi T. Fazleabas
Professor and Associate Chair, Department of Ob, Gyn & Reprod Biol
Director, Center for Women's Health Research
Co-Director, Reproductive & Developmental Sciences
Program Michigan State University coordinator from USA
being felicitated**



**Prof. Primal de lanerolle
Professor, Physiology and biophysics, University of Illinois at Chicago USA being felicitated**

**INSTITUTE OF BIOCHEMISTRY, MOLECULAR BIOLOGY & BIOTECHNOLOGY
UNIVERSITY OF COLOMBO**

STATEMENT OF FINANCIAL POSITION AS AT 31ST DECEMBER 2012

(Figures adjusted to the Nearest Rupee)

	Note	2012 Rs.	2011(Restated) Rs.
<u>ASSETS</u>			
<u>CURRENT ASSETS</u>			
Bank Balances	Note - 02	9,533,374	16,648,842
Investments in call deposits		8,556,567	2,024,296
Other Receivables	Note - 03	93,101	75,349
Advance A/C	Note - 04	1,976,817	968,444
Staff Loans	Note - 05	2,548,481	1,999,146
Investments	Note - 06	11,589,045	9,001,374
Deffered Expenses		186,056	
		34,483,440	30,717,451
<u>NON CURRENT ASSETS</u>			
Investments - Endowment Fund		2,358,192	2,186,620
Library Books and Periodicals	Note - 07	437,339	577,339
Lab Tools	Note - 07	132,287	255,842
Fixtures and Fittings	Note - 07	124,460	143,835
Lab and Teaching Equipments	Note - 07	30,415,207	8,472,982
Computers	Note - 07	1,510,025	1,386,855
Office Furniture & Equipments	Note - 07	3,445,925	3,412,264
		38,423,437	16,435,737
TOTAL ASSETS		72,906,877	47,153,188

**INSTITUTE OF BIOCHEMISTRY, MOLECULAR BIOLOGY & BIOTECHNOLOGY
UNIVERSITY OF COLOMBO**

STATEMENT OF FINANCIAL POSITION AS AT 31ST DECEMBER 2012 CONT.....

	2012	2011(Restated)
	Rs.	Rs.
<u>LIABILITIES</u>		
<u>CURRENT LIABILITIES</u>		
Other Refundable Deposits	15,000	71,800
Refundable Laboratory Deposits	1,531,300	1,096,000
Accrued Expenditure	2,092,855	2,366,271
	3,639,155.14	3,534,071
<u>NON CURRENT LIABILITIES</u>		
Provision for Gratuity	3,767,510	3,126,703
MSc Research Projects in 2013	3,506,249	2,200,000
Research Grants	2,668,769	3,182,388
	9,942,528	8,509,091
	13,581,683	12,043,162
TOTAL LIABILITIES	13,581,683	12,043,162
NET ASSETS	59,325,193	35,110,026
<u>EQUITY / NET ASSETS</u>		
<u>CAPITAL</u>		
Capital Grant Spent	29,195,367	7,681,819
Capital Grant Unspent	6,902,804	8,974,690
Gifts & Donations	2,059,624	1,774,239
	38,157,795	18,430,748
ACCUMILATED FUND	16,196,403	13,068,932
RESTRICTED FUNDS		
Institute Development Fund	2,522,980	1,347,755
Endowment Fund	2,448,015	2,262,592
	4,970,995	3,610,347
TOTAL EQUITY / NET ASSETS	59,325,193	35,110,026

Prepared & Certified by Senior Assistant Bursar

:

For and on behalf of the Board of Management

.....
Director

.....
Senior Asst. Registrar

INSTITUTE OF BIOCHEMISTRY, MOLECULAR BIOLOGY & BIOTECHNOLOGY
UNIVERSITY OF COLOMBO
STATEMENT OF FINANCIAL PERFORMANCE
FOR THE YEAR ENDED 31ST DECEMBER 2012
(Figures adjusted to the Nearest Rupee)

		2012	2011
		Rs.	Rs.
INCOME			
Govt. Grant for Recurrent Expenditure		34,660,000	34,010,806
Govt. Grant for Rehabilitation of Capital Assets		2,908,028	1,577,500
Amortization of Fixed Assets		6,270,054	3,066,896
Research Grants	Note - 10	1,063,604	207,625
Generated Income	Note - 11	4,714,416	3,719,667
Interest Income		1,215,482	687,851
Other Income	Note - 12	587,341	240,955
		51,418,925	43,511,299
Less : EXPENDITURE			
Personal Emoluments	Note - 13	15,191,756	13,436,767
Travelling		140,201	312,132
Supplies	Note - 14	5,795,988	7,581,235
Maintenance Expenditure	Note - 15	4,387,316	5,698,930
Contractual Services	Note - 16	13,415,861	10,942,747
Other Recurrent Expenses	Note - 17	1,806,511	1,327,426
Depreciation		7,133,547	3,335,609
		47,871,179	42,634,845
		3,547,746	876,454
Excess of Income over Expenditure			

INSTITUTE OF BIOCHEMISTRY, MOLECULAR BIOLOGY & BIOTECHNOLOGY
UNIVERSITY OF COLOMBO
CASH FLOW STATEMENT
FOR THE YEAR ENDED 31ST DECEMBER 2012

	Rs.	Rs.
Excess for the year	3,547,746	
Add : Adjustments for items not involving movement of Funds		
Provision for Gratuity	640,807.5	
Interest from Investment	(1,215,482)	
Depreciation	863,493	
Prior Year Adjustments	214,597	
Operating excess before working capital changes	<u>4,051,162</u>	
Increase in Receivables	(4,349,186)	
Increase in Payables	<u>105,084</u>	
Net cash flow from operating activities		(192,941)
 CASH FLOWS FROM INVESTING ACTIVITIES		
Acquisition of Fixed Assets	(28,572,747)	
Increase in Investments	(2,759,243)	
Interest Received from Investments	<u>1,098,453</u>	
		(30,233,536)
 CASH FLOWS FROM FINANCING ACTIVITIES		
Government Grant for Capital Expenditure	27,690,000	
Restricted Funds	<u>2,153,279</u>	
		29,843,279
NET INCREASE IN CASH EQUIVALENTS		(583,198)
Cash & cash equivalents at the beginning of the period		<u>18,673,138</u>
Cash & cash equivalents at the end of the period		<u>18,089,940</u>

INSTITUTE OF BIOCHEMISTRY, MOLECULAR BIOLOGY & BIOTECHNOLOGY
STATEMENT OF CHANGE IN EQUITY/NET ASSETS FOR THE YEAR ENDED 31/12/12

	Accumulated Fund	Reserves & Restricted Fund	Capital Grant Spent	Capital Grant Unspent	Gift & Donations	Total
Balance as at 31st December 2011	13,068,932	3,610,347	7,681,819	8,974,690	1,774,239	35,110,026
Adjustments in respect of previous Year	214,597					214,597
Restated Balance As at 31st December 2011	13,283,529	3,610,347	7,681,819	8,974,690	1,774,239	35,324,624
Transfer To Institute Development Fund	(634,872)	634,872				
Capital Grant Spent /Unspent During the Year			21,513,548	(2,071,886)		19,441,662
Increase in Specific Internal Funds		725,776				725,776
Amortization of Donations					285,385	285,385
Surplus / Deficit for the period	3,547,746					3,547,746
						-
Balance as at 31st December 2012	16,196,403	4,970,995	29,195,367	6,902,804	2,059,624	59,325,193



Notes to the Financial Statement

1. Significant Accounting Policies

1. Reporting Entity

IBMBB has been incorporated under the Ordinance No.1285/25 and gazetted on 23rd April 2003. The main administration is at No 90, Cumaratunga Munidasa Mawatha, Colombo 03. The Financial Statement of the IBMBB are prepared for the year ending 31/12/2012

2. Significant Accounting Policies

2.1. Basis of Preparation

The Financial Statements are prepared on the historical basis of accounting, in conformity with Sri Lanka Public Accounting Standards and Generally Accepted Financial Policies of the Institute of Chartered Accountants of Sri Lanka. All accounting policies adopted are applied consistently with those of previous year, where necessary comparative figures have been adjusted to confirm the changes, in presentation of current year figures.

The financial statements are prepared in Sri Lanka Rupees, which is the functional and presentation Currency.

2.2 Conversion of Foreign Currencies

All foreign currency transactions are accounted for at the exchange rates prevailing at the date of the transactions; gains and losses resulting from the settlement of such translation and from the translation of monetary assets and liabilities denominated in foreign currencies are recognized in the income statement. Monetary assets and liabilities denominated in foreign currencies are translated at exchange rates prevailing on the balance sheet date.

2.3 Assets and the bases of their valuation

2.3.1 Property Plant and Equipment (PPE)

Property, Lab and Teaching Equipments include the items purchased out of government grant, research grants internally generated funds and donations.

Property and Equipment are recorded at cost of purchase together with any incidental expenses thereon. The assets are shown at cost less accumulated depreciation. Assets received as grants have been valued at their fair value.



2.3.2 Impairment

An asset's carrying amount is written down immediately to its recoverable amount, such reduction is recognized as an expense immediately.

2.3.3 Amortization

Amortization is recognized in income statement on a straight line basis over the estimate useful life of the assets.

2.3.4 Gain or loss on disposal

Gains and losses on disposals are determined by comparing proceeds with carrying amount. These are included in the income statement

2.3.5. Subsequent cost

Subsequent costs are included in the asset's carrying amount or recognized as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the items will flow to the institute and the cost of items can be measured reliably. All other repairs and maintenance are charged to income statement during the financial period in which they are incurred.

2.3.6. Depreciation

Assets, for which dates of purchase are known, depreciation is provided in proportion to the number of months completed or such assets were used from the date of purchase. Assets of which exact date of purchase is not known depreciation is provided for the whole year in which they were purchased. Depreciation will be provided on the year of the sale/ disposal in proportion to the number of months the assets over the estimated useful life of assets.

Depreciation has been charged to income statement on all property and equipment on the straight line basis at the following rates per annum in order to write off the cost of such assets over their estimated useful lives.

Rates of Depreciation

- | | | |
|-----------------------------------|---|---------------|
| • Fixtures & Fittings | - | 10% per annum |
| • Office Furniture & Equipment | - | 10% per annum |
| • Computers | - | 20% per annum |
| • Laboratory & Teaching Equipment | - | 20% per annum |
| • Lab Tools | - | 20% per annum |
| • Library Books and Periodicals | - | 20% per annum |



2.4 Income and Expenditure

2.4.1. Government Grant

Grants received from the General Treasury of the Government of Sri Lanka and Tuition Fees received are recognized as income in the period in which the related costs are recognized.

Government grants utilized to acquire assets less liabilities are recognized as deferred income.

Total capital grants received for the year was Rs.27.69 .The Grants that have been used for the operational activities for the year was Rs.34.66 Mn.

2.4.2 Revenue Recognition

(a) Government Grants (Recurrent)

The Government Recurrent grants are recognized in the period in which they are received.

(b) Government Grant (Capital)

Grant relating to purchase of property and equipment are included in non-current liabilities as deferred income and are credited to the income statement on a straight line basis over the expected life of the related assets.

(c) Student Registration

Student Registration fees are recognized as revenue only on the receipt of fees.

(d) Course Fees

Course fees are recognized over the period of instruction. Where adequate information is not available to make such allocation to different financial periods, fees are recognized as income on a cash basis.

(e) Investment Income

Interest income received out of Investment is accounted on accrued basis.

2.4.3 Receivables

Receivables are stated at the amounts that they are estimated to realize.

2.4.4 Cash & cash equivalents

Cash & cash equivalents comprise cash & bank balances and short term investments.



2.4.5 Current Assts

Current Assets classified in the balance sheet are those which will be recovered within one year after the Balance Sheet date.

2.4.6 Current Liabilities

Liabilities classified as current Liabilities in the balance sheet are those that fall due for payment within one year from the Balance sheet date. All known liabilities have been accounted for in preparing the final statements.

2.4.7 Cash flow statement

The cash flow statements have been prepared using the “Indirect Method” for the purpose of the statement of cash flow. Cash & cash equivalents are comprised cash & bank balances, short term deposits.

2.4.8 Employee Benefits

(a) Defined benefit plans

Provision is made in the accounts for retirement gratuities at rates applicable under the payment of Gratuity Act No.12 of 1983. Although employees should complete a minimum period five years of continued employment to qualify for gratuity payments under the Act, provision is made from the commencement of employment on the assumption that all employees intend to continue in employment to at least five years.

(b) Defined Contribution Plans- UPF & ETF

Employees are members of the University Provident Fund and Employees Trust Fund. Contribution to defined contribution plans, UPF, EPF & ETF are recognized as an expense in the income statement as incurred.



Review on internal audit functions in the year 2012

Five (05) Audit Committee meetings of the Institute of Biochemistry, Molecular Biology and Biotechnology were held in 2012 where attention was paid mainly to matters referred to in the audit inquiries made by the government Audit Branch and those mentioned in the final report of the Auditor General.

The Audit Committee has recommended procedures to be followed to rectify the shortcomings highlighted in those audit reports.

Similarly, methodologies have also been established for sending prompt replies to government audit inquiries.

The internal audit reports submitted by the Internal Audit Branch of the Colombo University too were discussed at the Audit Committee and recommendations have been made for the improvement of the internal administration of the Institute and the control of expenditure.

Audit Committee reports have been submitted at the meetings of the Board of Management and approved.

K.E.W.Jayasiri
Senior Assistant Internal Auditor



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கணக்காய்வாளர் துறைமை சித்திபதி திணைக்களம்
AUDITOR GENERAL'S DEPARTMENT



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EC/C/IBMBB/2012/FA

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 திகதி }
 Date }

30 September 2013

The Director
 Institute of Biochemistry, Molecular Biology and Biotechnology

Report of the Auditor General on the Financial Statements of the Institute of Biochemistry, Molecular Biology and Biotechnology Affiliated to the University of Colombo for the year ended 31 December 2012 in terms of Section 17 of the Institute of Biochemistry Molecular Biology and Biotechnology Ordinance No.01 of 2003 and Sub-section 108(1) of the Universities Act, No. 16 of 1978.

The audit of financial statements of the Institute of Biochemistry , Molecular Biology and Biotechnology Affiliated to the University of Colombo for the year ended 31 December 2012 comprising the statement of financial position as at 31 December 2012 and the statement of financial performance and cash flow statement for the year then ended and a summary of significant accounting policies and other explanatory Information was carried out under my direction in pursuance of provisions in Article 154(1) of the Constitution of the Democratic Socialist Republic of Sri Lanka read in conjunction with Section 17 of the Institute of Biochemistry , Molecular Biology and Biotechnology Ordinance No. 1 of 2003 enacted under Sub – section 107(5) and Section 18 of the Universities Act, No. 16 of 1978 and Sub-section 108 (1) and III of the Universities Act. My comments and observations which I consider should be published with the Annual Report of the Institute in terms of Sub- section 108(1) of the Universities Act, appear in this report. A detailed Report in terms of Section 108(2) of the Universities Act was furnished to the Director of the Institute on 22 May 2013.

1.2 **Management's Responsibility for Financial Statements**

The Management is responsible for the preparation and fair presentation of these financial statements in accordance with Sri Lanka Public Sector Accounting Standards and for such internal control as the management determines is necessary to enable the preparation of financial statements that are free from material misstatements whether due to fraud or error.

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1.3 **Auditor's Responsibility**

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Sri Lanka Auditing Standards. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatements of the financial statements whether due to fraud or error. In making those risks assessments, the auditor considers internal control relevant to the Institute's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Institute's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. Sub – Sections (3) and (4) of Section 13 of the Finance Act No. 38 of 1971 give discretionary powers to the Auditor general to determine the scope and extent of the audit.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

2. **Financial Statements**

2.1 **Opinion**

In my opinion, the financial statements give a true and fair view of the financial position of the Institute of Biochemistry, Molecular Biology and Biotechnology Affiliated to the University of Colombo as at 31 December 2012 and its financial performance and cash flows for the year then ended in accordance with Sri Lanka Public Sector Accounting Standards.



2.2 Comments on Financial Statements

2.2.1 Presentation of Financial Statements

The financial statements of the Institute of Biochemistry, Molecular Biology and Biotechnology Affiliated to the University of Colombo for the year under review had been presented for audit on 28 February 2013. After the completion of the audit, the draft report was issued on 30 May 2013. The revised financial statements incorporating the rectification of accounting deficiencies valued at Rs. 3,673,838 pointed out in the draft report had been presented on 18 June 2013.

2.2.2 Accounts Receivable and Payable

The following observations are made.

- (a) The sum of Rs.22,840 shown in the financial statements as receivable from sponsors remained without being recovered from the year 2009. Action had not been taken either for the recovery of the amount or for write off from the books of the Institute.
- (b) The Data Cable for communications between the University and the Institute had been damaged in the Landscaping of the Faculty Grounds of the University Project due to the fault of the contractor and the Institute had spent a sum of Rs. 284,000 for restoring the cable. Even though the loss had been received by the University of Colombo from the contractor, action had not been taken up to date for the recovery of that amount to the Institute.

2.2.3 Non – compliance with Laws , Rules , Regulations and Management Decision

The following non – compliances were observed.

Reference to Laws, Rules, Regulations, etc	Non – compliance
(a) Financial Regulations of the Government of Sri Lanka	
Financial Regulation 371	Even though advances should be granted only to officers in Staff Grades advances totalling Rs. 252,023 had been granted in 09 instances to third parties.



- (b) Financial Regulation 1646 and the National Budget Circular No.150 of 07 December 2010.
- (i) Fuel amounting to 1,393 liters valued at Rs.495,000 had been supplied for the Motor Vehicle procured on hire basis during the period January to October 2012 without examining the distances travelled for balancing the fuel in the Daily Running Charts.
- (ii) Despite the priority given for the elimination of hired Motor Vehicles a Motor Vehicle had been procured on hire basis on 27 October 2011. A sum of Rs. 819,000 had been paid up to November 2012 at the rate of Rs.63,000 per month inclusive of the salary of the driver.
- (c) Treasury Circular No. IAI/2002/02 of 28 November 2002. A Register of Computer Accessories and Software had not been maintained.
- (d) Treasury Circular No. 842 of 19 December 1978 A Register of Fixed Assets in form General 287 had not been maintained for all fixed assets.
- (e) Sub – section 3.1 of paragraph 3 of Circular No. 2004/LS/1 Instructions of the National Institute of Library and Information Sciences. Even though library books should be surveyed annually , a survey of books had not been conducted from the inception of the Library up to 30 May 2013.

3. Financial Review

3.1 Financial Results

According to the Financial Statements presented, the financial results of the Institute for the year ended 31 December 2012 before taking into account the Government grant for recurrent expenditure, had been a deficit of Rs. 34,020,282 and the corresponding deficit for the preceding year amounted to Rs.34,711,852. The financial results for the year under review after taking into account the Government grant of Rs.37,568,028 for recurrent expenditure , amounted to a surplus of Rs. 3,547,746 and after taking into account the Government grant of Rs.35,588,306 for recurrent expenditure of the preceding year the surplus for that year amounted to Rs.876,454. The improvement of Rs. 2,671,292 in the year under review as compared with the preceding year had been due mainly to the increase of Rs. 1,979,722 in the Government grant and Rs.994,749 in the earned income.



4. Operating Review

4.1 Performance

The Institute had conducted 02 Postgraduate Courses in Master of Philosophy and Doctor of Philosophy and 3 courses in Master of Science in the year under review. As such 05 Postgraduate Courses had been Conducted.

The particulars of enrolment of students and the number graduated during a period of 06 years are given below.

Year	Registration of Students	Number who sat the final Examination	Number Referred	Number of Failures	Courses abandoned Number
2007	12	13	02	-	01
2008	18	10	-	01	02
2009	13	12	04	-	02
2010	20	11	03	-	02
2011	10	18	04	02	01
2012	29	12	01	-	01

4.2 Management Inefficiencies

Action had not been taken up to date to secure the transfer of the land belonging to the University of Colombo on which the Institute is situated. As such the value of the land and the building of the Institute had not been shown in the financial statements while that had not even been disclosed in the financial statements.

4.3 Idle and Underutilized Assets

The following observations are made.

- The Machine 22 BECRMION TC 100 ULTRA CENTRIFUGE out of order over a period of 3 years and Machine J2 HS – CENTRISING out of order over a period of 1 ½ years taken off from use due to being out of order. Action had not been taken to repair them.
- A sum of Rs. 245,796 in two Bank Accounts maintained by the Institute had been idling over a long period.



5. **Systems and Controls**

Deficiencies in systems and controls observed during the course of audit were brought to the notice of the Director of the Institute from time to time. Special attention is needed in respect of the following areas of control.

- (a) Fixed Assets
- (b) Advances
- (c) Library Administration

H.A.S. Samaraweera

Auditor General.



Auditor General
Department of Auditor General

Reply to the report of the Auditor General on the Financial Statements of the Institute of Biochemistry, Molecular Biology and Biotechnology affiliated to the University of Colombo for the year ended December 31, 2012 in terms of Section 17 of the Rules of the Institute of Biochemistry, Molecular Biology and Biotechnology No. 01 of 2003 and Section 108 (1) of the University Act No. 16 of 1978

The relevant report is sent herewith.

In addition to the said reply, I hereby submit for your attention, the journal entries made to rectify those shortcomings and a document that compares between the trial balance period prior to the making of journal entries and the post trial balance period.

Director
Institute of Biochemistry, Molecular Biology and Biotechnology

Auditor General
Department of Auditor General

Reply to the report of the Auditor General on the Financial Statements of the Institute of Biochemistry, Molecular Biology and Biotechnology affiliated to the University of Colombo for the year ended December 31, 2012 in terms of Section 17 of the Rules of the Institute of Biochemistry, Molecular Biology and Biotechnology No. 01 of 2003 and Section 108 (1) of the University Act No. 16 of 1978

2.2.2 Accounts receivable and payable

- (a) Since there is no further possibility of receiving the sum of Rs. 22,840/= shown as receivable from sponsors, journal entry No.....was written off and the matter was brought to the notice of the Auditor General by letter dated 17.06.2013.
- (b) The sum of Rs. 284,000/= spent on this contract was reimbursed to the institute concerned by the University of Colombo by cheque No. 144626 dated 03.10.2013

2.2.3 Non-compliance with Laws, Regulations and management decisions



(a) Apart from the academic and administrative officers, there is only one staff officer on the staff of this Institute and he is the staff Technical Officer. The greater part of advances obtained are those obtained for the payment of money to the members of the Board of Management and those of other Committee meetings. Those advances were made available to staff members who are reliable and have had a long period of service in this Institute. In order to minimize such incidents as much as possible, the Senior Assistant Registrar was instructed by the Audit and Management Committee held on the 12th December, 2013 to obtain financial advances in respect of management and other committee meetings only.

(b) i. Although a request was made by letter to the Treasury on 19th March 2012 for a vehicle for the Director of the Institute on hire purchase, approval has not yet been received.

(b)ii Action will be taken to instruct the relevant officials to act with more responsibility with regard to this function.

(c) Agreed.

Instructions have been given to the Computer Division to maintain a separate Register relating to computer software and hardware according to a form prepared as per relevant treasury circular since 2013 and it is already in operation.

(c) The register has been prepared by the Committee appointed to prepare a Fixed Asset Register and although the opinion of the Audit Committee was sought at its meeting on 11th July, 2013 as to the suitability of its long term institutional use and its suitability for the requirements of the Auditor General, no worthwhile reply has been given so far by the Superintendent of Audit.

(e) Action is being taken to subject all library books to an annual verification from 2013.

4. Operational Review

4.2 Management inefficiencies

Action is being taken to take a suitable step following discussions between the Board of Management and the University of Colombo. Action will also be taken to disclose this matter in the Financial Statements of 2013.



4.3 Idle and under-utilized assets

Reply has been given by a letter dated 20.12.2012.

Account No. 86100151189712

This is a Bank Account maintained in respect of a project in operation under direct aid. The work of this Project is nearing completion and the expenses relating to this Project only are paid by this.

A/C No. 86100301189728

Not agreed.

Although the balance of this Account has been Rs. 65,219.70 since 2016, every year the amount received on maturity of the fixed asset and the interest thereon is credited to the account and it is the policy of the Institute to deduct the expenses incurred on the gold medal given to the most outstanding male/female student of the respective Study Course and to invest the balance in a fixed deposit. This is a Current Account in respect of an overtime fund for a specific purpose.

Director

Institute of Biochemistry, Molecular Biology and Biotechnology



Failures and Justifications

Human Resources and Financial Resources have been the major constraint in implementing the activities as per Corporate Plan 2011-2015. Full time MSc courses conducted by the IBMBB have a full time research component for one Semester requiring 1:1 supervision of students. MPhil and PhD programmes are based on full time research. IBMBB's training programmes have provided human resources to local Universities, Research Institutes and Private Sector. Without adequate academic cadre, IBMBB is finding it difficult to expand its high quality human resource training programmes. It has only 4 cadre positions for Academic staff (one Professor and 3 Senior Lecturers)

After a long wait, some academic cadre positions were received but the time taken for procedures involved has delayed appointment of recruited staff. Similarly Appointment of Academic support staff had been stalled in view of instructions received not to proceed filling these appointments.

The ongoing programmes have so far been sustained due to the significant contributions of the Founder Director (who holds an Emeritus Professorship) and other retired Senior Academics. Sustainability of teaching and research programmes and expansion require additional academic cadre, postdoctoral fellows and scientific assistants. Considering that the IBMBB's Masters programmes have approximately 80% completion rate with approximately 80% of the students completing the course in the first scheduled attempt; and that several of IBMBB MSc students have won National Awards; one international travel award was won by a research student. Supporting the IBMBB by providing adequate cadre will be a very cost effective way to enhance postgraduate training and international standing of the Sri Lankan University system.



Plan of work for 2013

Teaching:

Establishment and maintenance of a comprehensive resource pool of Faculty
Strengthening modern teaching /learning methods
Continue & strengthen existing MSc programmes
Improving English Language, Scientific Writing, Presentation, Communication and IT skills of students subject to availability of requested funds

Research:

Establish new research programmes for R & D work aimed at personalized medicine and Human DNA variation

Introduce sector based, demand driven short and medium term postgraduate courses

Generate new knowledge through Research programmes based on genomics, proteomics in biomedical sciences (ie: cancer, reproduction and development, parasite and vector biology, human identification etc.), plant molecular biology (eg: rice, tea, rubber and other agricultural crops) and medicinal plants (eg: anti-cancer, anti-inflammatory, anti-malarial) Screen for bioactive compounds from existing traditional medicine to alleviate fears of toxicity.

Continue/Strengthen and expand existing MPhil/PhD programmes

Establishment of new MPhil/PhD programmes subject to obtaining required funds
Maintain and updates existing Laboratory Equipment/Encourage and assist obtaining in international competitive research grants by Faculty members/collaborators

Obtain new laboratory equipment in keeping with developments in the field

Maintain appropriate dust free temperature controlled environment needed for laboratory work

Strengthen collaborations with research institutes, hospitals and academia

Encourage and assist in participation at international conferences by faculty members/collaborators/students to present research carried out at IBMBB.

Services:

Establishment of DNA diagnostic services for Cancer, and establish new tests for other diseases and for the plantation sector

Training of professionals and technocrats in the application of Molecular Life Sciences and bioinformatics through workshops, certificate courses

Introduction of New certificate courses.



Maintenance of mirrors of biological databases providing access to other HEIs in Sri Lanka/Establishment of a National database of Medicinal plants in Sri Lanka
Dissemination of knowledge through scientific sessions, guest lectures etc

Establish a repository of Archives giving landmark developments in the field of Molecular Life Sciences
Develop content for E-learning in bioinformatics
Marketing and Business Development – hold an open day to attract more students
Consultancies
Enact memoranda of understanding with Agricultural/Plantation sector Research Institutes with there has been collaboration, previous or ongoing and with other research institutes
Strengthen collaborative research programmes with health sector
Strengthen cooperation with other Faculties/Universities and private sector Educational Institutes
Enhance existing and develop new collaborations with Universities and Research Institutes overseas
Develop collaboration with Industry
Maintenance of available infrastructure and upgrading/updating facilities
Rehabilitation/Modification of buildings

Maintaining International Standards:

Presentation of finding at International Conferences
Publications in International peer reviewed journals
Performance based appraisal to take into account on SCI publications
Acquisition competitive International Research Grants
Short term overseas training for faculty and academic support staff to update themselves in current technologies
International collaborations
Provide opportunities for short term overseas training of Academics, Networking Staff, and bioinformatics staff

Governance:

Corporate Social Responsibility – eg: human resource training for newly established Universities



Summary of Annual Report and Accounts - 2012

1. Details of Resources & Students:

Faculty	Course	Total Students	Total Academic Staff	Total Non Academic Staff
	MSc in Molecular Life Sciences	31	3	15*
	MSc in Cellular and Molecular Immunology	9		
	Msc in Bioinformatics	11		
	MPhil	17		
	PhD			
	Registered for MPhil/PhD in other Institutions and carried out research work leading to MPhil/PhD at IBMBB	6		
	Exposure of undergraduate students to Molecular Biology & Immunology	11		
Total		85	3	15

* Include Academic Support Staff-03

01 - Assistant Network Manager

02 - Scientific Assistant

2. Details of Academic Staff

Faculty	Subject	Medium	Senior Prof	Professor	Senior Lecturer	Lecturer	Asst. Lecturer	Instructors
	Molecular Life Sciences	English		1				
	Cellular & Molecular Immunology	English			1			
	Molecular Techniques	English			1			
Total				1	2			



3. Details of Non-Academic Staff

Faculty/ Branch	Most Senior	Senior Staff	Junior Staff	Minor Employees
IBMBB	1-Senior Assistant Registrar 1-Senior Assistant Bursar	1-Staff Technical Officer	1- Technical Officer, Gr.II 1-Trainee Technical Officer	2- Laboratory Attendant
			4- Computer Applications Assistant 1- Book Keeper	1- Labourer
			1-Library Assistant	
			1-Telephone Operator cum Receptionist	
Total	2	1	9	3

4. Detail of Research, Innovation and Publications:

Subject	Published	Commercialized	Presented
a. No of Researches	17 MSc Dissertations 1 MPhil Thesis 1 PhD Thesiis		
b. No of Innovations			
c. No of Journals / Conference Proceedigns	1		
d. No of Books			
e. No of Research Articles *	7		
f. Other (Research , Communications)			43
Total	8		43

(Details of MSc Dissertation given in 2011 Annual Report, Journal articles published and research communications are described on pages 27 to 32)



5. Details of Programme, Seminars & Workshops:

Subject	Attended	Completed	Presented	Attended	Completed	Presented
	2011			2012		
a. No of Postgraduate Degree Programme	2	2	2	3	3	2
b. No of Postgraduate Diploma Programme						
c. No of Degree Programme						
d. No of Diploma Programme						
e. No of Certificate Programme	1	1	1	1	1	1
f. Other						
1. Stem cell course				1	1	
2. Annual Scientific session	1	1		1	1	
3. Demonstration on DNA Isolation and analytical separation	1	1		1	1	
Total	5	5	3	7	7	3

(Refer pages 7-10 for details)

6. Details of Awards Received:

Subject	No of Awards	No of Academics	No of Students	No of Awards	No of Academics	No of Students
	2011			2012		
a. Local awards						
b. National Awards				3	1	3
c. International Awards	2		2	1		1
d. Other						
Total			2	4		4

(Details for year 2012 are on pages 4 and 7)

7. Details of New Course Started – 2012 Registration

Faculty	Course	Medium	Certificate	Diploma	Postgraduate Diploma	Master	MPhil	PhD



IBMBB	Msc in Bioinformatics	English				1		
Total						1		

10. Details of Recurrent Expenditure:

	Subject	2011 Rs.	2012 Rs.
a.	Personal emoluments	13,436,767	15,196,756
b.	Travelling	312,132	140,201
c.	Supplies	7,581,234	5,795,987
d.	Maintenance	5,698,930	4,987,592
e.	Contractual Services	10,942,747	13,415,861
f.	Other (including depreciation)	5,082,150	9,574,931
	Total	43,053,960	49,111,329

11. Details of Capital Expenditure:

	Subject	2011 Rs.	2012 Rs.
a.	Acquisition of furniture & Office Equipments	813,428	601,769
b.	Acquisition of Machineries (Computers & Lab Equip.)	6,642,965	27,967,112
c.	Acquisition of Building & Structures	-	-
d.	Other (Library Books)	294,571	68,033
	Total	7,750,965	28,636,914

13. Details of Project Expenditure (Local/ Foreign Funded):

Name	TCERs.	Exp in 2011Rs.	Exp in 2012 Rs.	Cumulative Exp as at 31.12.2012	% of Physical Progress
SAREC Grant		339,177	-	339,177	work planned for 2012
NSF Grant		262,269	1,572,473	1,834,742	



					completed
Total		601,446	1,572,473	2,173,919	

14. Details of Financial Progress (Expenditure):

	Subject	Provision in 2012 Rs.	Exp in 2012 Rs.	Savings/Excess Rs.
a.	Recurrent except Project	37,568,027	*43,618,915	(6,050,880)
b.	Capital except Project	24,090,000	26,853,858	** (2,763,858)
c.	Project-Local funded –NSF Grant	1,999,920	1,572,473	427,447
d.	Project –Foreign funded-SAREC(Research Grant)	-	-	-
Total		63,657,947	72,045,246	(8,387,291)

*with depreciation

**Funds in the Capital Grant Unspent Account has been used.

15. Details of Financial Progress (Generated Income) :

	Source of Revenue	Provision in 2012 Rs.	Collection in 2011 Rs.	Deficit/ Surplus Rs.
a.	Undergraduate Studies	not relevant	not relevant	
b.	Postgraduate Studies	3,750,000	3,327,165	(422,835)
c.	Consultancies	-	-	-
d.	Other	650,000	1,547,547	897,547
Total		4,400,000	4,874,712	474,712

16. Financial Performance Analysis-2012:

	Subject	Formula	Exp. Per Student Rs.
a.	Recurrent Expenditure per Student (RE)	RE/ No of Student strength	<u>Course</u> Mphil & PhD Rs.677,647.00 ^{a)} MSc Rs.239,416.00 ^{b)}
			11,520,000/17** 8,619,000/36
b.	Capital Expenditure	CE/ No of Student	<u>Course</u>



per Student (CE)	strength		
		Mphil & PhD Rs.378,082.00	6,376,401/17
		MSc Rs.118,081.00	4,250,934/36
Total			

**** Includes** funds from NRC Grants which are not operated by IBMBB

- a) Few students had completed lab work. Thus expenditure per student appears less than last year as there were no laboratory costs for these students.
- b) As Msc Bioinformatics students / Msc Molecular life sciences 2012 intake have not yet started projects cost appears less than last year's cost per student.