



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

Annual Report – 2015



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Quick Reference

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Directors 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.

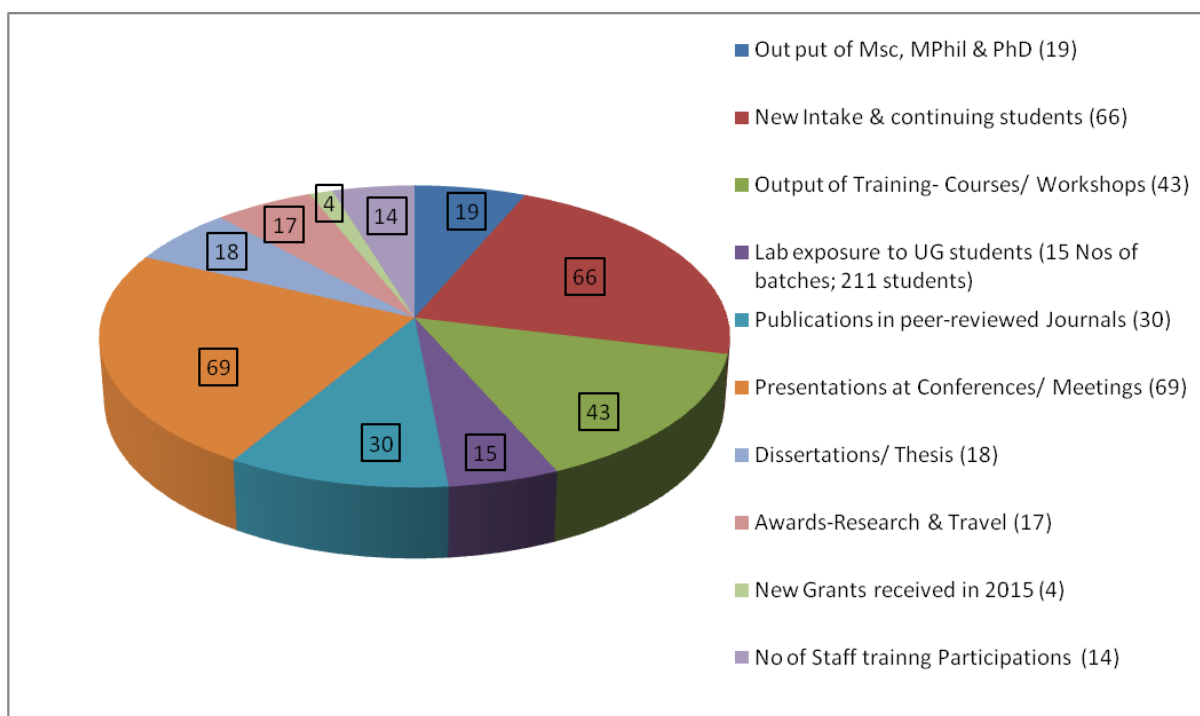
The Institute of Biochemistry, Molecular Biology and Biotechnology (IBMBB) was ceremonially declared open on 28th April, 2004 by Her Excellency Anne Marie Fallenius, the Head of Mission, Embassy of Sweden, Colombo, and Prof. Ulf Pettersson, Vice-Rector, University of Uppsala, Sweden. The Ordinance of 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 and laminar floor hoods and other facilities such as cell culture, insectary, cold rooms, local area net working, access to internet via dedicated optical fiber cable and is fully air-conditioned.

The main thrust areas of activities of IBMBB are postgraduate programmes including MSc, MPhil and PhD programmes. The IBMBB does not admit undergraduate students but contribute to undergraduate teaching programmes of the University of Colombo. 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 and the allied fields relevant to the development of Sri Lanka and to encourage young graduates to proceed for further advanced studies leading to PhD. At the IBMBB, novel methods of teaching such as assignments, workshops, seminars, formulation of research proposals are used.

Twenty seven students registered at the IBMBB and 5 students registered at other Higher Educational Institutes carried out research work leading to MPhil/PhD at the IBMBB. One PhD was successfully completed and one PhD thesis was submitted for examination. Thirteen new MSc students were admitted in March 2015, for MSc in Molecular Life Sciences and Cellular and Molecular Immunology. A total of three training courses/ workshops were held in 2015. Seven international and two national travel awards, and eight national awards for research were won by staff and research students. Eighteen original research papers were published in International Journals, five papers were in press and seven papers were under review by International Journals during the year 2015. Sixty nine research presentations including thirty six at International conferences were made by IBMBB staff and students. The details are described elsewhere in this report.

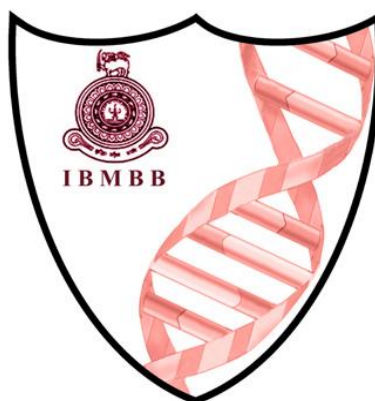


Performance 2015 at a glance





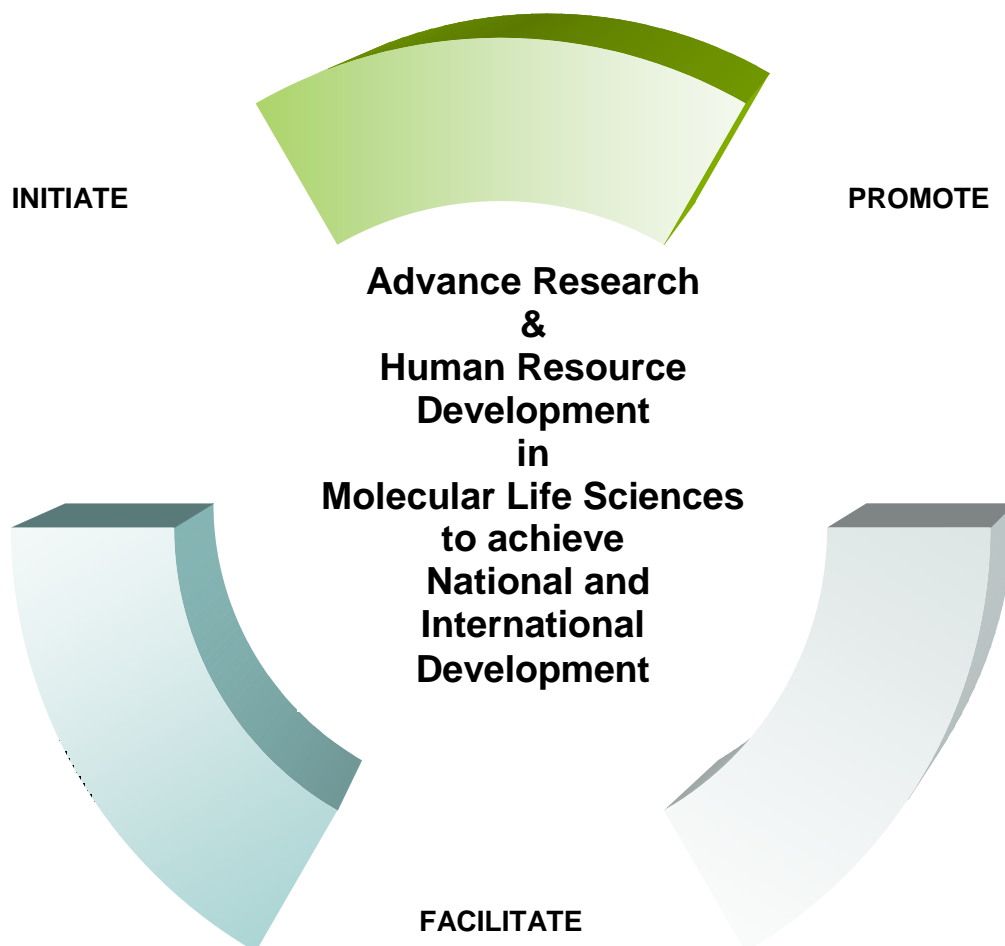
1. VISION



“To be
an
**International
Centre of Excellence
In
Molecular Life Sciences”**



2. MISSION





Director

Professor Shiroma Handunnetti - from 2015.02.12
(Acting Director - up to 2015.02.11)

Board of Management

Professor Shiroma Handunnetti, Director-IBMBB, (Chairperson)

Mrs M.D.M.D. Karunatilake, Secretary Nominee, Director (Development), Ministry of
Higher Education (from 2015.06.11),

Mrs. B.M.S. Bandara (upto 2015.02.12)

Professor S. Mohanadas, UGC Nominee (upto 2015.02.12)

Professor Eric H Karunanayake, UGC Nominee

Professor Ira Thabrew, UGC Nominee

Mr C Maliyadde, UGC Nominee

Professor Ramanee Wijesekera, UGC Nominee (from 2015.05.13)

Mr Thilak Karunaratne, Council Nominee (from 2015.05.29)

Mr Rajan Asirwatham, Council Nominee (from 2015.05.29)

Professor Ariyaranee Gnanathanasan, Senate Nominee

Ms W Indira Nanayakkara, Senate Nominee

Professor Jennifer Perera, Dean/Medicine, University of Colombo, Ex-officio

Professor KRR Mahanama, Dean/Science, University of Colombo, Ex-officio

Professor Gihan Wickramanayake, Director, University of Colombo School of Computing,
Ex-officio

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

Professor Kamani Tennekoon – On invitation



I**nternational 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 of the European Molecular Biology Network (EMBnet).

International Awards

Prof. Eric Karunanayake and seven students at IBMBB, Mr. Meran Ediriweera, Ms. Jayamini Harasgama, Ms. Sudeshini Hewage, Ms. Vahinipriya Manoharan, Ms. Anuka Mendis, Ms. Chrishani Rodrigo, Ms. Tharmini Sundaralingam received **Third World Academy of Science (TWAS)** travel awards to participate in the Regional Conference of Young Scientists on **Nanoscience and Nanomaterials** held from 18th to 20th February 2015 in Bangalore, India.

Prof Kamani Tennekoon was invited by the **Federation of Asian and Oceanian Biochemistry and Molecular Biology** to deliver a symposium lecture at their 14th Congress held in Hyderabad, India in November, 2015.

National Awards received in 2015:

- a) **NRC Merit awards for Scientific Publications in 2013**
Prof. Kamani Tennekoon
Prof Shiroma Handunnetti
Dr. Sameera Samarakoon
- b) **University Research Awards -2014:** Prof. Kamani Tennekoon
- c) **National Science Foundation award for Support Scheme for Supervision of Research Degrees (SUSRED) 2015:** Prof Shiroma Handunnetti
- d) **Hiran Tillekeratne Special Awards for outstanding Postgraduate Research - University Grants Commission:** Dr. Sameera Samarakoon
- e) **Sri Lanka Medical Association - S. Ramachandran Prize for the best paper in Nephrology:** Prof. Ira Thabrew
- f) **Sri Lanka Medical Association – Karunadasa Rajasuriya award for Tropical Medicine for the Research paper** - Rajapakse et al 2015:
Prof Shiroma Handunnetti



Travel Awards

National Science Foundation – Travel awards

Prof Shiroma Handunnetti

- participated at the 9th International Leptospirosis Society meeting in Semarang, Indonesia, 6-10th October 2015.

Dr. Sumadee De Silva

-participated at the American Association of Cancer Research: New Horizons in Cancer Research Conference, Shanghai, China, 12th-15th November 2015

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 under research publications and communications.

Human Resource Development

Postgraduate Programmes

MPhil/PhD Programmes: Three new MPhil/PhD students registered during 2015. Twenty four students who registered previously at the IBMBB continued their work. Research programmes on which MPhil/PhD work is based, are described under Research activities. Five students registered at other Higher Educational Institutes for MPhil/PhD carried out a part of the studies at the IBMBB. One of the IBMBB PhD students submitted the thesis for examinations and one student registered at other Higher Educational Institutes for PhD completed the PhD *viva voce* examination in 2015.

(See Table 1 & 2 for the list of MPhil/PhD students and Table 3 for funding received for ongoing and new research programmes on which their studies are based). Table 4 & 5 includes the details on PhD and MSc students completing examination process.

MSc Programme: Eleventh batch of MSc in Molecular Life Sciences (MLS) and ninth batch of MSc in Cellular and Molecular Immunology (CMI) students were admitted in March 2015, with five and eight students registering for the two Masters (MLS and CMI) courses respectively.

Seventeen students of MSc in Molecular Life Sciences continued their 3rd semester research work in 2015 and Seventeen students (fifteen students of 2014 intake, one student of 2011 Intake and one student of 2013 intake) submitted their Dissertation for examination (see Table 5 for details).

Seven students of MSc in Cellular and Molecular Immunology continued their 1st and 2nd semester work in 2015. One student of this batch (CMI) requested to join the junior batch.

In 2015, Ms Anupama Siriwardena received the Glaxo SmithKlineBeecham award for the Best Student in MSc in Cellular and Molecular Immunology. Professor Eric H



Karunanayake Gold Medal for the Best Student in MSc in Molecular Life Sciences was not awarded, as none qualified.

Of the 2012 Intake of students for MSc in Bioinformatics, five were awarded MSc in Bioinformatics and two were awarded Post-graduate Diploma. One student, who is eligible for Post-graduate Diploma requested the degree to be awarded in 2016 and another student withdrew his resignation from the course since he was eligible for Post-graduate Diploma. One student requested for an extension to complete the project work.

Following staff members continued as Course Coordinators:

Dr OVDSJ Weerasena - MSc in Molecular Life Sciences

Ms Daniya Edward - MSc in Cellular and Molecular Immunology

Mr Kanchana Senanayake- 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 (Emeritus Professor, University of Colombo)

Prof. Kamani H Tennekoon (IBMBB)

Prof. Ira Thabrew (Emeritus Professor, University of Kelaniya)

Prof. Marie Allen (Rudbeck Laboratory, University of Uppsala)

Prof. Vasanthi Arsaratnam (Faculty of Medicine, University of Jaffna)

Prof. Rohini Fernandopulle (Kothalawala Defence University)

Prof. Rohini Hewamanne (Faculty of Science, University of Colombo)

Prof. Shyamala Tirimanne (Faculty of Science, University of Colombo)

Prof. Sumedha Wijeratne (Faculty of Medicine, University of Colombo)

Dr. Nilanthi Dassanayake (University of Sri Jayewardenepura)

Dr Sumadee De Silva, Dr Sameera Samarakoon and Dr. Jagathpriya Weerasena (IBMBB)

Dr. Nalinda Silva (University of Sri Jayawardenapura)

Dr. Sumithra Tissera (Family Planning Association)

Mrs. Kantha Lankathilake (Faculty of Medicine, University of Colombo)

Ms. Sudeshini Hewage, Dr Sumadee De Silva, Dr. Sameera Samarakoon, Ms. Ruwandi Ranasinghe and Ms Jayamini Harasgama assisted with the practical course.

The following academics/visiting faculty gave lectures/ and/or conducted tutorials/practical classes for the **MSc in Cellular and Molecular Immunology**:

Prof. Eric H Karunanayake, Prof. Kamani H Tennekoon and (IBMBB)

Prof Shiroma Handunnetti (IBMBB),

Prof Sunil Premawansa (Faculty of Science, University of Colombo)

Prof. Anura Weerasingha (South Asian Institute of Technology and Medicine)

Dr Enoka Corea, (Faculty of Medicine, University of Colombo)

Dr Rajiva de Silva and Dr Dhanushka Dasanayake (Medical Research Institute)

Dr. Omala Wimalaratne and Dr Preethi Perera (Formerly, Medical Research Institute)

Dr. Dharshan De Silva (Genetech Research Institute)

Dr. S. Ginige (Epidemiology Unit, Ministry of Health)

Dr Thusitha Gajanayake (Novartis Phrama Services)

Dr. Rajitha Samarasinghe and Dr. Damayanthi Peiris (Cancer Hospital, Maharagama)

Dr. Baddhika Jayaratne (NHSL).



Ms. Daniya Edward and Ms Narmada Fernando assisted the practical course.

(See Table 5 for MSc Dissertations of those who completed Dissertations work in 2015 and will graduate in 2016).

7th Academic Sessions of IBMBB was held on 21st May 2015. Prof. Mohan De Silva, Chariman /UGC participated as the Chief Guest on the occasion. Prof Kamani Tennekoon delivered the - Prof Stanley Wijesundera Memorial Lecture titled “From the mitochondrial Eve to contemporary Sri Lankan women: A glimpse into the genetic landscape’. This was a very successful event at IBMBB having received a total of 32 abstracts, including 5 from external researchers. There were 17 and 15 abstracts selected as Oral and Poster presentations respectively. Two presenters were unable to make their oral presentations.

An **Open Day** programme was conducted on 29th September 2015. This was a successful event organized by the IBMBB. About 42 students and parents who came to familiarize with the MSc, MPhil/PhD and other short training courses at IBMBB. This programme included providing course details, lab tours, pre-registartion, consultations/discussions with staff and senior students on courses conducted / available at IBMBB.

Short Courses : Three short (5 day) courses were held in 2015,

- i) Training course on “From DNA to Protein-Gene Cloning and Recombinant Protein Expression - January 2015
- ii) Training Course in Cell Culture - May 2015
- iii) Workshop on Gene Annotation - December 2015

i) Training Course on “From DNA to Protein-Gene Cloning and Recombinant Protein Expression

Training Course on Gene Cloning and Recombinant Protein Expression was conducted from 9th to 13th January 2015. Twenty participants including the MSc students attened this course. The workshop was highly rated by the participants. This course was coordinated by Dr OVDSJ Weerasena. Dr Sanjeewani Sooriyaarachchi (Uppsala University, Sweden) was the main resource person for this course.

ii) Training Course in Cell Culture

In order to provide an exposure to theory and practical knowledge with hands on experience in Cell Culture Techniques, a 5-day training course in basic cell culture techniques with hands on practice was conducted from 25th to 29th May 2015. Twelve participants were participated in this course. This course was conducted with the support of six local recourse person (four from IBMBB; Prof Eric Karunanayake, Prof Kamani Tennekoon, Prof Ira Thabrew, Dr Sameera Samarakoon, Dr Prasanna Galhena from University of Kelaniya and Dr Nalinda Silva from University of Sri Jayewardenepura) and seven Research Assistants at IBMBB. The course content and hands on experience provided by the course was highly appreciated by the participants. Participants



included staff members from other Universities/Research institutes and postgraduate students from other Universities. This course was coordinated by Dr Sameera R Samarakoon. Five PhD students also contributed as resource persons for this course.

iii) Workshop on Gene Annotation

Workshop on Gene Annotation was held from 7th to 11th December 2015. The resource persons were Dr. Erik Bongcam –Rudloff, Dr. Jonas Soderberg, Hadrien Gourle, Aleksei Polajew, Swedish University of Agriculture & EMBnet Node, Uppsala, Sweden. There were 11 participants (from IBMBB), and this course was coordinated by Mr. Kanchana Senanayake, Assistant Network Manager of IBMBB.

Exposure to Molecular Biology and Immunology offered to Undergraduate students

Sixteen students from the Faculty of Agriculture and Plantation Management, Wayamba University had one-day visits to the IBMBB for exposure to Biotechnology Applications on 14th October 2015.

Ms. Ruwandi Ranasinghe (Scientific Assistant), Ms. Jayamini Harasgama and Ms. Lakshika Jayasekara (Teaching Assistants) conducted practical demonstrations on DNA isolation and analytical separation for two batches of BSc (Hons) Biomedical Science students from BMS. In the first batch, 12 students participated on 26th March 2015 and in the second batch 12 students participated on 27th March 2015. For Demonstration on DNA isolation and analytical separation, a batch of 46 students participated in three days (9th, 10th and 11th June 2015) as three groups since a maximum of 11 students could be accommodated for these hands on demonstration per day. Another batch of 51 students participated for same Demonstrations on 3rd, 4th and 5th November 2015 as three groups (17 students per group).

Prof Handunnetti and Immunology PhD students conducted one-day practical demonstration on immunological techniques to 60 students from the Open University of Sri Lanka as a component of the First semester studies of their Bachelor of Medical Laboratory Sciences from 21st, 22nd & 23rd September 2015 (a maximum of 20 students per day).

IBMBB conducted hands on practicals in Molecular Biology for one BSc Human Biology (Biochemistry Specialization) student from Department of Biochemistry, nine Microbiology students and four Plant Biology students from Department of Botany, University of Sri Jayewardenepura on 30th March 2015.



Staff Development and Welfare

Dr. Sumadee De Silva had successfully completed the certificate course in teaching in higher education (CTHE) 2014 programme, reached the standard to qualify for the Staff and Educational Development Association (SEDA), UK and received both CTHE and SEDA awards in 2015.

Ms Sudeshini Haewage completed the CTHE course and submitted the Portfolio to the Staff Development Center in November 2015.

Nine staff members received training and attended training courses in various aspects as given in the Table (next page).

As a part of the activities conducted to commemorate the 11th anniversary of the Institute, a sermon was delivered by Ven. Kahagolle Somawansa Thero at the IBMBB on 2015.05.27 from 2.00-4.00 p.m.

The **Welfare Society of the IBMBB** was established at IBMBB with its constitution approved in February 2015. Nineteen members joined the IBMBB Welfare Society. Prof Shiroma Handunnett (Director), Ms Anoma Ratnayake (Sen. Asst. Registrar) and Mr Krishantha Herath (Sen Asst. Bursar) were appointed as the advisors and the following member were appointed as the office bearers of the IBMBB Welfare Society,

- Dr OVDSJ Weerasena - President
- Dr Sumadee De Silva - Vice President
- Ms Sumali Champika - Secretary
- Ms Thanuja Athapaththu - Treasurer

Dr. Sameera Samarakoon, Mr. Kanchana Senanayake, Ms. Sudeshini Hewage, Ms. Chathurika Fernando were appointed as the Committee members.

An Outbound Training Programme was provided to the staff as a Welfare Society activity for the career development of the employees of IBMBB. This outbound training programme was held at the Academy of Adventure at Belihuloya on 7th November 2015. It was a successful event with the participation of a 22 members including twelve Staff members and the rest being their family members.

Blood donation programme was held on 2015.07.21 in collaboration with the National Cancer Institute, Maharagama. Seventy participants donated blood. This event was organized by The Welfare Society of IBMBB with the contributions and participation of staff and students of the IBMBB.



Staff training received in 2015

Name of staff member	Designation	Workshop/Training Course	Duration
Mr. G.G.S. Niranjan	Computer Applications Assistant, Gr.III	“Microsoft Excel Advanced Certificate Course” conducted by National Centre for Advanced studies.	22 nd , 23 rd January 2015
Ms. Sudeshini Hewage	Probationary Lecturer	TWAS Reginal Conference of Young Scientists on "Nanoscience & Nanomaterials"	18 th - 20 th February 2015
Prof. S.M. Handunnetti	Director	Workshop on “Chromatographic Techniques and Their Applications”	26 th Feb 2016
Mr. K.M.D. Bandara	Labourer	“Duties and Responsibilities of Office Aides” organized by Skills Development Fund Ltd	27 th , 28 th February 2015
Prof. S.M. Handunnetti	Director	“The Making of Experts” at Staff Development Center	3 rd March 2015
Ms. R. A. C. R Ranasinghe	Scientific Assistant Gr II (DNA sequencing and Identification)	Short Course on Multivariate Data Analysis	23- 25 th March 2015
Ms. R. A. C. R Ranasinghe	Scientific Assistant Gr II (DNA sequencing and Identification)	Workshop on “Business Proposal Writing	28 th May 2015
Ms. Anoma Jayasoma	Technical Officer, Grade II Seg “A”	Workshop conducted by M/S. ESCO Micro PVT LTD - Singapore	4 th June 2015
Mr. K.M.D. Bandara	Labourer, Grade III	Workshop on “Skill Development for Drivers and Minor Employees”	11 th July 2015
Ms. Anoma Jayasoma	Technical Officer, Grade II Seg “A”	Workshop on “File Management and Inventory Management”	16 th July 2015
Ms. K.W. Chathurika S. Fernando	Computer Applications Assistant, Gr.III		
Ms. Sekani Premadasa	Trainee Technical Officer		
Ms. Anoma Jayasoma	Technical Officer, Grade II Seg “A”	One-Day Workshop on “Preparation of Procurement Documents: Essentials and Application”	5 th August 2015
Ms. K.W. Chathurika S. Fernando	Computer Applications Assistant, Gr.III		
Dr. Sameera R samarakoon	Scientific Assistants Gr II	Seminar on “Accreditation”	17 th Sept 2015
Ms . R. A. C. R Ranasinghe			



National Development through National/International Agencies

Collaborative research programmes with the National Cancer Hospital, Maharagama, National Hospital Sri Lanka, North Colombo Teaching Hospital, Ragama, Base Hospital Homagama, Faculties of Medicine and Science, University of Colombo and Sri Jayawardenepura University, Faculty of Medicine, University of Kelaniya, Open University, Wayamba University, Medical Research Institute, Tea Research Institute and Industrial Technology Institute were continued during the year 2015.

Prof. Kamani Tennekoon functioned as a reviewer of several International journals, a reviewer for NSF and NRC. She also continued to be a member of National Committee on Reproductive Health Research. She was a reviewer for MPhil/PhD applications, reviewer of research papers submitted for promotions and cadre applications to Post of Professor from other faculties / other Universities and a PhD examiner for University of Peradeniya. She was also invited as an oral examiner in Physiology for the undergraduate medical course at SAIM.

Emeritus Professor Eric Karunanayake served as a reviewer to International Science Foundation, Stockholm and Third World Academy of Sciences. He was also invited as a Keynote speaker at the Regional Conference of Young Scientists on Nanoscience and Nanomaterials held in Bangalore from 18th to 20th February organized by the Third World Academy of Science (TWAS). Prof Karunanayake was appointed as the Consultant on Curriculum Evaluation, Development and Research in September 2015.

Emeritus Professor Ira Thabrew served as a reviewer of International Journals, Resource person for the M.Sc. Course in Industrial Utilization of Medicinal and Aromatic Plants, Dept. of Chemistry, University of Sri Jayewardenepura.

Prof Shiroma Handunnetti was a member of the NSF Working Committee on Biotechnology and Bioethics. Prof Handunnetti was appointed as the Vice-President of the Allergy and Immunology Society of Sri Lanka (AISSL). Prof Handunnetti functioned as a member of the Specialty Board in Molecular Medicine, Post-Graduate Institute of Medicine in 2015. Prof Handunnetti was a reviewer of MPhil and PhD proposals for IBMBB and other Faculties/Universities and also was a reviewer for NSF, NRC, ITI, NASTEC/YSF, Annual Scientific Sessions of the SLAAS and IOB-SL, and one local Journal, Sri Lanka Journal of Indigenous Medicine.

Prof Shiroma Handunnett participated in a meeting in a Symposium on Fundamentals of Biological Safety for academics and practitioners organized by the National Science Foundation on 1st September 2015.

Prof Handunnett participated in a meeting organised by the National Science Foundation on the 8th December 2015 to introduce the e-Asia Joint Research programme to be jointly conducted by the National Science Foundation and Japan Science and Technology (JST) Agency. The Japanese delegation (Mr. Sato Masaki, (JST) Director, Singapore Office, Ms. Kishida Eriko, (JST) e-Asia Special Programme Coordinator, Mr. Yano Masahito, Senior Programme Coordinator, (JST) Singapore office) and NSF officials visited the IBMBB to meet with the Academic Staff members including Prof Kamani Tennekoon,



Prof Ira Thabrew, Dr Jagath Weerasena. Prof Handunnetti gave a short presentation on the ongoing research on Infectious Diseases and Cancer at IBMBB. The Japanese delegation described the joint programmes, which will be implemented in collaboration with the National Science Foundation.

Prof Shiroma Handunnetti and Dr. Jagathpriya Weerasena participated in the National Consultative Workshop on Strengthening and Roadmapping of Emerging Technology Innovation Systems of Sri Lanka, organized by the Coordinating Secretariat for Science, Technology and Innovation (COSTI) held from 17-19 November 2015 in Colombo,

Dr. Jagathpriya Weerasena functioned as an Examiner for PhD in University of Kelaniya and as an Examiner for MSc in Molecular Medicine in Postgraduate Institute of Medicine, University of Colombo.

Dr. Sumadee De Silva participated at the “New Horizons in Cancer Research” Conference organized by American Association of Cancer Research in Shanghai, China from 12th to 15th November 2015 and obtained the AACR active membership (effects from 2016 onwards)

Dr. Sameera Samarakoon served as a principle investigator for the research grant from National Research Council, Sri Lanka “Cancer stem cells targeted drug leads from Sri Lankan endemic plants for breast cancer”-2014-2017. Dr Sameera R Samarakoon supervised an Advance Level student (L.P. Fernando) who was studying at the Senanayake National College, Chillaw, for Science Research Project Competition (SRPC) organized by National Science Foundation. The student won the first place under biological science section and selected for international competition under the project titled “Novel effective nano drug lead against chemo-endocrine resistant endometrial cancer (AN3CA) cells”.

Ms Sudeshini Hewage participated for the Regional Conference of Young Scientists on "Nanoscience and Nanomaterials" February 18-20, 2015 at JNCASR, Bangalore, India Organized by TWAS-ROCASA.

IBMBB staff and students participated in the Medicare Health Exhibition from 6th to 8th March 2015. This was a very successful event in advertising the IBMBB courses and services, conducted by the staff and students at the IBMBB stall.



Research Activities: A number of research programmes were in progress at the IBMBB in the fields of Tropical - Parasitic and Infectious Diseases (Filariasis, Leptospirosis, Dengue and Malaria), Molecular Medicine (Cancer Genetics and Cancer Stem Cells, Reproductive and Developmental Biology, Human DNA variation, Genetics of CVID, Molecular studies on Hymenopteran Venom) and Plant Molecular Biology and Plant Metabolimics (Rice, Tea, Papaya, Potato), Biochemistry and Molecular Biology of Microbes (Bacteria and fungi), Medicinal Plants (anti-inflammatory & immunomodulatory, anti-cancer, anti-filariacidal and anti-bacterial activities), Anti-cancer activities of natural and nanoencapsulated compounds, and Industrial Applications, Molecular identification of new animal species. Each research programme has several projects which provide research training for MPhil/PhD and MSc students under the supervision of the Director, Academic and Academic Support staff of the Institute and Collaborating Scientists. Students, research projects and supervisors are listed in Table 1 and Table 2.

There were a total of 30 full papers in peer-reviewed, indexed, International Journals (18 published, 5 were in press and 7 papers were under review). There were 69 research communications presented at scientific meetings including 36 international abstracts.

Details of funds obtained by Academic Staff / Visiting Professors are given in Table 3.

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. Malaria transmission has been brought under control, however sensitive molecular methods require to be established in this phase where re-introduction is being prevented by the National Anti-Malaria Campaign.

A) Filariasis

One project was in progress in 2015.

i) Studies on *Setaria digitata* genome using new generation sequencing (NGS) technologies for identification of potential drug targets

Aimed at identifying potential drug targets using sequence data of *Setaria digitata*.

Investigators: Prof. Erik Bougcam-Rudloff (University of Uppsala, Sweden), Prof. Eric Karunanayake (IBMBB) and Prof. Kamani H. Tennekoon (IBMBB)

MPhil/PhD Student/IBMBB: Mr. Kanchana S. Senanayake

Funding: Swedish Links Grant.

One MPhil/PhD project was in progress in 2015.



B) Leptospirosis (rat fever)

Three projects were in progress and one new projects commenced in 2015.

i) Rapid immunodiagnostic tests for early detection of leptospirosis (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: Prof Shiroma Handunnetti (IBMBB), Prof. Senaka Rajapakse (UoC), Prof. Sunil Premawansa (UoC) and Prof. Janaka de Silva (University of Kelaniya).

Collaborator: Dr. Lilani Karunanayake (Medical Research Institute)

MPhil/PhD student/IBMBB: Ms. M.J.R. Niloofa

Funding: National Science Foundation to Prof Shiroma Handunnetti (NSF/RG/2011/HS/19). Project was completed in 2015.

PhD thesis writing was in progress.

One paper was published, one paper presented at the 7th IBMBB Academic sessions, one paper was presented at the 2nd European Leptospirosis meeting held in Amsterdam, The Netherlands in April 2015 and three papers were presented at the 128th Anniversary SLMA International Medical Congress (one of these presentations received Karunadasa Rajasooriya award for Tropical Medicine).

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: Prof Shiroma Handunnetti (IBMBB), Prof. Sunil Premawansa (UoC) and Prof. Senaka Rajapakse (UoC); Collaborator: Dr. Lilani Karunanayake (Medical Research Institute).

MPhil/PhD student/IBMBB: Ms. TRG Narmada Fernando.

Funding: National Research Council to Prof Shiroma Handunnetti, IBMBB (NRC -12-077)

One PhD project was in progress.

One paper was presented at the 7th IBMBB Academic sessions in May 2015, two papers were presented at 2nd European Leptospirosis meeting held in Amsterdam, The Netherlands in April 2015, one paper and a poster were presented at the 9th International Leptospirosis Scientific meeting held in Semarang, Indonesia in October 2015 and two more papers were presented at iPURSE 2015 at University of Peradeniya and 71st SLAAS Annual Scientific meeting.

iii) Sero-epidemiology of human leptospirosis in the District of Colombo, Sri Lanka

Aimed at characterizing the immune status of residents of Colombo district, so that it will provide cut-off immune titers used in MAT for diagnosis and other epidemiological parameters.

Investigators: PI: Prof. Senaka Rajapakse (UoC), Prof Deepika Fernano and Prof Shiroma Handunnetti (IBMBB); Collaborator: Dr. Lilani Karunanayake (Medical Research Institute). MPhil/PhD student/IBMBB: Mr Krishan Balaji

Funding: University of Colombo to Prof. Senaka Rajapakse (UoC Grant: AP/3/2/2014/RG/14)

One MPhil programme was in progress in 2015.



One paper was presented at the Faculty of Medicine, University of Colombo research Symposium.

iv) Studies on humoral immune responses to pathogenic *Leptospira* spp

Aimed to investigate immune response to pathogenic *Leptospira* spp antigens using polyclonal and monoclonal antibodies.

Investigators: PI: Prof Shiroma Handunnetti (IBMBB) and Prof. Sunil Premawansa (UoC)

MSc student/IBMBB: Mr Boisy Motube

Funding: IBMBB MSc programme

One MSc dissertation was submitted for examination in 2015.

C) Dengue

One project was ongoing in 2015 and a new project was initiated in 2015.

i) Studies on prognostic markers and pathogenesis of severe dengue

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

Investigators: PI: Prof. Sunil Premawansa (UoC), Prof Shiroma Handunnetti (IBMBB), Dr. Dharshan De Silva (Genetech), Dr. Gayani Premawansa (North Colombo Teaching Hospital)

MPhil/PhD Student (IBMBB): Ms. Maheshi S Mapalagamage

Funding: National Science Foundation to Prof. Sunil Premawansa (NSF/RG/2014/HS/04)

One MPhil/PhD programme was in progress in 2015.

One paper was presented at the 71st SLAAS sessions and another paper was presented at iPURSE 2015 at University of Peradeniya.

ii) Determining the role of dengue NS1 in the pathogenesis of dengue infection

Aimed at understanding mechanisms underlying NS1 mediated pathogenesis of dengue.

Investigators: PI: Prof. Neelika Malavige (USJP)-PI, Dr Sameera Samarakoon (IBMBB), and Prof Kamani Tennekoon (IBMBB)

MPhil/PhD Student (USJP): Ms. Deshini Chaturanga Jayathilaka

Funding: National Research Council to Prof. Neelika Malavige

One MPhil/PhD programme was begun in 2015.

D) Malaria

One project was in progress in 2015.

Studies in the phase of prevention of reintroduction of malaria in Sri Lanka: Comparison of parasitological and molecular diagnostic methods and molecular characterization infections

Aimed at characterization of imported malaria cases in the phase of prevention of reintroduction of malaria in Sri Lanka and to identify the optimum diagnostic method suitable for such malaria infections.

Investigators: Prof. Deepika Fernando (UoC), Prof. Sunil Premawansa (UoC), Prof Shiroma Handunnetti (IBMBB), Dr OVDSJ Weerasena (IBMBB), Dr Risintha



Premaratne (Anti-Malaria Campaign)

MPhil student/IBMBB: Ms WM Kumudu T de Alwis-W Gunasekara

Funding: National Science Foundation to Prof Deepika Fernando (NSF/RG/2014/HS/03)

One MPhil programme was in progress in 2015.

2) Research Programmes in Molecular Medicine

Several projects in biomedical sciences were carried out which require either human or animal experimentation. These include studies on cancer, pregnancy and fetal growth, gynaecological diseases, pregnancy induced hypertension, human DNA variation, genetics of primary immunodeficiency and molecular studies on hymenopteran venom etc.

A) Cancer and Cancer stem cells

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.

i) 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), Dr. Kanishka De Silva (National Cancer Institute, Maharagama)

MPhil/PhD student/IBMBB: Ms Chrishani Rodrigo

Funding: National Research Council to Prof. Kamani H Tennekoon (NRC -11-018)

One paper was presented at the Regional Conference of Young Scientists on Nanoscience and Nanomaterials held in Bangalore from 18th to 20th February organized by the Third World Academy of Science (TWAS).

ii) Association of BRCA2 N372H polymorphism with the risk of early onset of breast cancer in a cohort of Sri Lankan breast cancer patients

Aimed to screen BRCA2 N372H polymorphism in *BRCA2* gene in a cohort of young onset Breast cancer patients in Sri Lanka

Investigators: Dr. Sumadee De Silva (IBMBB), and Dr. Kanishka De Silva (National Cancer Institute, Maharagama)

MSc student/IBMBB: Ms. Rashmi Gamage

Funding: IBMBB (MSc studies)

One MSc dissertation was submitted for examination.

One abstract was accepted to 17th World Congress of Gynecological Endocrinology; 2016; Florence, Italy.



iii) Analysis of mutations and polymorphisms in exon 11 of *BRCA2* gene in Sri Lankan young breast cancer patients

Aimed to screen *BRCA2* 11 pathogenic mutations in a cohort of young onset Breast cancer patients in Sri Lanka

Investigators: Dr. Sumadee De Silva (IBMBB), Prof Kamani H Tennekoon (IBMBB), Dr. D.M.A.S Disسانayake (National Cancer Institute, Maharagama) and Dr. Kanishka De Silva (National Cancer Institute, Maharagama)

Funding: National Science Foundation to Dr. Sumadee De Silva as a startup grant (RG/2014/BT/04)

One abstract was presented at the the New Horizons in Cancer Research Conference organized by American Association of Cancer Research in November 2015 in Shanghai, China.

iv) Analysis of somatic mutations (hot spots) of *TP53* gene in cancer from paraffin embedded or fresh cancer tissue of cancer patients in Sri Lanka and mutation analysis at RNA and Protein levels

Aimed to screen somatic mutations of *TP53* gene in several cancer types using paraffin embedded or fresh cancer tissue of cancer patients in Sri Lanka then analyse mutations at RNA and Protein levels.

Investigators: Prof Kamani H Tennekoon (IBMBB), Prof Eric H Karunanayake (IBMBB), Dr. Sumadee De Silva (IBMBB), Prof Preethika Angunawela (Medical Faculty, Colombo) and Dr. Kanishka De Silva (National Cancer Institute, Maharagama)

MPhil/PhD student/IBMBB: Ms Vahinipriya Manoharan

Funding: University Grants Commission grant (UGC/VC/DRIC/SRSP/2014/CMB-01) and National Research Council grant (NRC 15-33) to Dr. Sumadee De Silva

One MPhil programme commenced in 2015.

v) Cancer stem cells targeted drug leads from Sri Lankan endemic plants for breast cancer

Aimed at isolation, structural and functional characterization of natural compounds from endemic medicinal plants, which can target breast cancer stem cells.

Investigators: Dr Sameera Samarakoon (PI-IBMBB), Prof Kamani H Tennekoon (IBMBB), Prof Neelika Malavige (USJP), Dr. Kanishka De Silva (National Cancer Institute, Maharagama), Prof Dilip E De Silva (UoC)

MPhil/PhD student/IBMBB: Ms Uma Rajagopalan

Funding: National Research Council grant (NRC 14-067) to Dr. Sameera Samarakoon

One MPhil/PhD programme commenced in 2015.

vi) Prevalence of selected polymorphisms of *CYP2D6* gene in a cohort of breast cancer patients: Association with resistance to Tamoxifen

Investigators: Prof. Kamani H Tennekoon (IBMBB), Ms. Sudeshini Hewage (IBMBB), Ms. Tharmini Sundralingam (IBMBB), Dr. Yasantha Ariyaratne (Cancer Hospital – Maharagama)

MSc student/IBMBB: Ms. I Wickramage

Funding: IBMBB (MSc studies) & Supervisors research grants.

One MSc dissertation was submitted for examination in 2015.



B) Reproductive and Developmental Biology

Three projects were in progress.

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) and Dr. JM Kumarasiri, Dr. Ajita Wijesundera (Castle Street Hospital for Women)

MPhil/PhD student/IBMBB: Ms Sudeshini Hewage

Funding: National Research Council to Prof Kamani H Tennekoon

One paper was presented at the Regional Conference of Young Scientists on Nanoscience and Nanomaterials held in Bangalore from 18th to 20th February organized by the Third World Academy of Science (TWAS).

ii) Association between *IGF-II* 820 G>A polymorphism and endometriosis

Aimed to identify the association between *IGF-II* 820 G>A polymorphism and endometriosis in Sri Lankan women.

Investigators: Dr. Nalinda Silva (USJP), Dr. Sumadee De Silva (IBMBB), Prof. Hemantha Senanayake (Faculty of Medicine, UoC)

MSc student/IBMBB: Mr Gihan Jayawardena

Funding: IBMBB (MSc studies)

One MSc dissertation was submitted for examination in 2015.

iii Studies on genetic basis of congenital adrenal hyperplasia

Aimed to determine the genetic basis based point mutations and deletion of *CYP21A2* gene among Sri Lankan children with congenital adrenal hyperplasia.

a) A pilot study on selected selected point mutations of *CYP21A2* gene among Sri Lankan children with congenital adrenal hyperplasia

Investigators: Prof. Kamani H Tennekoon (IBMBB), Prof. Shamy De Silva (Faculty of Medicine - University of Colombo), Ms. Sudeshini Hewage (IBMBB)

MSc Student: Ms. MVML Jayasundara

Funding: MSc funds & supervisors research grants.

One MSc Dissertation was submitted for examination in 2015.

b) A pilot study on *CYP21A2* gene deletion among Sri Lankan children with congenital adrenal hyperplasia

Investigators: Prof. Kamani H Tennekoon (IBMBB), Prof. Shamy De Silva (Faculty of Medicine – University of Colombo), Dr. Sumadee De Silva (IBMBB)

MSc Student: Dr. SHDK Jayathilaka

Funding : MSc funds & supervisors research grants.

One MSc Dissertation was submitted for examination in 2015.



C) Human DNA variation

One PhD and one MSc project were completed in 2015.

i) Mitochondrial D loop sequences and haplotypes in Sri Lanka

Aimed at establishing a database 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) and Prof. Marie Allen (University of Uppsala)

PhD student/IBMBB: Ms Ruwandi Ranasinghe

Funding: National Research Council to Prof Kamani H Tennekoon

Data generated were submitted to International Genetic Databases.

One paper was published.

One PhD thesis was submitted for examination in 2015.

ii) Primer optimization and full mitochondrial genome sequencing of a Sri Lankan Vedda individual

Investigators: Prof Kamani H Tennekoon (IBMBB) and Ms Ruwandi Ranasinghe

MSc student: Ms Johanna Lundgren, University of Uppsala, Sweden

Funding: Swedish Link Grant

One MSc Dissertation was submitted to University of Uppsala for examination in 2015.

D) Molecular studies on short stature

One project was in progress in 2015.

Growth hormone and GHRH-R mutations and short stature

Aimed at characterizing 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) and Ms Sumadee De Silva (IBMBB)

MPhil/PhD student/IBMBB: Ms Tharmini Sundralingam

Funding: National Science Foundation to Prof Kamani H Tennekoon (NSF/RG/2011/BT/03)

One MPhil programme commenced in 2014.

Two papers were presented, one at the Regional Conference of Young Scientists on Nanoscience and Nanomaterials held in Bangalore from 18th to 20th February organized by the Third World Academy of Science (TWAS) and the other at the Annual Conference of the Sri Lanka Medical Association

E) Genetics of common variable immunodeficiency (CVID)

One study was in progress and two other pilot studies commenced in 2015.

i) Genetics of CVID: Role of transmembrane activator and calcium-modulator and cytophilin ligand interactor (TACI).

Aimed at the identification of genetic polymorphisms in genes coding for transmembrane



activator and calcium-modulator and cytophilin ligand interactor (TACI)
Investigators: Dr Rajiva de Silva (Medical Research Institute), Dr Darshan de Silva (Genetech Research Institute) and Prof Shiroma Handunnetti (IBMBB)
MSc student/IBMBB: Mr Harindra Sathkumara
Funding: MSc studies (IBMBB) & Medical Research Institute to Dr Rajiva de Silva (Project ID:/40-2013)
One pilot study was completed in 2015. One paper was published. One poster was presented at the 7th Annual IBMBB sessions.

ii) Genetic screening of Inducible T cell co-stimulator (ICOS) in patients with Common variable immunodeficiency (CVID)

Aimed at the identification of genetic polymorphisms in genes coding for Inducible T cell co-stimulator (ICOS) and associations with Common variable immunodeficiency (CVID)
Investigators: Dr Rajiva De Silva, Dr Dharshan De Silva, and Prof Shiroma Handunnetti (IBMBB)
MSc student/IBMBB: Ms Pabasara Weeraman
Funding: MSc studies (IBMBB) & Medical Research Institute to Dr Rajiva de Silva (Project ID:/40-2013)
One MSc dissertation was submitted for examination in 2015.

iii) Mutational analysis of B cell activating factor receptor (BAFF-R) in patients with Common variable immunodeficiency (CVID) in Sri Lanka

Aimed at the identification of genetic polymorphisms in genes coding for B cell activating factor receptor (BAFF-R) and associations with Common variable immunodeficiency (CVID)
Investigators : Dr Rajiva De Silva, Dr Dharshan De Silva, and Prof Shiroma Handunnetti (IBMBB)
MSc student/IBMBB: Ms Gayathri Karunanithy
Funding: MSc studies (IBMBB) & Medical Research Institute to Dr Rajiva de Silva (Project ID:/40-2013)
One MSc study was in progress in 2015.

F) Molecular studies on hymenopteran venom

One study was in progress 2015 and another pilot study commenced in 2015.

i) Immunochemical characterization of venom of *Apis dorsata*

Aimed at molecular and immunological characterization of immunogens in venom of *Apis dorsata* (Giant Asian honey bee) and immune cross reactivity with venom immunogens in *A. cerana* for establishment of a de-sensitization protocol.
Investigators: Dr Rajiva de Silva (MRI), Prof Sunil Premawansa (UoC), Prof Shiroma Handunnetti (IBMBB), Prof Sriyani Dias (University of Kelaniya) and Dr EWRA Witharana (Consultant Physician, Deniyaya Base Hospital)
MPhil/PhD student: Mr Peshala Gunasekera
Funding: MSc studies (IBMBB) & Medical Research Institute to Dr Rajiva de Silva (Project ID:/46-2013); National Science Foundation Grant (NSF/RG/2014/HS/02) to Dr Rajiva de Silva (PI) & Prof Shiroma Handunnetti (collaborator)
One MPhil/PhD study commenced in 2015. One poster was presented at the 7th Annual



IBMBB sessions.

ii) Immunochemical characterization of venom of trap-jaw ant, *Odontomachus simillimus* (Dala Kadiya) (Hymenoptera; Formicidae)

Aimed at molecular and immunological characterization of immunogens in venom of *Odontomachus simillimus* (Dala Kadiya) and immune cross reactivity with other ant spp .

Investigators: Dr Rajiva de Silva (MRI), Prof Sunil Premawansa (UoC), Prof Shiroma Handunnetti (IBMBB), Prof Sriyani Dias (University of Kelaniya) and Dr EWRA Witharana (Consultant Physician, Deniyaya Base Hospital)

MPhil/PhD student: Mr Budhil de Silva

Funding: MSc studies (IBMBB) & Medical Research Institute to Dr Rajiva de Silva (Project ID:/15-2015)

One MSc Dissertation was submitted for examination in 2015

3) Research Programmes on Plant Molecular Biology and Plant metabolomics

A) Rice

Two projects were in progress in 2015.

i) 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: Prof. Shyama R. Weerakoon (Open University of Sri Lanka), Dr. Jagathpriya Weerasena (IBMBB)

MPhil/PhD student/IBMBB: Ms. Dulangi Karunarathne

Funding: National Science Foundation to Prof Shyama Weerakoon (NSF/RG/2011/BT/06)

One MPhil/PhD project was in progress in 2015.

ii) Use of InDel markers for differentiation of Sri Lankan rice.

Investigators: Dr. Jagathpriya Weerasena (IBMBB), Dr. Nisha Kottarachchi (Wayamba University of Sri Lanka)

MSc Student : Mr. Adnan Ahmad

Funding : IBMBB (MSc studies)

One MSc dissertation was submitted for examination in 2015.

B) Tea

Three projects were in progress in 2015.

i) Genetic characterization of tea cultivars and marker for blister blight disease



Investigators: PI: Dr K M Mewan (TRI) and Dr, Jagathpriya Weerasena (IBMBB)
MPhil/PhD student/IBMBB: Mr KH Tissa Karunaratne
Funding: National Research Council to Dr. K M Mewan (NRC-09-066)
MPhil/PhD project was in progress in 2015.

ii) DNA phylogeny, morphology pathogenecity of fungi causing agent of stem canker in Tea

Investigators: Ms NHL Pradeepa (PhD student/IBMBB, TRI scientist), Dr, Jagathpriya Weerasena (IBMBB), Prof RLC Wijesundera (Dept of Plant Sciences, UoC), Dr S Abeysinghe (TRI)
Funding: Tea Research Institute
One PhD project was in progress in 2015.

iii) Metabolimics of tea germplasm of Sri Lanka

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

Investigators: Dr. PA Nimal Punyasiri, (NRC Postdoctoral Fellow/IBMBB), B Jeganathna, IBMBB, Mr. JD Kottawa-Arachchi (TRI), Mr. MAB Ranatunga (TRI), Dr. I Sarath B Abeysinghe (TRI), Dr. MTK Gunasekare (TRI), Prof. BMR Bandara (University of Peradeniya).

Collaborating Institutions: Tea Research Institute of Sri Lanka, Talawakelle, Sri Lanka.
Department of Chemistry, Faculty of Science, University of Peradeniya, Peradeniya, Sri Lanka.

Funding : National Research Council of Sri Lanka to Dr. Punyasiri (NRC -11-23). Project was completed in 2015.

One PhD thesis was submitted for examination in 2015.

C) Potato

One project was in progress in 2015.

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 Nilanthi Dassanayake (USJP), Dr. Jagathpriya Weerasena (IBMBB)

MPhil/PhD student/IBMBB: Ms. A Ayesha U Perera

Funding: National Research Council to Dr P Nilanthi Dassanayake (NRC -11-099)

MPhil/PhD project was in progress in 2015.

D) Papaya

Development of Molecular markers associated with male and hermaphrodite papaya plants.



Investigators: Dr. Niroshani Epitawalage, Prof. Shamala Tirimanne (Faculty of Science – University of Colombo)
MSc Student : Ms. Amra Iuooop
Funding : MSc funds.
One MSc study was in progress in 2015.

4) Research Programme on Biochemistry and Molecular Biology of Microbes

Four projects were in progress in 2015.

i) Isolation and molecular identification of pectin degrading fungi and determination of pectinases activity

Investigator: Dr. Jagathpriya Weerasena (IBMBB)
MSc Student: Ms. KM Gunasena
Funding: MSc funds
One MSc Dissertation was submitted for examination in 2015.

ii) Optimization of a purification method of cellulase from the fungus *Beauveria felina*

Investigator: Dr. Jagathpriya Weerasena (IBMBB)
MSc Student : Ms. MKS Jayalath
Funding : MSc funds.
One MSc Disserttion was submitted for examination in 2015.

iii) Isolation biochemical and molecular identification of probiotics in fermented traditional rice varieties.

Investigators: Dr. Jagathpriya Weerasena (IBMBB), Dr. Rhadhika Samarasekera (ITI University)
MSc Student: Ms Joanne Kotalawala
Funding: IBMBB (MSc studies)
One poster was presented at the 7th Annual IBMBB sessions.

iv) Identifying *Bacillus thuringiensis* isolates with insecticidal activity

One project was in progress in 2015.
Aimed at isolating and characterizing of *Bacillus thuringiensis* strains with enhanced insecticidal activity that can be used to control rice and vegetable pests
Investigators: Dr. OVDSJ Weerasena (IBMBB), Dr. Radhika Samarasekera (Industrial Technology Institute)
MPhil/PhD student/IBMBB: Ms Rashini Baragama-Arachchi
Funding: National Science Foundation and National Research Council to Dr. Radhika Samarasekera (NSF/RG/2011/BT/05)
One MPhil/PhD project was in progress in 2015.



5) Research Programme on Medicinal plants

A) Research on medicinal plants with anti-inflammatory, immunomodulatory and anti-allergic effects

One project was in progress in 2015.

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.

Drug leads from medicinal plants in Sri Lanka: Investigations on immune-modulatory / anti-allergic activity

Aimed at evaluating possible immunomodulatory / anti-allergic activities of selected endemic and medicinal plants

Investigators: Prof Shiroma Handunnetti (IBMBB), Prof Dilip De Silva (UoC)

MPhil/PhD student/IBMBB: Ms BA Dilani Rukshala

Funding: Ministry of Higher Education: Capital Grant for Research on Drug Leads from Medicinal Plants

MPhil/PhD study was in progress in 2015

One paper was presented at the 7th IBMBB Academic sessions.

B) Anti-cancer effects of medicinal plants

Five studies were in progress in 2015

i) Aimed at scientifically proving purported anti-cancer effects of

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

Investigators: Prof Ira Thabrew (NSF Fellow and Visiting Professor, IBMBB), Prof Kamani Tennekoon (IBMBB), Prof Dilip De Silva (UoC) and Dr. Sameera Samarakoon (Scientific Assistant /IBMBB)

MPhil/PhD student/IBMBB: Ms Anuka Mendis

Funding: Dept. of Ayurveda, IBMBB, National Science Foundation to Prof Ira Thabrew (NSF/ Fellow /2012/01)

One PhD study was in progress in 2015

One paper was published. One paper was presented at the Regional Conference of Young Scientists on Nanoscience and Nanomaterials held in Bangalore from 18th to 20th February organized by the Third World Academy of Science (TWAS).

ii) Anti-cancer effects of *Mangifera zeylanica* - an endemic plant

Investigators: Prof Kamani H Tennekoon (IBMBB), Prof Ira Thabrew (Visiting Professor, IBMBB), Prof Dilip De Silva (UoC) and Dr S Sameera R Samarakoon (IBMBB)

MPhil/PhD student/IBMBB: Mr Meran Keshawa

Funding: National Research Council to Prof Kamani Tennekoon (NRC -11-018)

One PhD project was in progress in 2015.

Two papers were in press and one paper under review.



Two papers were presented; one at the the Regional Conference of Young Scientists on Nanoscience and Nanomaterials held in Bangalore from 18th to 20th February organized by the Third World Academy of Science (TWAS) and the other at 7th Annual Scientific Sessions of Institute of Biochemistry, Molecular Biology & Biotechnology (IBMBB).

iii) Anti-cancer effects of *Vernonia zeylanica* - an endemic plant

Investigators: Prof. Ira Thabrew (Visiting Professor, IBMBB), Prof Kamani H Tennekoon (IBMBB), Prof Dilip De Silva (UoC) and Dr S Sameera R Samarakoon (IBMBB)

MPhil/PhD student/IBMBB: Ms Anuka Mendis

Funding: Ministry of Higher Education: Capital Grant for Research on Drug Leads from Medicinal Plants and National Science Foundation.

One PhD study was in progress in 2015.

One paper was presented at 7th Annual Scientific Sessions of Institute of Biochemistry, Molecular Biology & Biotechnology (IBMBB).

iv) Screening of selected endemic plants for anti-cancer activity

Investigators: Prof Kamani H Tennekoon (IBMBB), Prof Ira Thabrew (Visiting Professor, IBMBB), Prof Dilip De Silva (UoC), Prof Eric Karunanayake (IBMBB) and Dr Sameera Samarakoon (IBMBB)

MPhil/PhD student/IBMBB: Ms Panchima Jayaratne

Funding: Ministry of Higher Education: Capital Grant for Research on Drug Leads from Medicinal Plants

One MPhil study was in progress in 2015.

Two papers were presented one at the 5th International Symposium-cum-Training Course on Molecular Medicine and Drug Research; 2015 Jan 12-15; Karachi, Pakistan and the other at 7th Annual Scientific Sessions of Institute of Biochemistry, Molecular Biology & Biotechnology (IBMBB).

v) Screening of selected mangrove plants for anti-cancer activity

Investigators: Dr. Sameera R Samarakoon (IBMBB), Prof. Kamani H Tennekoon (IBMBB), Prof. Ira Thabrew (IBMBB), Prof. Dilip De Silva (UOC), Prof. Iqbal Chaoudhery (Karachi, Pakistan).

Funding: International Foundation for Science to Dr Sameera Samarakoon (Grant No: F 5377-1)

This study was in progress in 2015.

C) Anti-filaricidal activity of selected endemic and medicinal plants

Aimed at evaluating possible anti-filaricidal activity of selected endemic and medicinal plants

Investigators: Prof Eric Karunanayake (IBMBB), Prof Kamani Tennekoon (IBMBB), Prof Dilip De Silva (UoC) and Dr Sameera Samarakoon (IBMBB)

MPhil/PhD student/IBMBB: Mr Kanishka Senathilake

Funding: Ministry of Higher Education: Capital Grant for Research on Drug Leads from Medicinal Plants

One paper was presented at 5th International Cymposium cum training course on Molecular Medicine and drug research on in Pakistan in January 2015 and another paper



was presented at the 7th Annual Scientific Sessions of Institute of Biochemistry, Molecular Biology & Biotechnology (IBMBB).
One MPhil/PhD study was in progress in 2015.

D) Anti-microbial 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 and Dr Sameera Samarakoon (IBMBB)

MPhil/PhD student/UoC: Mr W Sadin De Silva

Funding: Ministry of Higher Education: Capital Grant for Research on Drug Leads from Medicinal Plants

One MPhil study was in progress in 2015.

6) Research Programme on Anti-cancer effects of Natural Compounds and Nanoencapsulated compounds

Four new projects were initiated in 2015.

i) Expression of apoptosis related genes in response to improved gedunin by nanoencapsulation in cancer cells

Investigators: Dr. Sameera R Samarakoon (IBMBB)-PI, Prof. Needra Karunaratne (UoP),
MSc Student: Mr Nwokwu C Daniel

Funding: MSc funds & supervisors research grants

One MSc Dissertation was submitted for examination in 2015.

ii) Estimation of pro-apoptotic effects and apoptosis related gene expression in response to govaniadine in breast cancer cells

Investigators: Dr. Sameera R Samarakoon (IBMBB)-PI, Dr Achyut Adikari (HEJ Institute of Chemistry, University of Karachi, Pakistan)

MSc Student: Ms Nivethika Sivakumaran

Funding: MSc funds & supervisors research grants.

One MSc Dissertation was submitted for examination in 2015.

iii) Optimization of an *in vitro* model to evaluate induced differentiation by natural product in cancer stem cells as a therapeutic target of cancer

Investigators: Dr. Sameera R Samarakoon (IBMBB)-PI

MSc Student: Ms HSP Iromi Funding: MSc funds & supervisors research grants.

One MSc Dissertation was submitted for examination in 2015.

vi) Effect of Proanthocyanidins from the bark of *Thespesia populnea* (L) and solvent extracts, on cell survival and apoptosis of Human hepatoma (HepG2) cells



Investigators: Prof. Ira Thabrew (IBMBB) -PI, Dr. Sameera R Samarakoon (IBMBB),
Dr Chayanika Padumadasa (USJP)
MSc Student: Ms Luxmiga Tharmaraja
Funding: MSc funds & Ministry of Higher Education: Capital Grant for Research on Drug
Leads from Medicinal Plants
One MSc Dissertation was submitted for examination in 2015.

7) Research Programmes on Industrial Applications

One study was in progress and funding for another project was pending in 2015.

i) Validation and Value Addition of Bio-active Natural Ingredients for Industrial Applications

This study was aimed at identification of different bioactivities of different medicinal plants for development of industrial applications.

Investigators: Dr Radhika Samarasekara, Dr OVDSJ Weerasena (IBMBB) & Prof Shiroma Handunnetti (IBMBB)

MPhil/PhD students/IBMBB: Ms Sachindra Perera (ITI) & Ms. Saroopa Samaradivakara (ITI)

Funding: National Research Council to Dr Radhika Samarasekara (NRC-12-100)

One MPhil/PhD project and one PhD project were in progress in 2015.

One paper was presented at the 35th Annual session of the Institute of Biology Sri Lanka and another at the Biennial scientific sessions of the Industrial Technology Institute in 2015.

Two MPhil/PhD studies were in progress in 2015

ii) Immunomodulatory activity of a herbal formulation in Sri Lankan Market

This study was aimed at investigating the immunomodulatory activity and the immune mechanisms of Link *Samahan*, a herbal formulation comprising 14 medicinal plant parts

Investigators: Prof Shiroma Handunnetti (IBMBB), Dr. OVDSJ Weerasena (IBMBB)

Funding: MOU with Link Natural Products and the University of Colombo for this MPhil/PhD study was being processed for approval.

8) Research Program on Molecular Identification of New Animal Species in Sri Lanka

One project was in progress and one project was initiated in 2015.

These studies were aimed at identification of new animal species found in Sri Lanka by modern molecular biological techniques.

i) Molecular identification new animal species

Investigators: Mr. Mendis Wickaramasinghe (Sri Lanka Herpetological Society), Prof Kamani Tennekoon (IBMBB) & Dr Sameera R Samarakoon (IBMBB)



Resrach Student: Ms Nethu Wickramasinghe (Sri Lanka Herpetological Society)

Funding: Sri Lanka Herpetological Society

One paper was published and one paper was presented at the 7th Annual Scientific Sessions of Institute of Biochemistry, Molecular Biology & Biotechnology (IBMBB).

ii) A molecular phylogenetic analysis of four endemic amphibian species in Sri Lanka belonging to the genus *Pseudophilautus*

Investigators: Dr Sameera R Samarakoon (IBMBB)-PI, Mr. Mendis Wickaramasinghe (Sri Lanka Herpetological Society)

Resrach Student: Ms Nirmalee Lowe

Funding: MSc funds

One MSc Dissertation was submitted for examination in 2015.

Services: Following services were offered through the Business Development Unit, IBMBB.

1. Mutation detection services for BRCA I and II, p53 and Kras genes
2. DNA sequencing service
3. Cell viability assay service (plant extracts & natural and synthetic compounds)

Workshops, seminars and other events carried out under BDU

- a. Advertizing of courses and services increased via emails, brochures, face book, and news paper articles. Organization of a guest lecture at IBMBB on apoptosis analysis and natural products screening using flowcytometry :Dr Mun Keat- Field application Scientist, Asia Pacific Merck KKGaA, Singapore
- b. විමසුම් විද්‍යා ඇසින් අණුක ජෛවවේදයේ යෙදීම්, guest lecture by Prof Kamani H Tennekoon at Sirimawo Balika Vidyalaya. Colombo on 28th October 2015
- c. Initiation of new collaborations with Sri Lanka Nanotechnology Institute
- d. Medicare Health Exhibition from 6th to 8th March 2015 for advertising course and services of IBMBB

Visitors to the Institute: The Institute had several overseas visitors during the year.

Dr. Mun Keat, Field Application Scientist, Asia Pacific at Merck KGaA, Singapore visited IBMBB on 26th May 2015 and gave a guest lecture on “ Apoptosis analysis and natural compounds screening using flow cytometry”

Dr. Wathsala Wijayalath, Staff Scientist, U.S. Military Malaria Vaccine Program, Infectious Diseases Directorate/Malaria Department, Naval Medicine Research Center, USA visited IBMBB on 28th April 2015 and lectured on “ DRAG Humanized Mouse



Model for Vaccine Testing and Generation of Fully Human Therapeutic Monoclonal Antibodies.

Prof Nathkunam Katheesan, College of Public Health, Medical & Vet Sciences Centre for Biodiscovery and Molecular Development of Therapeutics, Centre for Biosecurity in Tropical Infectious Diseases James Cook University, Townsville, Australia delivered a guest lecture on Melioidosis in a Diabetic Host on the 1st of October 2015.

Dr. Kanae Shiokawa, Post Doctoral Fellow Hokkaido University, Japan held a Group Discussion to share experience of a PhD student life on 18th November 2015.

Prof. Suranjith Seneviratne, Consultant in Clinical Immunology and Allergy, Imperial College, UK delivered a guest lecture on Allergy on 3rd December 2015.

Dr. Erik Bongcam –Rudloff, Dr. Jonas Soderberg, Hadrien Gourle, Aleksei Polajew, Swedish University of Agriculture & EMBnet Node, Uppsala, Sweden visited IBMBB to participate as resource persons for the Workshop on Gene Annotation held from 7th to 11th December 2015.

The Japan Science and Technology Agency (JST) delegation including Mr. Sato Masaki, (JST) Director, Singapore Office, Ms. Kishida Eriko, (JST), e-Asia Special Programme Coordinator, Mr. Yano Masahito, Senior Programme Coordinator, (JST) Singapore office, visited IBMBB on 8th December 2015 to introduce the JST, e-Asia Special Programme that will function in Sri Lanka through the National Science Foundation.

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. In September 2015, Prof Eric H. Karunanayake was appointed as Consulatan for Development of Academic activities in the IBMBB, University of Colombo. Prof. Ira Thabrew continued to work at the IBMBB as a Visiting Professor.

Constraints: Human Resources and Financial Resources were the major constraints for implementing the activities as per Corporate/ Strategic & Management Plan 2015-2019. Some academic cadre positions were pending certain clarifications; Recruitment of Associate Professor in Biochemistry was pending. Clarifications from UGC and recruitment of Senior Lecturer-Cell Biology were to be re-advertized, however this was suspended as the applicant recommended has filed a case with USAB.



Staff as at 31st December 2015

Permanent Cadre

Prof. Shiroma M Handunnetti	Director, IBMBB & Professor in Immunology Acting Director (up to 2015.02.11)
Prof. Kamani H Tennekoon	Senior Professor of Molecular Life Sciences
Dr. OVDS Jagathpriya Weerasena	Senior Lecturer, Grade II (Molecular Biology)
Dr. W Sumadee De Silva	Lecturer, Probationary (DNA Diagnostics)
Ms. A Sudeshini Hewage	Lecturer, Probationary (Biochemistry & Molecular Biology)
Ms. Anoma Ratnayake	Senior Assistant Registrar
Mr. HM Krishantha Herath	Senior Asst. Bursar
Mr. Kanchana Senanayake	Asst Network Manager, Grade II
Dr. Sameera Samarakoon	Scientific Assistant (Cell Biology), Grade II
Ms. Ruwandi Ranasinghe	Scientific Assistant (DNA Identification-oncontract)
Ms. BN Nishara T Batagoda	Scientific Assistant (Bioinformatics -on contract)
Ms. Anoma Jayasoma	Technical Officer, Grade II "Seg A"
Mr. Nishantha C A Gunasekera	Technical Officer, Grade II "Seg B" (up to 2015.02.16)
Ms. Sekani D Premadasa	Trainee Technical Officer
Ms. AN Tharini Somaratne	Trainee Technical Officer (On Contract from 2015-03-02)
Ms. Thanuja Atapattu	Book Keeper, Grade II "Seg A"
Ms. NK Sumali Champika	Computer Applications Assistant, Grade II
Ms. KW Chathurika Fernando	Computer Applications Assistant, Grade III
Mr. GG Sashika Niranjana	Computer Applications Assistant, Grade III
Ms. Nadeesha Jayawardhana	Computer Applications Assistant, Grade III
Ms. Priyanganie Dabare	Computer Application Assistant, Grade III
Ms. PVA Chameera Helani	Library Information Assistant (From 2015-03-02)
Mr. YBMNY Bandara	Laboratory Attendant (Lower Grade)
Mr. EHGD Niroshan Abewardena	Laboratory Attendant (Lower Grade)
Mr. KM Dhanushka Bandara	Labourer, Grade III

Temporary Assignments

Ms TRG Narmada Fernando	- Lecturer Immunology (On assignment) (from 2015.12.15)
Ms. Daniya Edward	- Course Coordinator/ Scientific Assistant (from 2015.03.01)
Mr. Nipuna Rathnayake	- Scientific Assistant - IT (from 2014.03.31)
Ms. HDA Jayamini C Harasgama	- Temporary Teaching/ Research Assistant (from 2015.01.19)
Ms. Vahinipriya Manoharan	- Temporary Scientific Assistant / Teaching Assistant (up to 2015.05.21)
Mr. M.K. Ediriweera	- Temporary Scientific Asst. for Business Development Unit - (from 2015.10.16)



Ms. B.M.L.P. Jayasekara	-Technical/Research/Scientific Assistant (from 2015.02.02)
Mr Nisala Fernando	- Research Assistant (from 2015.11.01)
Ms LNAA Nissanka 2015.12.15)	- Scientific Assistant (On assignment) from
Mr Lakshan Wijebandara	- Temporary Research Assistant (from 2015.04.01)
Ms. BH Minoli D. Perera	- Trainee Telephone Operator cum Receptionist (from 2015.03.22)
Ms. MV Lakdini N Haridasan	- Trainee Computer Application Asst. (from 2015.05.16)
Ms. H.D. Thilani Dilhani	- Trainee Computer Application Asst.(from 2015.04.24)

Current Researchers

Prof. Eric H Karunanayake	- Emeritus Professor & Founder Director/IBMBB
Prof. Kamani H Tennekoon	- Senior Professor of Molecular Life Sciences, IBMBB
Prof. Ira Thabrew	- Visiting Professor & NSF Research Fellow, IBMBB
Prof. Shiroma Handunnetti	- Director, IBMBB, Professor in Immunology
Dr. Jagathpriya Weerasena	- Senior Lecturer/Molecular Biology, IBMBB
Dr. W Sumadee de Silva	- Lecturer - Probationary /DNA Diagnostic, IBMBB
Dr. Sameera Samarakoon	- Scientific Assistant (Cell Biology)
Ms. A Sudeshini Hewage	- Lecturer- Probationary/Biochemistry & Molecular Biology
Ms Ruwandi Ranasinghe	- Scientific Assistant (DNA Identification)



Research Collaborators

Prof. Marie Allen	- Professor, Genetics and Pathology, University of Uppsala, Sweden
Prof. Preethika Angunawela	- Professor in Pathology, Faculty of Medicine, UoC
Prof. Ranil Dassanayake	- Prof. in Chemistry, Faculty of Science, UoC
Prof. Dilip De Silva	- Professor of Organic Chemistry, Faculty of Science, UoC
Prof. Deepika Fernando	- Professor of Parasitology, Faculty of Medicine, UoC
Prof. Janaka De Silva	- Professor of Medicine, Faculty of Medicine, UoC
Prof. Shamy De Silva	- Professor in Paediatrics, Department of Paediatrics, UoC
Prof. Tuly de Silva	- Emeritus Professor, Link Natural Products Pvt Ltd
Prof. Needra Karunaratne	- Professor of Biochemistry, University of Peradeniya
Prof. Veranja Karunaratne	- Professor of Chemistry, University of Peradeniya
Prof. Neelika Malavige	- Director, Dengue Research Center, University of Sri Jayewarenepura
Prof. Padmalal Manage	- Professor in Zoology, University of Sri Jayewarenepura
Prof. Sunil Premawansa	- Professor in Zoology, Faculty of Science, UoC
Prof. Senaka Rajapakse	- Professor in Clinical Medicine, Faculty of Medicine, UoC
Prof. W D Ratnasooriya	- Professor of Zoology, Faculty of Science, UoC
Prof. Hemantha Senanayake	- Professor in Obstetrics and Gynecology, UoC
Prof. Sugandi Suresh	- Professor of Biochemistry, Faculty of Medicine, USJP
Prof. Shyama Weerakoon	- Professor of Botany, Open University of Sri Lanka
Prof. Rajitha Wickremesinghe	- Professor in Community Medicine, Faculty of Medicine, UoC
Dr. Achyut Adhikari	- Associate Professor, HEJ Institute of Chemistry, Pakistan
Dr. Erik Rudloff-Bongcam	- Associate Professor, Swedish Agricultural University, Uppsala
Dr. Nandana Dikmadugoda	- Consultant Physician, Base Hospital, Homagama
Dr. Kumudu Fernando	- Former Director, Agri Biotechnology Centre, UoP
Dr. Geethani Galagoda	- Consultant Virologist, Medical Research Institute
Dr. Dinara Gunasekera	- Senior Scientist, Sri Lanka Institute of Nanotechnology
Dr. Lilani Karunanayake	- Consultant Microbiologist, Medical Research Institute
Dr. Nisha Kottearachchi	- Senior Lecturer, Wayamba University
Dr. Sisira Pathirana	- Senior Research Officer, Faculty of Medicine, UoC
Dr. GA Sirimal Premakumara	- Director General, Industrial Technology Institute,
Dr. Gayani Premawansa	- Consultant Physician, North Colombo Teaching Hospital,
Dr. Risintha Premaratne	- Director, Anti-Malaria Campaign
Dr. Radhika Samarasekera	- Herbal Technology Division, Industrial Technology Institute
Dr. Dharshan De Silva	- Director, Genetch Research Institute, Colombo
Dr. Kanishka De Silva	- Consultant Oncological Surgeon, National Cancer Research Institute, Maharagama
Dr. Rajiv De Silva	- Consultant Immunologist, Medical Research Institute,
Dr. Asitha Siriwardena	- Scientist, Sri Lanka Institute of Nanotechnology
Dr. Hasitha Wickramasinghe	- Consultant Physician, Base Hospital, Homagama
Dr. EWRA Witharana	- Consultant Physician, Deniyaya Base Hospital
Mr. D. Kottawa-Arachchi	- Research Officer, Tea Research Institute, Talawakele
Mr. Mendis Wickremasinghe	- Chairman, Sri Lanka Herpetological Society



Research (MPhil/PhD) students

Ms. Ruwandi Ranasinghe	Scientific Assistant (DNA Identification)
Ms. NHL Pradeepa	Research Officer, Tea Research Institute
Ms. A Sudeshini Hewage	Probationary Lecturer (Biochemistry)
Ms. Ayesha U Perera	
Ms. K Dulangi K Karunarathna	
Mr. KH Tissa Karunaratne	
Mr. EP Meran Keshawa	Temporary Scientific Assistant
Ms. MJ Roshan Niloofa	
Ms. TRG Narmada Fernando	Temporary Lecturer (Immunology)
Ms HADI Chrishani Rodrigo	
Mr. NH Kanishka S Senathilake	
Ms. BA Dilani Rukshala	
Ms. Anuka S Mendis	
Ms. D P Panchima Jayarathna	
Ms. HD Sachindra M Perera	
Ms. Saroopa P Samaradivakara	
Ms. EM Sachini I Ekanayaka	
Ms. Maduwanthi Chandhrakanthan	
Ms. Tharmini Sundralingam	
Ms. Rashini Baragama-Arachchi	
Ms. Maheshi Mapalagamage	
Mr. Kanchana S Senanayake	
Mr. Krishan Balaji	
Ms. Kumudu Gunasekera	Parasitologist, Anti Malaria Campaign, Ministry of Health
Ms Uma Rajagopaln	
Ms Vahinipriya Manoharana	
Mr Peshala Gunasekera	

Registered for PG degrees in other HEIs

Dr. Swarna D Hapuarachchi	Institute of Indigenous Medicine, University, of Colombo
Ms. Surani S Ediriweera	Faculty of Science, University of Colombo
Ms. Poorna C Piyathilaka	Faculty of Science, University of Sri Jayewardenepura
Mr. Sadin De Silva	Faculty of Science, University of Colombo
Ms. Vindya Fernando	Faculty of Science, University of Colombo
Dr Padmasiri Dissanayake	Institute of Indigenous Medicine, University, of Colombo



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

Research Papers published in Indexed / Refereed Journals

1. **Amarasinghe APPR, Siriwardhane DAS, Samarasekera RR, Weerasena OVDSJ.** Development of DNA barcodes and optimization of DNA isolation and PCR protocols for a medicinal plant *Plectranthus hadiensis*. **International Journal of Science and Research**. 2015; 4(6) 2852-2856.
2. De Silva KSH, **Tennekoon KH, Sundralingam T, Navarathne B, Hewage AS, De Silva WS, Ganihigama D, Jayasinghe HD**, Muhandiram MEC. Growth hormone releasing hormone receptor codon 72 mutation in a cohort of Sri Lankan patients with growth hormone deficiency. **Ceylon Medical Journal**. 2015, Under Review.
3. **Ediriweera PMK, Tennekoon KH, Samarakoon SR, Thabrew I**, de Silva ED. A study on potential anticancer activity of *Mangifera zeylanica* bark: Evaluation of the cytotoxic and apoptotic effects of the hexane extract and bioassay guided fractionation to identify phytochemical constituents. **Oncology Letters**. 2015; (In Press).
4. **Ediriweera PMK, Tennekoon KH, Samarakoon SR, Thabrew I**, de Silva ED. Cytotoxic and apoptic effects of the bark of two common mango (*Mangifera indica*) varieties from Sri Lanka on breast and ovarian cancer cells. **Br J Pharmaceutical Research**. 2015, (In Press).
5. **Ediriweera SS**, Wijesundera RLC, Nanayakkara CM, **Weerasena OVDSJ**. Comparative study of growth and yield of edible mushrooms, *Schizophyllum commune* Fr., *Auricularia polytricha* (Mont.) Sacc. and *Lentinus squarrosulus* Mont. on lignocellulosic substrates. **Mycosphere**. 2015; 6 (6): 760–765.
6. **Eugene EJ, Handunnetti SM, Wickramasinghe SA, Kalugalage TL**, Rodrigo C, Wickramasinghe H, Dikmadugoda N, Somaratne P, de Silva HJ and Rajapakse S. Evaluation of two immunodiagnostic tests for early rapid diagnosis of leptospirosis in Sri Lanka: a preliminary study. **BMC Infectious Diseases**. 2015;15:319 DOI 10.1186/s12879-015-1080-z.
7. **Rajkumar G, Weerasena OVDSJ**, Fernando KKS. A study of genetic diversity in *Oryza rhizomatis* D.A. Vaughan accessions using AFLP markers and morphological traits. **Tropical Plant Research**. 2015; 2(1): 10-16.
8. **Hewage AS, Jayanthiny P, Tennekoon KH**, Kumarasiri JM, De S Wijesundera AP, **Karunanayake EH**. H19 rs217727 genotype and IGF-1/intron -2 dinucleotide CT repeat polymorphism are independently associated with birth weight. **Endocrine**. 2015; 48(3):1010-2. doi: 10.1007/s12020-014-0402-z



9. **Karthika Mayan, Sameera Ranganath Samarakoon, Kamani Hemamala Tennekoon,** Asitha Siriwardana, José R Valverde. Molecular docking study of selected natural compounds for cancer stem cells targeted anti-cancer activity. **BMC Bioinformatics**, 2015- Under review.
10. **Karunarathna KDK,** Weerakoon SR, Somaratne S, **Weeresena OVDSJ.** Molecular and agro-morphological differences among traditional rice variety “*Pachchaperumal*” and closely related weedy rice eco-types in Sri Lanka. **International Journal of Tropical Agriculture**. 2015; 33.
11. **Mendis AS., Thabrew I, Samarakoon, SR, Tennekoon, KH.** (2015) Modulation of expression of heat shock proteins and apoptosis by *Flueggea leucopyrus* (Willd) decoction in three breast cancer phenotypes. **BMC Complementary and Alternative Medicine**, 15:404. DOI: 10.1186/s12906-015-0927-6.
12. **Narmada Fernando, Shalini Wickramasinghe, Roshan Niloofa,** Chathuraka Rodrigo, Lilani Karunanayake, H Janaka de Silva, Rajitha Wickramasinghe, Sunil Premawansa, Senaka Rajapakse, **Shiroma Handunnetti.** Biomarkers of oxidative stress in severe leptospirosis patients in Sri Lanka. **PLoS ONE. PONE-D-15-23595.** Under Review.
13. **Niloofa R, Fernando N,** de Silva NL, Karunanayake L, Wickramasinghe H, Dikmadugoda N, Premawansa G, Wickramasinghe R, de Silva HJ, Premawansa S, Rajapakse S, **Handunnetti S.** Diagnosis of Leptospirosis: Comparison between Microscopic Agglutination Test, IgM-ELISA and IgM Rapid Immunochromatography Test. **PLoS ONE. 2015 Jun 18;** 10(6): e0129236. doi:10.1371/ journal.pone.0129236.
14. **Piyathilaka MAPC,** Pathmalal MM, **Tennekoon KH, Samarakoon SR, Chanthirika S,** and de Silva BGDNK. 2015. Microcystin LR induced cytotoxicity and apoptosis on human embryonic kidney (HEK 293) and human kidney adenocarcinoma (ACHN) cell lines. **Microbiology**, 2015. 161 (Pt 4), 819-828.
15. Rajapakse S, Rodrigo C, **Handunnetti SM,** Fernando SD. Current immunological and molecular tools for leptospirosis: diagnostics, vaccine design, and biomarkers for predicting severity. **Annals of Clinical Microbiology and Antimicrobials**. 2015 Jan 16;14:2. doi: 10.1186/s12941-014-0060-2DOI 10.1186/s12941-014-0060-2.
16. **Ranasinghe R, Tennekoon KH, Karunanayake EH,** Lembring M, Allen M. 2015 A study of genetic polymorphisms in mitochondrial DNA hypervariable regions I and II of the five major ethnic groups and Vedda population in Sri Lanka. **Legal Medicine (Tokyo)**. 2015; 17: 539-546.
17. Ratnasooriya WD, Jayakody J, **Handunnetti SM,** Ratnasooriya C, Weerasekera KR. Anti-inflammatory activity of hot water infusion of *Nyctanthes arbortristis* flowers. **Indian Journal of Pharmacological Science**. 2015;77:613-9.
18. **Ediriweera S,** Wijesundera R, Nanayakkara C, **Weerasena J.** First report of *Panaeolus sphinctrinus* and *Panaeolus foenisecii* (Psathyrellaceae, Agaricales) on elephant dung from Sri Lanka, **Frontiers in Environmental Microbiology**. 2015; 1(2): 19-23.



19. **Samarakoon SR, Shanmuganathan C, Ediriweera MK, Tennekoon KH, Piyathilaka MAPC, Thabrew I, Galhena P and De Silva DE.** Anti-hepatocarcinogenic and anti-oxidant effects of mangrove plant *Scyphiphora hydrophyllacea*. **Pharmacognocny Magazine**, 2015. Under review.
20. **Samarakoon SR, Chanthirika S, Tennekoon KH, Thabrew MI, Ediriweera PMK, Piyathilaka MAPC, de Silva ED.** Potential *in vitro* cytotoxic and antioxidant activity of leaf extracts of mangrove plant *Phoenix paludosa* Roxb. **Tropical Journal of Pharmaceutical Research**. 2015. (In Press).
21. **Samarakoon SR, Fernando N, Ediriweera MK, Adhikari A, de Silva ED, Tennekoon KH, Wijayabandara L, Choudhary I.** Isolation of hopenone-I from the leaves of mangrove plant *Scyphiphora hydrophyllacea* and its cytotoxic properties. **British Journal of Pharmaceutical Research**. 2015.(In Press).
22. **Saroopa P Samaradivakara, Radhika Samarasekera, Shiroma M Handunnetti, Jagathpriya Weerasena.** Cholinesterase, protease inhibitory and antioxidant capacities of Sri Lankan medicinal plants. **Industrial Crops & Products**. 2015; INDCRO_8615 (In Press).
23. **Sathkumara H, De Silva AD, De Silva NR, Handunnetti S.** Common variable immunodeficiency and role of transmembrane activator and calcium-modulator and cyclophilin ligand interactor. **International Journal of Immunogenetics**. 2015 (19 JUN), DOI: 10.1111/iji.12217.
24. **Senathilake KS, Karunanayake EH, Samarakoon SR, Tennekoon KH, de Silva ED.** Antifilarial activity of the hexane extract of *Curcuma zedoaria* against microfilariae and adult worms of *Setaria digitata* *in vitro*. **Experimental Parasitology**. 2015; Under review
25. **Senaka Rajapakse, Praveen Weeratunga, M.J. Roshan Niloofa, Narmada Fernando, Chathuraka Rodrigo, Sachith Maduranga, Nipun Lakshitha Fernando, H. Janaka De Silva, Lilani Karunanayake, Shiroma Handunnetti.** Clinical and laboratory associations of severity in a Sri Lankan cohort of patients with serologically confirmed leptospirosis – A prospective study. **Transactions of Royal Society of Tropical Medicine Hygiene**. 2015;109 (11): 710-716.
26. **Senaka Rajapakse, Praveen Weeratunga, M.J. Roshan Niloofa, Narmada Fernando, Chathuraka Rodrigo, Sachith Maduranga, Nipun Lakshitha Fernando, H. Janaka De Silva, Lilani Karunanayake, Sunil Premawansa, Shiroma Handunnetti.** A diagnostic scoring model for leptospirosis in resource limited settings - A prospective study. **PLOS Neglected Tropical Diseases**. 2015; Under review.
27. **Shashika D Kothalawala, Daniya Edward, Jayamini C Harasgama, Roshan Niloofa, OVDSJ Weerasena, GAS Premakumara, WD Ratnasooriya, Shiroma M. Handunnetti.** Immuno-modulatory and iNOS inhibitory activity of traditional Sri Lankan hot water extract of *Coriandrum sativum* and *Coscinium fenestratum*. **Journal of Ethnopharmacology**, 2015; Under Review.



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28. Vinotha S., **Thabrew I**, Sri Ranjani S. Phytochemical screening of various extracts of Root of *Withania somnifera* (L) Dunal. **Archives of Business Research**, 2015; 3:179-184.
 29. Vinotha S, **Thabrew I**, Sri Ranjani S. Standardization of Amukkirai chooranam, a Traditional Herbal Preparation in Siddha System of medicine. **European Journal of Medicinal Plants**. 2015; 5(2): 1-13. Article EJMP 2015 013
 30. Wickramasinghe LJM, Bandara IN, Vidanapathirana DR, **Tennekoon KH, Samarakoon SR, Wickramasinghe N.** *Pseudophilautus dilmah*, a new species of shrub frog (Amphibia: Anura: Rhacophoridae) from a threatened habitat Lookandura in Sri Lanka. **Journal of Threatened Taxa**. 2015; 7(5): 7089-110.



Research Communications:

Abstracts published in Scientific Meetings (print or electronic)

1. **Baragamaarachchi RY, Weearasena OVDSJ, Handunnetti SM, Samarasekara R.** (2015). Recommendations to enhance reproducibility and reliability in comet assay. Proceedings of the 4th Global summit on Toxicology, **Journal of Clinical Toxicology**. 5(3) ; pp 94.
2. **Baragamaarachchi RY, Weearasena OVDSJ, Handunnetti SM, and Samarasekara R.** (2015). Cytotoxic and genotoxic potential of *Walidda antidysenterica* on human lymphocytes - A herb used in Sri Lankan traditional medicine. **Proceedings of the 4th Global summit on Toxicology, Journal of Clinical Toxicology**; 5(3): pp 101.
3. **Baragamaarachchi RY, Weearasena OVDSJ, Samarasekara R.** (2015). Isolation and molecular characterization of Sri Lankan *Bacillus thuringiensis* for Lepidopteran activity. **Proceedings of the 44th Annual Sessions of Institute of chemistry Ceylon**. 32(2): A-03, pp 11
4. **Baragamaarachchi RY, Weearasena OVDSJ, Samarasekera R** (2015). Isolation, identification and molecular characterization of *Bacillus thuringiensis* serovar *graciosensis* from Sri Lankan soil. **Proceedings of the 7th Annual Scientific Sessions of Institute of Biochemistry, Molecular Biology & Biotechnology (IBMBB), University of Colombo**. pp: 26.
5. **Baragamaarachchi RY, Weearasena OVDSJ, Samarasekara R.** (2015). Insecticidal active *Bacillus thuringiensis* to control Lepidopteran pests of agricultural crops. **Proceedings of the 8th International Research Conference of Kothalawala Defence University**.
6. **Chandhrakanthan M, Kathirgamanathan S, Handunnetti SM, Premakumara GAS.** (2015). Evaluation of anti-inflammatory activity of *Alpinia calcarata* leaf extracts: An *in vitro* study (OP6). . **Proceedings of the 7th Annual Scientific Sessions of Institute of Biochemistry, Molecular Biology & Biotechnology (IBMBB), University of Colombo**. 21st May 2015; 16.
7. **Chandrakanthan M, Kathiragamanathan S, Handunnetti SM, Premakumar GAS.** (2015). Extracts of *Alpinia calcarata* (Lesser Galanga) inhibits production of inflammatory mediator-nitric oxide in RAW 264.7 murine macrophages. **Proceedings of the Young Scientists Forum**. 23rd January 2015. pp 37-40
8. **De Silva OKC, Samarakoon SR, Tennekoon KH, Fernando EHN.** (2015). Possible potentiation of anti-proliferative effect of tamoxifen in MCF-7 breast cancer cells by a bioactive fraction of mangrove plant *Scyphiphora hydrophyllacea*: A pilot study. **Proceedings of the 7th Annual Scientific Sessions of Institute of Biochemistry, Molecular Biology & Biotechnology (IBMBB), University of Colombo**, pp 35.



9. **De Silva S, Tennekoon KH, Dissanayake A, De Silva K, Jayasekara L, Manoharan V.** (2015). Association of pathogenic mutations in *BRCA2* exon 11 with early onset breast cancer in Sri Lankan population. **Proceedings of the AACR: New Horizons in Cancer Research Conference.** 2015: Shanghai, China.
10. **Ediriweera PMK, Tennekoon KH, Samarakoon SR, Thabrew I, de Silva ED.** (2015). Cytotoxic and apoptic potential of Sri Lankan endemic mango (*Mangifera zeylanica*) and common mango (*Mangifera indica*). **TWAS Regional Conference of Young Scientists on the topic "Nanoscience & Nanomaterials"** during February 18 - 20, 2015 at Bangalore.
11. **Ediriweera PMK, Tennekoon KH, Samarakoon SR, Thabrew I, de Silva ED, Adhikari A.M. Iqbal Choudhary.** (2015). Isolation of quercetin from the bark of *Mangifera zeylanica* and its cytotoxicity against MCF-7 breast cancer cells. **Proceedings of the 7th Annual Scientific Sessions of the Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo.** pp 12.
12. **Ekanayaka EMSI, Weerakoon,SR, Somaratne S. Weerasena OVDSJ.** (2015). Ethyl Methyl Sulfonate (EMS) induced Herbicide Resistance in Sri Lankan rice (*Oryza sativa*) varieties, **Proceedings of the International Conference of multidisciplinary approaches, Faculty of graduate studies, University of Sri Jayewadenepura.**
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22. **Jayasekara BMLP, De Silva WS, Tennekoon KH, De Silva K, Dassanayake A.** (2015). Screening of a cohort of young onset Breast cancer patients for c.2175_2176insA mutation in the *BRCA2* gene. **Proceedings of the 7th Annual Scientific Sessions of Institute of Biochemistry, Molecular Biology & Biotechnology (IBMBB), University of Colombo.** pp 32.
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30. **Mapalagamage MS**, **Handunnetti SM**, Premawansa G, Karunayokiny K, De Silva AD, Premawansa S. (2015). Increased serum nitrite levels and low serum IgM levels in severe dengue (dengue haemorrhagic fever) patients. **Proceedings of the 71st Annual Sessions of the SLAAS 2015.** pp 6.
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35. Nadikala M, Pathirana PPSL, Peiris S, **Handunnetti SM**, Galagoda GCS. (2015). Degree of maternal transfer of antibodies against measles, mumps and Rubella to newborns of pre- and post-vaccination era mothers. **Proceedings of the Young Scientists Forum**. 23rd January 2015. pp 128-131.
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41. **Perera HDSM**, Samarasekera R, **Handunnetti S**, Weerasena OVDSJ. (2015). *In vitro* anti arachidonate 5-lipoxygenase activity of selected Sri Lankan medicinal plants. **Proceedings of the Biennial Research Symposium of the Industrial Technology Institute**. 16-17th November 2015.
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46. Rajapakse S, Weeratunga PN, Rodrigo C, Sriharan S, **Niloofa MJR**, **Fernando N**, de Silva HJ, Karunanayake L, Premawansa S, **Handunnetti S**. (2015). Clinico-epidemiological characteristics, treatment and outcomes of patients with confirmed leptospirosis in a Sri Lankan healthcare setting. (OP009). **Proceedings of the 128th Anniversary (SLMA) International Medical Congress**. 6-8th July 2015, pp 120-121.
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50. **Roshan Niloofa**, **Narmada Fernando**, Lilani Karunanayake, H Janaka de Silva, Sunil Premawansa, Senaka Rajapakse, **Shiroma Handunnetti**. Leptospirosis severity association with the humoral immune response. **Proceedings of the 2nd European Leptospirosis Society (ELS) meeting on Leptospirosis and other rodent borne haemorrhagic fevers**. 16-18th April 2015; pp 56.



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53. **Sanmugarajah, V, Thabrew, I, Sivapalan, SR** (2015). Association between Body Mass Index and Knee osteoarthritis among patients seeking Ayurveda Medicine in Jaffna District, **Proceedings of the 128th Anniversary International Medical Congress of Sri Lanka Medical Association.** 5th – 8th July 2015, pp. 239 (Poster Presentation).
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56. **Senathilake KS, Samarakoon SR, Karunanayake EH, Tennekoon KH, De Silva ED** (2015). Antifilarial and antioxidant activities of *Calotropis gigantea* and *Zingiber cylindricum*. **Proceedings of 5th International Symposium-cum-Training Course on Molecular Medicine and Drug Research.** Jan 12-15; Karachi, Pakistan. pp 77.
57. **Senathilake NHKS, Samarakoon SR, Karunanayake EH, Tennekoon KH** (2015). *In vitro* effects of selected anti-wolbachial antibiotics against filarial parasite *Setaria digitata*. **Proceedings of the 7th Annual Scientific Sessions of Institute of Biochemistry, Molecular Biology & Biotechnology (IBMBB), University of Colombo.** pp 17.
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61. **Sundralingam T, Tennekoon KH, De Silva KSH, De Silva S, Hewage AS.** (2015). *GHI* gene sequence variants in a cohort of growth hormone deficient children in Sri Lanka. **Proceedings of the TWAS Regional Conference of Young Scientists on Nanoscience & Nanomaterials.** 18th -20th February 2015, Bangalore, India, Abstract No. PS63.
62. **Tennekoon KH, Ranasinghe RACR, Karunanayake EH, M Lembring, Allen M.** (2015). Maternal lineage of major ethnic groups in Sri Lanka including the vedda population. **Proceedings of the 14th FAOBMB Congress & 84th Annual Meeting of SBC.** (I) 24-30 November 2015, Hyderabad, India.
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64. **Thammitiyagodage MG, Gunatillake MM, Karunakaran R, Kumara WGSS, Galhena BP, Thabrew MI.** (2015). Urine microalbumin/creatinine ratio in Wistar rats given unboiled and boiled water collected from dug wells in high disease prevalent areas from CKDU in North central Province (NCP) and water from low disease prevalent Huruluwewa area in NCP. **Proceedings of the 128th International Congress of the Sri Lanka Medical Association.** 6 - 8 July 2015, Colombo, Sri Lanka.
65. **Threeswaran R, Gooneratne L, Handunnetti SM, Rajapakse S.** Coagulation disorders in patients with leptospirosis (PP4). **Proceedings of the 7th Annual Scientific Sessions of Institute of Biochemistry, Molecular Biology & Biotechnology (IBMBB), University of Colombo..** 21st May 2015; pp 31.
66. **Vahinipriya M, Karunanayake EH, Tennekoon KH.** (2015). *In silico* characterization of senescence associated protein of *Setaria digitata* (sdSAP). **Proceedings of the TWAS Regional Conference of Young Scientists on Nanoscience & Nanomaterials.** 18th -20th February 2015, Bangalore, India
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68. Vinotha Sanmugarajah, **Ira Thabrew** and Sri Ranjani Sivapalan (2015). Efficacy of Vellaruguchooranam with Thalangaennai in the Treatment of Knee osteoarthritis and Life style assessed by WOMAC score, Proceedings of Ayurveda Expo 2015 **Proceedings of the International Symposium, Organized by The National Chamber of Commerce of Sri Lanka.** 3rd to 5th July 2015 (Oral Presentation done).
69. Wickramasinghe N, **Tennekoon KH, Samarakoon SR,** Bandara IN, Vidanapathirana DR, Wickramasinghe LJM. (2015). DNA barcoding of a novel amphibian species from the Central highlands of Sri Lanka. **Proceedings of the 7th Annual Scientific Sessions of Institute of Biochemistry, Molecular Biology & Biotechnology (IBMBB), University of Colombo.** 2015. pp 27



Table 1: MPhil/PhD Degrees in Progress and New Registrations – Year 2015

	Index Number	Name of the student	Degree registered	Source(s) of funds	Tentative Title	Supervisors
01	IBMBB/MPhil /08/002	Ms. Ruwandi ACR Ranasinghe	PhD	National Research Council- NRC-09-20	A study of genetic polymorphisms in mitochondrial DNA hypervariable regions I and II of the Sri Lankan population	Prof. Eric H Karunanayake Prof. Kamani H Tennekoon Prof. Marie Allen, (Sweden)
02	IBMBB/MPhil /08/005	Ms. NHL Pradeepa	PhD	Funds available from Tea Research Institute	DNA Phylogeny, morphology and pathogenicity of <i>Macrophoma theicola</i> patch the casual agent of stem canker in Tea	Dr. OVDSJ Weerasena Dr. A Balasriya
03	IBMBB/MPhil /10/001	Ms. A Sudeshini Hewage	PhD	NRC/IPICS	Selected polymorphisms of the H19 and IGF-II genes in a Sri Lankan birth cohort: effect of maternal and newborn genotype on birth size	Prof. Eric H Karunanayake Prof. Kamani H Tennekoon
04	IBMBB/MPhil /11/001	Ms. Ayesha U Perera	MPhil/PhD	National Research Council- NRC-11-099	Molecular identification of <i>Ralstonia solanacearum</i> (E.F.Smith) in seed potato	Dr. P Nilanthi Dassanayake Dr. OVDSJ Weerasena
05	IBMBB/MPhil /12/001	Ms. K Dulangi K Karunarathna	MPhil/PhD	National Science Foundation- NSF/RG/2011/BT/06	Assessment of Genetic diversity and tracing the origin of weedy rice population found in rice fields in Sri Lanka	Dr. Shyma R Weerakoon Dr. OVDSJ Weerasena Dr. S Somaratne
06	IBMBB/MPhil /12/002	Mr. KH Tissa Karunarathna	MPhil/PhD	National Research Council-NRC-09-066	Use of SSR markers for genetic characterization and finer-printing of recommended tea (<i>Camellia sinensis</i> L) cultivars and tagging of blister blight disease resistance in tea	Dr. KM Mewan Dr. OVDSJ Weerasena



	Index Number	Name of the student	Degree registered	Source(s) of funds	Tentative Title	Supervisors
07	IBMBB/MPhil /12/004	Mr. EP Meran Keshawa	PhD	National Research Council- NRC-11-018	Possible anti-carcinogenic effects of <i>Mangifera zeylanica</i> : Identification of active compounds and evaluation of molecular mechanisms	Prof. Kamani H Tennekoon Prof. Ira Thabrew Prof. E Dilip De Silva
08	IBMBB/MPhil /12/005	Ms. HACIK Rodrigo	MPhil/PhD	National Research Council- NRC-11-018	Determination of circulating levels of Leptin, soluble leptin receptor and nicotinamide phosphoribasyl transferease and selected leptin and leptin receptor genotypes in a cohort of sporadic breast cancer patients in Sri Lanka	Prof. Kamani H Tennekoon Prof. Eric H Karunanayake
09	IBMBB/MPhil /12/006	Ms. MJ Roshan Niloofa	PhD	National Science Foundation- NRC/RG/2011/HS/19	Studies on comparing rapid immunodiagnostic methods and immune status of leptospirosis in Western province in Sri Lanka	Prof Shiroma M Handunnetti Prof. Senaka Rajapakse Prof. W Sunil Premawansa
10	IBMBB/MPhil /12/007	Ms. TRG Narmada Fernando	PhD	National Research Council- NRC-11-077	Studies on factors contributing to pathogenesis of severe leptospirosis in Sri Lanka	Dr. Shiroma M Handunnetti Prof. W Sunil Premawansa Prof. Senaka Rajapakse
11	IBMBB/MPhil /13/001	Ms. BA Dilani Rukshala	MPhil/PhD	Ministry of Higher Education – Drug leads	Drug Leads from medicinal plants in Sri Lanka: Investigation on immunomodulatory / anti-allergic activity	Prof Shiroma M Handunnetti Prof. E Dilip de Silva



	Index Number	Name of the student	Degree registered	Source(s) of funds	Tentative Title	Supervisors
12	IBMBB/MPhil /13/002	Mr. NH Kanishka S Senathilake	MPhil/PhD	Ministry of Higher Education – Drug leads	Search for antifilarial drugs from Sri Lankan medicinal plants	Prof. Eric H Karunanayake Prof. Kamani H Tennekoon
13	IBMBB/MPhil /13/003	Ms. Anuka S Mendis	PhD	Ministry of Higher Education – Drug leads	To evaluate potential use of <i>Flueggea leucopyrus</i> & <i>Vernonia zeylanica</i> in the treatment of breast cancer	Prof. Ira Thabrew Prof. Kamani H Tennekoon
14	IBMBB/MPhil /13/004	Ms. DDP Panchima Jayarathna	MPhil/PhD	Ministry of Higher Education – Drug leads	Screening of selected endemic plants for possible cytotoxic compounds & isolation & structure elucidation of potential anticancer compound(s) identified	Prof. Kamani H Tennekoon Prof. Ira Thabrew Prof. Dilip de Silva Prof. Eric H Karunanayake
15	IBMBB/MPhil /13/005	Ms. HD Sachindra M Perera	MPhil/PhD	National Research Council- NRC-12-100	Studies on antioxidant, immunomodulatory and β -lactamase inhibitory bioactives of medicinal plants	Dr. Radhika Samarasekera Prof Shiroma Handunnetti Dr. OVDSJ Weerasena
16	IBMBB/MPhil /13/006	Ms. Saroopa P Samaradivakara	MPhil/PhD	National Research Council- NRC-12-100	Studies on antioxidant cholinesterase & Protease Inhibitory bio actives of medicinal plants	Dr. Radhika Samarasekera Dr. OVDSJ Weerasena Prof Shiroma Handunnetti
17	IBMBB/MPhil /13/007	Ms. EM Sachini I Ekanayaka	MPhil/PhD	National Research Council- NRC-12-037	Developing herbicide resistant (HR) Sri Lankan rice (<i>Oryza sativa</i> L) varieties by means of seed/anther mutagenesis and developing molecular markers to identify HR rice	Prof. Shyama R Weerakoon Dr. OVDSJ Weerasena Prof. Tara D Silva Dr. S Somaratne



	Index Number	Name of the student	Degree registered	Source(s) of funds	Tentative Title	Supervisors
18	IBMBB/MPhil /13/008	Ms. Maduwanthi Chandhrakanthan	MPhil/PhD	National Research Council- NRC-12-081	Activity studied isolation of anti inflammatory compounds from <i>Alpinia carcarata</i> rhizome and leaf	Dr. Selvaluxmy Chelvendran Prof Shiroma Handunnetti Dr. GA Sirimal Premakumara
19	IBMBB/MPhil /14/001	Ms. Rashini Y Baragama-Arachchi	MPhil/PhD	National Science Foundation- NSF/RG/2011/BT/05	Molecular and biochemical characterization of Bt isolates with insecticidal activity in Sri Lanka	Dr. Radhika Samarasekara Dr. OVDSJ Weerasena
20	IBMBB/MPhil /14/002	Mr. Kanchana S Senanayake	MPhil/PhD	Swedish Research Links International collaborative research grant- The Swedish Research Council	Analysis of <i>Seteria digitata</i> genome using NGS technologies: identification of potential drug targets in <i>Seteria digitata</i>	Dr. Erik Bongcam Rudloff Prof. EH Karunanayake Prof. Kamani H Tennekoon
21	IBMBB/MPhil /14/003	Ms. Tharmini Sundralingam	MPhil/PhD	National Science Foundation- NSF/RG/2011/BT/03	Characterization of mutations and sequence variants of growth hormone (GH) and growth hormone releasing hormone receptor (GHRH-R) in a cohort of Sri Lankan children with GH deficiency	Prof. KH Tennekoon Prof. Shamya De Silva
22	IBMBB/MPhil /14/004	Mr. Krishan R Balaji	MPhil/PhD	University of Colombo Research Grant- AP/3/2/2014/RG/14	Sero-epidemiology of human leptospirosis in the District of Colombo, Sri Lanka	Prof. Senaka Rajapakse Prof Shiroma Handunnetti Prof. Deepika Fernando
23	IBMBB/MPhil /14/005	Ms. Maheshi S Mapalagamage	MPhil/PhD	National Science Foundation- NSF/RG/2014/HS/04	Studies on prognostic markers and pathogenesis of severe dengue associated with oxidative stress, host genetic polymorphisms and endothelial dysfunction	Prof. Sunil Premawansa Prof Shiroma Handunnetti Dr. Dharshan De Silva Dr. Gayani Premawansa



	Index Number	Name of the student	Degree registered	Source(s) of funds	Tentative Title	Supervisors
24	IBMBB/MPhil /14/006	Ms. WM Kumudu T de AW Gunasekera	MPhil	National Science Foundation- NSF/RG/2014/HS/04	Comparison of parasitological and molecular diagnostic methods used for malaria diagnosis in the phase of prevention of reintroduction of malaria in Sri Lanka	Prof. Deepika Fernando Prof. Sunil Premawansa Prof Shiroma Handunnetti Dr. Jagath Weerasena Dr. Risintha Premaratne
25	IBMBB/MPhil /15/001	Ms. Vahinipriya Manoharan	MPhil/PhD	University Grants Commission- UGC/VC/DRIC/SRSP/ 2014/CMB-01 AND National Research Council NRC 15-33	Analysis of somatic mutations of <i>TP53</i> gene in cancer from paraffin embedded or fresh cancer tissue of cancer patients in Sri Lanka and mutation analysis at RNA and Protein levels	Prof Eric H Karunanayake Prof Kamani H Tennekoon Dr. Sumadee De Silva Dr. Kanishka De Silva
26	IBMBB/MPhil /15/001	Ms. Umapriyatharshini Rajagopalan	MPhil/PhD	National Research Council NRC – 14 - 067	Screening of Sri Lankan endemic plants for anti-cancer stem cell activity and evaluation of anti-cancer stem cell properties of isolated compounds from active plants for breast cancer	Dr. Sameera R. Samarakoon Prof. K.H. Tennekoon Prof. E Dilip de Silva
27	IBMBB/MPhil /15/003	Mr D L Peshala E Gunasekera	MPhil/PhD	National Science Foundation- NSF/RG/2015/HS/02	Immunochemical characterization of venom of <i>Apis dorsata</i>	Dr Rajiv De Silva Prof. Sunil Premawansa Prof Shiroma Handunnetti Prof Sriyani Dias



Table 2 : Student Registered in other Higher Educational Institutions & carrying a part of study in the IBMBB Laboratories - 2015

No.	Name of student	Degree registered	Affiliation	Source of funds	Tentative title of Thesis	Names of Supervisors
1	Ms. Poorna C Piyathilake	PhD	Uni. of Sri Jayewarenepura	NRC-11-034	Molecular detection of toxigenic cyanobacteria, quantification of microcystin and exploiting microbial diversity to remove microcystin for water treatment solution	*Prof. Kamani H Tennekoon Prof. MM Pathmalal Prof. Nissanka de Silva
2	Mr. Sadin De Silva	MPhil/PhD	Faculty of Science, Uni. of Colombo	Treasury Grant- Drug Leads from Medicinal Plants	Antimicrobial agent from Sri Lankan medicinal plant	Prof. Dilip De Silva *Prof. Kamani H Tennekoon
3	Ms. Surani Ediriweera	MPhil/PhD	Faculty of Science, Uni. of Colombo	NRC-11-040	Study of diversity of macrofungi in selected dry zone forest reserves of Sri Lanka	Prof. Ravi Wijesundara Dr. C Nanayakkara *Dr. Jagath Weerasena
4	Ms. HKAVindya AK Fernando	MPhil/PhD	Faculty of Science, Uni. of Colombo	HETC-Faculty of Science	Ecotoxicological effects of chromium on selected fauna in Sri Lanka	Prof. Sunil Premavansa Dr Mayuri Wijesinghe *Prof. SM Handunnetti *Dr. Jagath Weerasena
5	Dr. D Padmasiri A Dissanayake	MPhil/PhD	Indigenous Medicine, Uni. of Colombo	HETC-Institute of Indigenous Medicine	Anti-inflammatory potential of decoctions of <i>Cyathulla prostrata</i> , <i>Acyranthus aspera</i> and <i>Asparagus racemosus</i>	Prof. HMA Thisera *Prof. SM Handunnetti Dr. S Sivaganesh

* Supervisors for research component conducted at IBMBB, University of Colombo.



Table 3 : Research Funding -2015. *Funds received by the Principal Investigators Institution and made available for research component conducted at IBMBB,UOC

Grantee	Name of the Project	Funding Agency	Grant No	Funds available (Rs)
Prof Kamani Tennekoon (PI)	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	RG/2011/BT/03	1,115,438.81
Prof Kamani Tennekoon (PI)	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	NRC-11-018	4,398,014.00
Prof Shiroma Handunnetti (PI)	Studies on factors contributing to pathogenesis of severe leptospirosis in Sri Lanka	National Research Council	NRC-12-077	707,506.63
Prof Shiroma Handunnetti (PI)	Studies on comparing immunodiagnostic methods and immune status of leptospirosis patients in Colombo and Gampaha districts	National Science Foundation	RG/2011/HS/19	383,976.00
Prf Ira Thabrew (PI)	An <i>in-vitro</i> evaluation of the effects of a decoction prepared from <i>Flueggea leucopyrus</i> wild on the expression of heat shock proteins in breast cancer cells	National Science Foundation	NSF/Fellow/2012/01	27,931.00
Dr. R. Samarasekara (PI) Dr OVDSJ Weerasena (Co-I)	Studies on antioxidant, immunomodulatory and β -lactamase inhibitory bioactives of medicinal plants.	National Research Council	NRC-12-100	-
Prof SR Weerakoon (PI) Dr OVDSJ Weerasena (Co-I)	Assessment of Genetic diversity and tracing the origin of weedy rice population found in rice fields in Sri Lanka	National Science Foundation	RG/2011/BT/06	*20,724.14
Dr OVDSJ Weerasena (Co-I) Dr. R. Samarasekara (PI)	Development of <i>Bacillus thuringiensis</i> (Bt) microbial pesticide with enhanced and broad spectrum activity to control rice and vegetable pests	National Science Foundation	RG/2011/BT/05	*487,613.00
Prof. Deepika Fernando (PI) Dr. OVDSJ Weerasena (Co-I) Prof. Sunil Premawansa (Co-I) Dr S Handunnetti (Collaborator)	Monitoring the management response following the detection of malaria cases during the phase of malaria elimination in Sri Lanka	National Science Foundation	RG/2014/HS/03	*1,556,253.05
Dr. Jagath Weerasena (Co-I) Prof. S.R. Weerakoon (PI)	Developing herbicide resistant (HR) Sri Lankan rice (<i>Oryza sativa</i> L.) varieties by means of seed/anther mutagenesis and molecular screening of mutants to identify potential molecular marders to identify HR rice.	National Research Council	NRC 12-037	*609,269.34



Dr Sumadee De Silva (PI)	Analysis of mutations and polymorphisms in exon 11 of <i>BRCA2</i> gene in Sri Lankan young breast cancer patient	National Science Foundation	RG/2014/BT/04	521,080.00
Dr Sameera R Samarakon (PI)	Screening of selected mangrove plants for anti-cancer activity	International Foundation of Science	F/5377-1	1,299,351.48
Prof EH Karunanayake (PI) Prof KH Tennekoon (Co-I) Mr KS Senanayake (Co-I)	Using next generation sequencing technologies (NGS) to find a cure for human and cattle filariasis.	Swedish Research links programme 2014	2013-6757	968,743.60
Dr Sameera R Samarakon (PI)	Cancer stem cells targeted drug leads from Sri Lankan endemic plants for breast cancer	National Research Council	NRC-14-067	1,188,169.00
Prof Senaka Rajapakse (PI) Prof Shiroma Handunnetti (Co-I) Prof Deepika Fernando (Co-I)	Sero-epidemiology of human leptospirosis in the District of Colombo, Sri Lanka	University of Colombo	AP/ 3/2/2014/ RG/14	*1,659,687.97
Prof Sunil Premawansa (PI) Dr SM Handunnetti (Co-I) Dr Dharshan De Silva (Co-I) Dr Gayani Premawansa (Co-I)	Studies on prognostic markers and pathogenesis of severe dengue associated with oxidative stress, host genetic polymorphisms and endothelial dysfunction	National Science Foundation	RG/2014/HS/04	*1,713,153.40
Dr. Sumadee De Silva (PI)	Analysis of somatic mutations of <i>TP53</i> gene in cancer from paraffin embedded or fresh cancer tissue of cancer patients in Sri Lanka	University Grants Commission	UGC/VC/DRIC /SRSP/2014/C MB-01	447,450.50
Dr. Sumadee De Silva (Co-I)	TP53 mutation in selected cancers: Analysis of mutation at RNA and protein and in cell free DNA	National Research Council	NRC 15-033	4,809,512.00
Dr Rajiva De Silva (PI) Prof Shiroma Handunnetti (Collaborator)	Immunochemical characterization of hymenopteran insect venom of <i>Apis cerana</i> , <i>A. dorsata</i> and <i>Vespa affinis</i> .	National Science Foundation	RG/2015/HS/02	*159,560.00
Dr. Neelika Malavige (PI) Dr Sameera Samarakon (Co-I) Prof. K H Tennekoon (Co-I)	Determining the role of dengue NS1 in the pathogenesis of dengue infections- from National Research Council Sri Lanka	National Research Council	NRC-15-014	*140,000.00
Total funds available from Research Grants in year 2015				22,213,433.92

Activated from 2016 onwards



Table 4 : PhD Dissertation – 2015

Name of the Student	Gender	Year of entry	Dissertation submission	Degree Programme	Title of the Dissertation / Thesis
RACR Ranasinghe	F	2008	2015	PhD / IBMBB	Mitochondrial DNA analysis, haplotype and haplogroup determination and inference of maternal lineage in five major ethnic groups and Vedda population in Sri Lanka

Table 5 : MSc Dissertations – 2015: Molecular Life Sciences

Name of the Student	Gender	Year of entry	Year of submission	Degree	Title of the Dissertation / Thesis
Mr Adnan Ahamad	M	2014	2015	MSc / MLS	Designing of InDel markers and applicability study of InDel markers in varietal differentiation of Sri Lankan rice.
Mr Budhil D De Silva .	M	2014	2015	MSc / MLS	Immunochemical characterization of venom of trap-jaw ant, <i>Odontomachus simillimus</i> * (Dala Kadiya) (Hymenoptera;Formicidae)
Ms Rashmi V Gamage	F	2014	2015	MSc / MLS	Association of <i>BRCA2</i> N372H polymorphism with breast cancer susceptibility in young breast cancer patients in Sri Lanka
Ms K M Gunasena.	F	2014	2015	MSc / MLS	Isolation and molecular identification of Pectin degrading fungi and determination of pectinases activity
Ms M K S Jayalath	F	2014	2015	MSc / MLS	Optimization of a purification method of cellulase from the fungus <i>Beauveria feline</i>
Ms M V M L Jayasundara	F	2014	2015	MSc / MLS	A pilot study on selected point mutations of CYP21A2 gene among Sri Lankan children with congenital adrenal hyperplasia
Ms S H D K Jayathilaka	F	2014	2015	MSc / MLS	A pilot study on <i>CYP21A2</i> gene deletion among Sri Lankan children with congenital adrenal hyperplasia
Ms J Nirmalee Lowe	F	2014	2015	MSc / MLS	A molecular phylogenetic analysis of four amphibian species of the endemic Sri Lankan genus <i>Pseudophilautus</i>



Mr G B Motube	M	2014	2015	MSc / MLS	A pilot study on humoral immune response to pathogenic <i>Leptospira</i> spp (<i>L.interrogans pyrogenes</i>)
Mr Nwokwu C Daniel	M	2014	2015	MSc / MLS	Expression of apoptosis-related genes in response to improved Gedunin by nano-encapsulation in human small-cell lung cancer (NCIH-292) Cells
Ms H S P C Iromi	F	2014	2015	MSc / MLS	Effects of natural compounds on embryonic cancer stem cell line (NTera2/cl.D1); optimization of an <i>in vitro</i> model to evaluate induced differentiation by natural product in cancer stem cells as a therapeutic target of cancer
Ms Nivethitha Sivakumaran .	F	2014	2015	MSc / MLS	Evaluation of proapoptotic effects and apoptosis related genes expression in response to govaniadine in breast cancer cells
Ms Luxmiga Tharmarajah.	F	2014	2015	MSc / MLS	Proanthocyanidins from the bark of <i>Thespesia populnea</i> (L) correa solvent extracts, on cell survival and apoptosis of human hepatoma (HepG2) cells
Ms C Pabasara K Weeraman	F	2014	2015	MSc / MLS	A pilot study on genetic screening of Inducible T cell co-stimulator (ICOS) in patients with common variable immunodeficiency (CVID)
Ms I Wickramage.	F	2014	2015	MSc / MLS	Prevalence of selected polymorphisms of <i>CYP2D6</i> gene in a cohort of breast cancer patients: Association with resistance to Tamoxifen
Mr W A Gihan C Jayawardana	M	2013	2015	MSc / MLS	Design and optimization of new set of primers to determine Insulin growth factor-II 820 G>A polymorphism
Ms G Gayani M Fonseka	F	2011	2015	MSc /MLS	DNA barcoding and analysis of Latex protein profile of Sri Lankan Mountain Papaya



Snapshots of Events in 2015

7th IBMBB Academic Sessions – May 2015



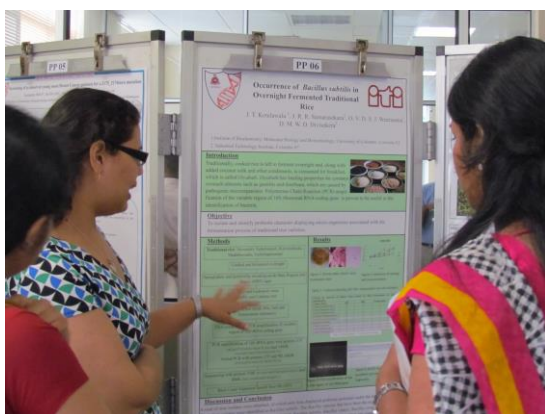
Inauguration – Welcome addressing by Director – Prof. Shiroma Hadunnetti



Prof. Stanley Wijesundera Memorial lecture
by Prof. Kamani H Tennekoon



Oral Presentaion



Poster sessions



Convocation - 2015



Short Training Courses – 2015

Training course in Gene cloning and recombinant protein expression- January 2015



Participants and Resource persons
Dr. J Weerasena's Lecture



Laboratory sessions

Training Course in Cell Culture Techniques – May 2015



Participants and Resource persons



Lecture by Parasana
Galhena



Awarding Certificates by Prof. Kamani
Tennekoon



Awarding certificate by Dr. Sameera
Samarakoon



Workshop on Gene Annotation – December 2015



Participants at the Introductory Lecture



Participants and Resource persons



The team of researchers from IBMBB with Emeritus Prof. Eric H Karunanayake, Founder Director of IBMBB, and Prof. V Krishnan, Coordinator of The Third World Academy of Science Regional Office for Central and South Asia. Ms.A.Mendis, Ms. V. Manoharan, Mr. M.Ediriweera, Ms. C. Rodrigo, Ms. S. Hewage, Ms. T. Sundralingam, Ms. J. Harasgama attended the conference representing IBMBB.



NSF Awards 2015-12-15

National Science Foundation award for Support Scheme for Supervision of Research Degrees (SUSRED) 2015 - Prof Shiroma Handunnetti (Second row, third from the right)



Open Day – 29th September 2015



Registration Table



Bana Programme 27th May 2015





Staff Welfare Programmes

Outbound Training Programme – 7th November 2015



Blood Donation- 21st July 2015





INSTITUTE OF BIOCHEMISTRY, MOLECULAR BIOLOGY & BIOTECHNOLOGY
UNIVERSITY OF COLOMBO

STATEMENT OF FINANCIAL POSITION AS AT 31st DECEMBER 2015

(Figures adjusted to the Nearest Rupee)

	Note	2015 Rs.	2014 Rs.
<u>ASSETS</u>			
<u>CURRENT ASSETS</u>			
Bank Balances	Note - 02	11,741,209	7,225,960
Investments in call deposits		11,215,000	13,065,000
Other Receivables	Note - 03	1,462,164	3,129,268
Advance A/C	Note - 04	1,437,363	1,283,273
Staff Loans	Note - 05	2,854,855	2,585,515
Investments	Note - 06	27,986,590	26,217,781
Chemicals & Glassware		8,074,503	7,890,072
		64,771,683	61,396,868
<u>NON CURRENT ASSETS</u>			
Motor Vehicles	Note - 07	5,734,503	-
		937,079	
Library Books and Periodicals	Note - 07		584,507
		951,840	
Lab Tools	Note - 07		111,339
		266,338	
Fixtures and Fittings	Note - 07		94,230
		18,683,495	
Lab and Teaching Equipment	Note - 07		23,568,315
		4,638,785	
Computers	Note - 07		4,600,778
		5,954,424	
Office Furniture & Equipment	Note - 07		4,890,005
		37,166,464	33,849,175
TOTAL ASSETS		101,938,147	95,246,043



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

STATEMENT OF FINANCIAL POSITION AS AT 31st DECEMBER 2015

	2015 Rs.	2014 Rs.
<u>LIABILITIES</u>		
<u>CURRENT LIABILITIES</u>		
Refundable Deposits	78,793	87,230
Refundable Laboratory Deposits	2,441,500	2,055,500
Accrued Expenditure And Other Payable	3,641,229	1,775,423
	6,161,522	3,918,153
<u>NON CURRENT LIABILITIES</u>		
Provision for Gratuity	Note -08 4,631,178	3,880,858
Provision for Audit Fee	376,850	360,000
Research Grants	Note - 09 4,490,392	4,483,733
	9,498,420	8,724,591
TOTAL LIABILITIES	15,659,942	12,642,743
NET ASSETS	86,278,206	82,603,299
<u>EQUITY / NET ASSETS</u>		
<u>CAPITAL</u>		
Capital Grant Spent	27,806,936	28,036,887
Capital Grant Unspent	162,440	3,132,241
Gifts & Donations	7,294,127	1,559,624
	35,263,502	32,728,752
<u>ACCUMILATED FUND</u>		
Income and Expenditure A/C	30,024,168	30,914,588
<u>RESTRICTED FUNDS</u>		
Institute Development Fund	5,692,392	4,994,767
Endowment Fund	3,008,799	2,704,573
staff welfare fund	392,850	
Asset Replacement Fund	11,896,494	11,260,620
	20,990,535	18,959,960
TOTAL EQUITY / NET ASSETS	86,278,206	82,603,300

Prepared & Certified by

.....
Senior Asst. Bursar

.....
Senior Asst. Registrar

"The Accounting policies on pages 6 to 10 and other Notes on pages 11 to 17 form an integral part of these Financial Statements. The Board of Directors is responsible for the preparation and presentation of these Financial Statemnets. These Financial Statements were approved by the Board of Directors and signed on their behalf,"

.....
Board Member

.....
Director /Board Member



INSTITUTE OF BIOCHEMISTRY, MOLECULAR BIOLOGY & BIOTECHNOLOGY
STATEMENT OF FINANCIAL PERFORMANCE
FOR THE YEAR ENDED 31st DECEMBER 2015
(Figures adjusted to the Nearest Rupee)

		2015	2014
		Rs.	Rs.
INCOME			
Govt. Grant for Recurrent Expenditure		61,270,000	53,356,000
Govt. Grant for Rehabilitation of Capital Assets		4,000,000	4,200,000
Amortization of Fixed Assets		11,380,349	9,911,877
Research Grants	Note - 10	4,369,374	2,652,876
Generated Income	Note - 11	7,612,825	14,127,697
Interest Income		2,144,903	1,807,182
Other Income	Note - 12	1,802,697	905,700
		92,580,149	86,961,332
Less : EXPENDITURE			
Personal Emoluments	Note - 13	30,368,004	20,274,249
Travelling		724,467	446,101
Supplies	Note - 14	13,714,578	10,578,896
Maintenance Expenditure	Note - 15	3,976,082	5,551,414
Contractual Services	Note - 16	14,300,784	15,283,006
Other Recurrent Expenses	Note - 17	12,885,187	14,032,300
Depreciation		14,990,188	11,108,135
		90,959,290	77,274,101
Excess of Income over Expenditure		1,620,859	9,687,231



**INSTITUTE OF BIOCHEMISTRY, MOLECULAR BIOLOGY & BIOTECHNOLOGY
UNIVERSITY OF COLOMBO
CASH FLOW STATEMENT
FOR THE YEAR ENDED 31st DECEMBER 2015**

	Rs.	Rs.
Excess for the year	1,620,859	
Add Adjustments for items not involving movement of Funds		
Provision for Gratuity	750,320	
Provision for Audit Fees	200,000	
Interest from Investment	(2,144,903)	
Depreciation/Amortization	3,609,838	
Loss from Disposal of Assets	24,678	
Prior Year Adjustments	490,603	
Operating excess before working capital changes	4,551,394	
Decrease in Receivables	1,059,242	
Decrease in Payables	1,080,851	
	6,691,487	
Audit Fees Paid	(183,150)	
Cash Received from Disposal of Assets	6,000	
Gratuity Paid	-	
Net cash flow from operating activities		6,514,337
CASH FLOWS FROM INVESTING ACTIVITIES		6,514,337
Acquisition of Fixed Assets	(12,543,163)	
Increase in Investments	(1,768,809)	
Interest Received from Investments	2,332,883	
		(11,979,089)
CASH FLOWS FROM FINANCING ACTIVITIES		
Government Grant for Capital Expenditure	8,130,000	
Restricted Funds		
		8,130,000
NET INCREASE IN CASH EQUIVALENTS		2,665,248
Cash & cash equivalents at the beginning of the period		20,290,960
Cash & cash equivalents at the end of the period		22,956,208



INSTITUTE OF BIOCHEMISTRY, MOLECULAR BIOLOGY & BIOTECHNOLOGY
STATEMENT OF CHANGE IN EQUITY/NET ASSETS FOR THE YEAR ENDED 31/12/15

	Accumulated Fund	Asset Replacement Reserve	Reserves & Restricted Fund	Capital Grant Spent	Capital Grant Unspent	Gift & Donations	Total
Balance as at 31st December 2014	30,914,588	11,260,620	7,699,340	28,036,887	3,132,241	1,559,624	82,603,300
Adjustments in respect of previous Year	(480,703)			(9,900)			(490,603)
Restated Balance As at 31st December 2014	30,433,886	11,260,620	7,699,340	28,026,987	3,132,241	1,559,624	82,112,697
Capital Grant Received					19,900,000	5,795,000	25,695,000
Surplus / Deficit for the period	1,620,859						1,620,859
Transfer to Restricted Funds	(886,905)		886,905				-
Interest for Restricted Funds	(1,143,672)	635,875	507,796				-
Payments							-
Capital Grant Spent /Unspent During the Year				11,099,801	(11,099,801)		-
Transfer to Rehabilitation					(4,000,000)		(4,000,000)
Transfer to Income					(7,770,000)		(7,770,000)
Amortization of Donations				(11,319,852)		(60,497)	(11,380,349)
Balance as at 31st December 2015	30,024,168	11,896,495	9,094,041	27,806,936	162,440	7,294,127	86,278,206



Review on Internal audit functions in the year 2015

Three Audit Committee meetings of the Institute of Biochemistry, Molecular Biology and Biotechnology were held in 2015 where attention was paid mainly to matters referred to in the audit inquiries made by the Government Audit Branch.

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

The internal audit reports submitted by the Internal Audit Branch of the University of Colombo 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.

.....
Chairman

Audit Committee



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 31/12/2015.

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. 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 plant and Equipment has not included value of the land and a building since legal ownership of land has not being transferred to IBMBB by University of Colombo.

Property, Lab and Teaching Equipment 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

• Vehicles	-	10% per annum
• 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

2.3.6. Inventories

Inventories are valued at the lower of cost or estimated net realizable value. Net realizable value is the price at which inventories can be sold in the ordinary course of business after allowing for cost of realization and/or cost of invention from their existing state to saleable.

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.

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 Assets

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 of five years continued employment to qualify for gratuity payments under the Act, provision is made after completing one year 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.



Failures and Justifications - 2015

During the year 2015, the available laboratory spaces were not sufficient to any further increase in student intake, in addition the other constraints such as lack of adequate human and financial resources to implement some of the activities in the strategic plan 2015 – 2019.

Approval for expanding the building space had been requested from University of Colombo as IBMBB is situated in the premises of University of Colombo. University has requested for collaborative programmes and an appropriate justification for the extension building to the IBMBB. However, the extension building to the IBMBB is now incorporated in to the Master Plan for the development of the University of Colombo.

Fulltime MSc courses conducted by the IBMBB have a full time research component during the third Semester that requires 1:1 supervision of student research projects. MPhil and PhD programmes are also based on fulltime research. Without having adequate academic cadre, IBMBB finds it difficult to expand its high quality human resource training programmes. New cadre posts requested had not been reviewed and received.

IBMBB academic cadre consists of two Professor posts and five Senior Lecturer posts. Five Scientific Assistant posts and one Assistant Network Manager post are available as Academic Support grades. Some of these posts were vacant in year 2015. Although necessary actions have been taken to recruit for all vacant cadre positions, approval for Associate Professor post is pending final approval from the UGC. Council of the University had requested one lecturer post to be re-advertised, however, since one of the applicants has filed legal action with the USAB, this post is still vacant. As the current Director was the only full time academic staff member at IBMBB for conducting the teaching and coordinating the MSc-CMI course and the requested cadre psosts for lecturer and scientific assistant had not been received by the end of 2015, selection for a lecturer on contract had been processed and awaiting council approval.

IBMBB has four technical officer posts and during 2015 one Technical officer was released due to a transfer to another University. Untill the end of 2015, this post is vacant and had not received any applications with appropriate qualifications (GCE A/L Biology stream & skills oriented qualification) via the procedure prescribed by the Ministry for filling such cadre vacancies. There is one competent, Technical officer with appropriate qualifications and the other two are trainee Technical officers who do not have the appropriate qualifications required for the teaching programmes conducted at IBMBB and hence undergoing on the job training.



Plan of work for 2016

Teaching:

- Increase student intake to existing MSc programmes
- Complete the curriculum evaluation and revision –MSc (MLS & CMI)
- Continue/strengthen existing MSc and PhD programmes
- Complete the revisions to MSc-Bioinformatics course for intake in 2016
- Establishment and maintenance of a comprehensive resource pool of Faculty
- Strengthening modern teaching / learning methods
- Improving English Language, Scientific Writing, Presentation, Communication and IT skills of students

Research:

- Initiate new PhD research programmes
- New admissions to MPhil/PhD programmes, Training of professionals / technocrats in the applications of Molecular Life Sciences
- Generating new knowledge through research programmes
- Identify priority areas requiring solutions based on tools of Molecular Life Sciences Immunology, Bioinformatics and Allied fields
- Implementation of research programmes directed towards identification of novel drug targets from medicinal plants & marine resources
- Establish new research programmes for R&D work aimed at personalized medicine and human DNA variation
- Continue existing programmes in biomedical sciences and plant molecular biology and develop new research programmes based on findings when warranted
- Encourage and assist in obtaining National/ International competitive research grants by faculty members/ collaborators
- Enact memoranda of understanding with Research Institutes/Private sector Institutes
- Strengthen collaborative research programmes with health sector
- Strengthen cooperation with other Faculties /Universities and private sector Educational Institutes
- Dissemination of Knowledge/ Research Findings

Service:

- Develop collaboration with Industry/Private sector
- Maintain and update mirrors of Biological databases
- Provide on-line tools for Bioinformatics based/ learning /research



-
- Establish a repository of Archives giving the land mark developments in the field of Molecular Life Sciences
 - Establish archives of historical developments resulting in the establishment of IBMBB
 - Generating funds through Business Development plan.
 - Diagnostic services for cancer, other diseases and for plantation sector
 - Consultancies
 - Fee-levying Postgraduate and other training programmes
 - Training of professionals and technocrats in the application of Molecular Life Sciences, Immunology, Bioinformatics and Allied fields

Maintaining International Standards:

- Enhance existing /develop new collaborations with Universities and Research Institutes overseas
- Provide training in Molecular Life Sciences, Immunology, Bioinformatics and allied fields, nationally and regionally
- Develop content for E- learning for students/ teachers in Bioinformatics, Molecular Life Sciences, Immunology and allied fields
- Establish links with international centres of excellence for E- teachers and E- resources in Bioinformatics
- Establishment of an external review system
- Ethical practices in scientific and biomedical research
- Ethical, societal and legal implications of genetic research and genetic information
- Provide opportunities for short-term overseas training of faculty members
- Encourage and assist in participation at International conferences by faculty members/ collaborators/ students to present research carried out at the IBMBB

Governance:

- Performance Based Evaluation System for all categories of staff
- Development of a Training Policy and Guidelines
- Code of Ethics for staff and students
- Compliance with accepted norms of Accounting standards



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கணக்காய்வாளர் தலைமை அபிபதி திணைக்களம்
AUDITOR GENERAL'S DEPARTMENT



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எனது இல.
My No.

} HED/B/IBMBB/6/15/1

ඔබේ අංකය
உமது இல.
Your No.

}

දිනය
திகதி
Date

}

18 October 2016

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 2015 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 2015 comprising the statement of financial position as at 31 December 2015 and the statement of financial performance, statement of changes in equity 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. 01 of 2003 and Sub-section 108(1) of the Universities Act enacted under Sub-section 107(5) and Section 18 of the Universities Act, No. 16 of 1978. 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 Sub-section 108(2) of the Universities Act will be issued to the Director of the Institute in due course.

1.2 Management's Responsibility for the 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 determiners is necessary to enable the





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Auditor General's Department

preparation of financial statements that are free from misstatements, whether due to fraud or error.

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 consistent with International Auditing Standards of Supreme Audit Institutions (ISSAI 1000-1810). 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 evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk 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 financial statements. Section 111 of the Universities Act, No. 16 of 1978 gives 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.

1.4 Basis for Qualified Opinion

My opinion is qualified based on the matters described in paragraph 2.2 of this report.



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Auditor General's Department

- (c) Sections 3.1 and 3.2 of Chapter XX of the Establishments Code of the University Salaries and allowances amounting to Rs. 10,161,078 had been paid for 05 officers of the academic staff of the Institute without establishing their arrival.

2.4 Transactions not supported by Adequate Authority

An Employees' Welfare Fund had been established by using funds of the Institute without an approval of the Ministry of Higher Education and the Ministry of Finance and a sum of Rs. 392,850 from the Main Account had been transferred to the Welfare Fund as at the end of the year under review without proper approval.

3. Financial Review

3.1 Financial Result

According to the financial statements presented, the financial result for the year ended 31 December 2015 had been a surplus of Rs. 3,613,509 and as compared with the corresponding surplus of Rs. 9,687,230 for the preceding year. The increase in the expenditure on salaries and allowances by Rs. 10,028,816 and decrease in the income by Rs. 6,514,872 had mainly attributed to the decrease in the financial result by Rs. 6,073,721 of the year under review as compared with the preceding year.

3.2 Analytical Financial Review

According to the statement of financial position presented, the current ratio of the Institute in the year under review had been 10.3. Nevertheless, 35 per cent of the current assets is represented by short term investments and cash balances and it was



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Auditor General's Department

observed that a significant amount of assets of the Institute had been retained in liquidity assets.

4. Operating Review

4.1 Management Activities

The following observations are made.

- (a) Despite the availability of 04 Lecturers in the permanent academic staff of the Institute, a female Course Coordinator had been appointed on the basis of paying a sum of Rs. 45,000 per month for the Course in Master of Science in Cellular and Molecular Immunology and coordinating allowances amounting to Rs. 405,000 had been paid for 09 months in the year under review.
- (b) The Board of Management had been allowed to decide the allowances of Visiting Lecturers under the University Grants Commission Circular No. 01/2015 of 22 January 2015 despite the decrease of the total income including the income from courses of the Institute in the year 2015 by 46 per cent as compared with the year 2014. Accordingly, the allowance of Visiting Lecturers had been increased from Rs. 2,500 to Rs. 5,000 by 100 percent per hour. The additional lecture fees amounting to Rs. 496,212 had been paid due to making payments based on the increased rates for the lectures held before increasing the rates as well.

4.2 Operating Activities

The reasons for the stopping of enrolments for the Master of Science in Bioinformatics after the academic year 2012/2013 had not been explained to audit



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4.3 Transactions of Contentious Nature

Despite having paid custom duty of Rs. 511,351 for the goods imported by the Institute, a sum of Rs. 201,770 had been paid by stating that it had been paid for the release of goods to a private Clearance Agent. Out of that, a sum of Rs. 32,500 had been shown in the voucher as fees of the Clearance Agent and the balance as payments for other institutions. Nevertheless, bills for confirmation of those payments had not been attached to the voucher. The method of selecting the Clearing Agent and the expenditure incurred without a source document had not been explained to audit.

4.4 Staff Administration

The following observations are made.

- (a) Even though six vacancies existed as at 31 December 2015 in the approved cadre of the Institute, 09 employees recruited extraneous to the approved cadre without proper approval on assignment basis and deployed in service by granting extension instead of filling the vacancies.
- (b) A post of Consultant not included in the approved cadre of the Institute had been created and allowances of the Consultant totalling Rs. 701,137 had been paid at a rate of Rs. 200,325 per month in the year under review. The relevant officer is a current member of the Management Committee, the Research and Higher Degrees Committee and the Academic Committee of the Institute. Further, it was observed that many functions included in the duty list given to the Consultant should be performed by the aforesaid Committees in accordance with the Ordinance of the Institute.



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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.

Area of Systems and Controls	Observations
(a) Control of Procurement Activities	Failure to purchase by calling for quotations.
(b) Advances Control	Granting ad hoc sub-imprest to the Non-staff Grade officers.

H.M. Gamini Wijesinghe

Auditor General



Mr H.M. Gamini Wijesinghe
Auditor General
Auditor General's Department
306/72, Polduwa Road
Battaramulla

Report of the Auditor General on the Financial Statement of the Institute of Biochemistry, Molecular Biology and Biotechnology affiliated to the University of Colombo for the year ended 31st December, 2015 in terms of Regulation No. 17 of the Institute of Biochemistry, Molecular Biology and Biotechnology and Section 108 (1) of the Universities Act No. 16 of 1978

2.2 Comments on Financial Statements

2.2.1 Accounting Standards of the State Sector of Sri Lanka

(a) Not agreed.

The total value of immovable property purchased in 2015 amounts to Rs.12,543,163.00 of which a sum of Rs. 10,793,515.00 was paid in cash and the balance Rs.1,749,648.00 is shown as current liability.

In the reconciliation of the Financial Flow Statement, when the increase/decrease of current liabilities is adjusted, the effect of Rs. 1,49,048.00 is adjusted as an increase in the net cash flow.

- However, since an error in presentation has been caused thereby, the net amount of Rs. 10,793,515.00 in respect of the purchase of assets was adjusted through the Financial Flow Statement.

- (b)** It was recommended by the Audit Committee held on 17.02.2016 that all the assets of the institute existing in the year 2016 should be revaluated and the revalued amounts/values should be accounted in the accounts, it is expected to take relevant action in 2016.

2.2.2 Accounting deficiencies

- (a)** Debit balances in the Capital Grants Spent Accounts exist in the two ledger accounts relating to the following donations:

SAREC Grant	Rs. 1,912,597.68
NSF Grant	Rs. 79,234.57

SAREC Grant

The above mentioned donation is a donation received in 2004 and the above debit balance has occurred as a result of the amounts relating to the assets purchased using that donation money not being transferred accurately between the donation account and the capital grants account and also an amount equal to the annual depreciations of the assets concerned being adjusted to the capital grants spend account of each year.



However, the current net value of assets as at 01.01.2015 amounts to Rs. 621,045.55. Therefore, it is expected to obtain necessary approval to rectify this error by reincorporating the correct balance to be adjusted in future as amortization in the capital grants spent account based on the prevailing net current value. Furthermore, it is expected to submit this for the recommendation of the next audit committee.

NSF Grant

This current debit in this Account has occurred as a result of an amount equal to the fixed assets purchased during the year 2013 under J/E No. N 12/14 and N 2/07 of 2013 being debited again from the capital grants spent account.

This was rectified as follows:-

J/E

(3021 N)	NSF Grant I	Dr	262,686.24
(11101001N)	Capital Grant Spent		262,686.24

- (b) The 346 books shown by the auditor as donations in the year under review have been received not only in the year reviewed, but during the year 2004-2015.

It was recommended by the Audit Committee held on 17.02.2016 that all the assets of the institute existing in the year 2016 should be revalued and the revalued amounts/values should be taken into the accounts, it is expected to take relevant action in 2016.

Library books received as un-entered donations too are being revalued and taken into the accounts.

2.2.3 Unexplained discrepancies

A computer software (Asset Management System) was purchased by the Institute in 2015 to correct the shortcomings in the existing Fixed Assets Register and by the end of 2015, assets in the Financial Statements were balanced with the balances in the accounts. All assets purchased during 2015 were registered using that software and the depreciation in the year 2015 too was calculated.

However, all the assets received since 2004 as donations had not been included in the accounts and assets which are totally depreciated too are included in the Assets Register. It was recommended by the Audit Committee held on 17.02.2016 that all prevailing shortcoming should be looked into and all the assets be revalued and the revalued amounts should be taken into books. Steps are being taken at present in this regard.

2.3 Non-compliance to laws, rules, regulations and management decisions

- (a) Following are the staff officers of this Institute:

- Director
- Senior Assistant Registrar
- Senior Assistant Bursar



Accordingly, the staff officers who can be paid advance as per FR 371 are only the Director and the Senior Assistant Registrar. Further, no Heads of Divisions have been appointed in this Institute as a policy decision. Therefore, it has not been practicable for this Institute to comply with this particular FR. All administrative/academic activities of this Institute are conducted under the supervision of the Director and there is no division into sections. Administrative activities are carried out by the Senior Assistant Registrar and financial activities by the Senior Assistant Bursar and all the functions relating to other academic activities are handled under the supervision of members of the academic staff who possess the necessary expertise in their respective fields. Assistance of the staff of academic assistants is obtained by the academic staff in activities such as workshops/seminars/short term training courses etc. Accordingly, the following members of the staff were recommended for the payment of advance by the Institute:-

- Senior Assistant Registrar
 - All academic and academic assistant staff
 - Ms N.K.C.S. Champika
 - Ms K.W.C.S. Fernando
 - Ms W.N. Jayawardena
 - Miss A.A. Jayasoma - Technical Officer
- } Computer Applications Assistants

(b) These shortcomings are rectified through the new software Assets Management System.

(c) The 43rd Audit Committee which met on November 01, 2016 had recommended the payment of salaries and allowances to the academic staff after verifying their attendance and departure. Accordingly, it was decided by the Board of Management to implement that recommendation as follows:

The attendance and departure of officers of the administration and the non-academic staff is duly marked at present and details on leave with and without pay obtained by the respective officers are kept through the marking of attendance and such details are with the office of the Senior Assistant Registrar. Accordingly, the certifying of attendance for the purpose of payment of salaries will be done by the SAR. In future, the attendance of the academic staff will be certified by the Director and payment of salaries will be recommended accordingly.

2.4 Transactions not confirmed through sufficient authority

(a) Staff Welfare Fund

The 43rd Audit Committee held on November 01, 2016 recommended the transfer of moneys deposited in the Staff Welfare Fund back to the Common Fund and that decision was approved by the Board of Management.

Steps will be taken in future to obtain necessary approval for this Welfare Fund.



3. Financial Review

3.1 Financial Results

Financial results for the year ended on December 31, 2015 after adjustments show an excess of Rs 3,613,509.00.

3.2 Analytical Financial Review Agreed.

4. Operational Review

4.1 Management Activities

- (a) The main area of study in the MSc in Cellular & Molecular Immunology Course is immunology. The person who possesses expertise in this field in this Institute is Prof. Shiroma Handunnetti who was previously the Coordinator for this Course. At present she functions as Director since 15.02.2015. Since it is difficult for her as the Director to function as the Coordinator of the Course while at the same time being engaged in teaching/research activities, steps have been taken on the approval of the Board of Directors to entrust the Course coordinating activities to a temporary teaching assistant and to pay her an allowance.
- (b) As per instructions given in the Circular UGC/NR/6/1/13 and the letter dated 10.02.2014, it was decided at the 34th Financial and Management Committee held on 13.11.2014 to pay Rs. 5,000/= per hour. The decision was approved by the Board of Management.
Payments were backdated as per the provisions of the said letter and it is due to make these payments out of earnings.

4.2 Operational Activities

It has been decided that the Board of Study appointed for the activities of this Course should review the syllabus and its structure. Students will be enrolled once such activities are over.

4.3 Controversial Transactions

There is no connection whatsoever between the customs duty paid in the import of goods and the service charges paid to the clearing agency for the clearance of such goods from the customs. Customs duties are paid to Sri Lanka Customs according to the required customs duty.

A fixed sum of Rs. 2,500.00 is paid to the service providing agency as service charges for each clearance and all the other expenses incurred by such agency have to be reimbursed. Generally the expenses given below are referred for reimbursement:

Example: Transport costs, fees to be paid to other institutes and all other expenses.



Besides, the selection of the clearing agency is not made on each occasion and the selection has been made on the basis of long term trustworthy service and efficiency. Initially the selection was effected through a tender procedure. Furthermore, since our Institute imports highly perishable chemical substances used for the courses and tests, they have to be cleared immediately from the customs and stored under required conditions.

Initially the selection of clearing agencies was made according to a tender procedure and at present such selections are not made on each occasion as and when necessary since it has been the practice to select the agency on the basis of long standing credible service and efficiency.

4.4 Staff Management

- (a) Recruitments have been made on the approval of the Board of Management of the Institute. Following are the vacant positions as at December 31, 2015:

Professor	- 01
Senior Lecturer	- 01
Scientific Assistant	- 02
Technical Officer	- 01
Telephone Operator/Receptionist	- 01

Action was taken to fill all the above vacancies and four (4) out of the six have been filled at present. There are two left to be filled as follows:

Professor	- 01
Senior Lecturer	- 01

Post of Professor

The recruitment has been cancelled due to the incompleteness of the advertisement published by the Institute in respect of the selection made in 2014. Therefore, the recruitment process is underway to make the recruitment by 01.11.2016 by calling for fresh applications after obtaining further explanations of the University Grants Commission.

Post of Senior Lecturer

An applicant for this post has filed a case before the University Services Board of Appeal with regard to the said recruitment. The Board of Management of the University has instructed the Institute not to make the recruitment until the case is over. This vacancy cannot be filled by this Institute until the required approval is given.

Approval has been sought from the Department of Management Services for making the new appointments required and at the discussion which the said



Department had at the Institute, the necessity of such new posts was further identified. Employees have been recruited on assignment basis relating to the services of the nine posts for which approval has been sought from the Department of Management Services. Payments for such services will be made out of earnings and services are not obtained on a continuous basis. It is in order to receive an efficient service to the Institute through the training given to him/her by it that such employees are given service extensions.

- (b) The above appointment has been made as per a decision made at the 129th Board of Management meeting held on 09.07.2015.

Professor Eric Karunanayake is an expert in the fields of Postgraduate Degree Courses conducted at present by this Institute. It was decided by the Board of Management of this Institute that it is suitable to take his views into consideration in upgrading/reviewing of syllabuses. While many members on the academic staff are those holding posts of Senior Professor/Professor and Senior Lecturer at other universities, it is difficult for them to function on fulltime basis. It is because of the fact that it would be more profitable to obtain the services of an expert in that field that it was decided by the Board of Management to consider the recommendation of Prof. Karunanayake. Furthermore, it would be more effective to review the courses according to the instruction of an experienced Professor.

6. Systems and Controls

We expect to take necessary action in the coming financial year to establish the systems and controls highlighted by the audit.

Professor Shiroma Handunnetti
Director

- Copies:
- (1) Secretary, Ministry of Higher Education and Highways
 - (2) Secretary, Ministry of Finance
 - (3) Chairman, University Grants Commission
 - (4) Vice Chancellor, University of Colombo



Summary of Annual Report and Accounts – 2015

1. Details of Resources & Students:

Faculty	Course	Total Students	Total Academic Staff	Total Non Academic Staff
IBMBB, UoC	MSc in Molecular Life Sciences	22	5	4*+15=19
	MSc in Cellular and Molecular Immunology	7		
	Msc in Bioinformatics	01		
	MPhil	27		
	PhD			
	Registered for MPhil/PhD in other Institutions and carried out a compotnent research work	5		
	Training courses in Molecular Biology & Immunology	43		
	Exposure on Molecular Biology & Immunology to undergraduate students from other HEIs -No of batches(No of students)	15 (211)		
Total		120	5	19

* Include 04 Academic Support Staff
 01 - Assistant Network Manager
 03 - Scientific Assistants

2. Details of Academic Staff

Faculty	Subject	Medium	Senior Prof	Professor	Senior Lecturer	Lecturer	Asst. Lecturer	Instructors
	Molecular Life Sciences	English	1	-	-	1	-	-
	Cellular & Molecular Immunology	English	-	-	1*	-	-	-
	Molecular Techniques	English	-	-	1	-	-	-
	Biochemistry and Molecular Biology	English				1		
	DNA Diagnostics	English				1		
Total			1		2	2	-	-

* Senior Lecturer in Immunology is appointed as the Director, hence recruitment of a Lecturer in Immunology – On contract is in progress.



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		2- Technical Officer, Gr.II 1- Trainee Technical Officer	2- Laboratory Attendant
			5- Computer Applications Assistant	1- Labourer
			1- Book Keeper	
			1-Library Assistant	
			1-Telephone Operator cum Receptionist	
Total	2		12	3

4. Details of Research, Innovation and Publications:

Subject	Published	Commercialized	Presented
a. No of Researches MSc Dissertations PhD Thesis	17 1		
b. No of Innovations			
c. No of Journals			
d. No of Books			
e. No of News paper articles			
e. No of Articles –Full Papers in Journals	30		
f. Other (Research , Communications)			69
Total	48		69

5. Details of Programme, Seminars & Workshops:

Subject	Attended	Completed	Presented	Attended	Completed	Presented
	2014			2015		
a. No of Postgraduate Degree Programme	3	2	2	3	3	3
b. No of Postgraduate Diploma Programme						
c. No of Degree Programme						
d. No of Diploma Programme						
f. Training Short Courses/workshops	9	9	9	3	3	3
g. Annual sessions				1	1	1
h. International Conference (with 4 Symposia)	1	1	1			
Demonstration on Molecular Biology and Immunology practical demonstrations	1	1	1	14	14	14
Total	14	13	13	21	21	21



6. Details of Awards Received:

Subject	No of Awards	No of Academics	No of Students	No of Awards	No of Academics	No of Students
	2014			2015		
a. Local awards	4		2			
b. National Awards	18*	6		10	4	
c. International Awards	5		5	7		7
d. Travel Awards	6		4	2	2	
Total	33	6	11	19	6	7

*12 Presidential Research Awards and 6 NRC Merit Awards for Scientific publications.

7. Details of New Course Started – 2015 Registration

Faculty	Course	Medium	Short Training courses	Diploma	Postgraduate Diploma	Master	MPhil	PhD
IBMBB		English	1.Cell Culture					
Total			1					

8. Details of Recurrent Expenditure: 2015

	Subject	2014 (Rs.)	2015 (Rs.)
a.	Personal emoluments	20,274,249	30,303,066
b.	Travelling	446,101	724,467
c.	Supplies	10,578,896	13,714,578
d.	Maintenance	5,551,414	3,976,082
e.	Contractual Services	15,283,006	14,300,784
f.	Other (including depreciation)	25,140,435	25,947,662
	Total	77,274,101	88,966,639

9. Details of Capital Expenditure:

	Subject	2014 (Rs.)	2015 (Rs.)
a.	Acquisition of furniture & Office Equipment	2,110,025	1,929,700
b.	Acquisition of Machineries (Computers & Lab Equip.)	5,913,091	9,998,744
c.	Acquisition of Building & Structures	-	-
d.	Other (Library Books)	406,506	614,720
e.	Vehicle	-	5,795,000
	Total	8,429,622	18,338,164



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

Name	Exp in 2014 (Rs.)	Exp in 2015 (Rs.)	Cumulative Exp as at 31.12.2015	% of Physical Progress
NSF Grant	1,828,978	2,020,495	8,139,517	work planned for 2015 completed
IFS	171,820	682,566	854,386	
IPIC	300,874	310,119	610,993	
Swedish Research Grant	170,636	968,744	1,139,380	
Start-up Research Grant (UGC)	-	387,451	387,451	
Total	2,472,308	4,369,374	11,131,727	

11. Details of Financial Progress (Expenditure):

	Subject	Provision in 2015 Rs.	Exp in 2015 Rs.	Savings/Excess Rs.
a.	Recurrent (Except Project)	65,270,000	76,053,915	(10,783,915)
b.	Capital (Except Project)	19,900,000	18,338,163	1,561,837
c.	Project-Local funded –NSF Grant	-	1,499,415	
Total		85,170,000	95,891,493	

*Depreciation not Considered * Included Expenditures from Generated Income

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

12. Details of Financial Progress (Generated Income) :

	Source of Revenue	Provision in 2015 (Rs.)	Collection in 2015 (Rs.)	Deficit/ Surplus (Rs.)
a.	Undergraduate Studies	not relevant	not relevant	
b.	Postgraduate Studies	5,161,000	5,161,000	-
c.	Consultancies			
d.	Other			
Total		5,161,000	5,161,000	



13. Financial Performance Analysis-2015:

	Subject	Formula	Course	Exp. Per Student Rs.
a.	Recurrent Expenditure per Student (RE)	RE*/ No of Student strength	MPhil & PhD	1,402,526.69
			MSc	402,755.62
	Capital Expenditure per Student (CE)	CE/ No of Student strength	MPhil & PhD	219,590.24
			MSc	94,725.20
		Total		2,119,597.75

* Included only Academic, Academic Support, Technical Officers, Lab Attendants salaries

* Not included Security, Electricity, Water

** Included cost of additions of capital assets

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



Cumulative Summary of Students by Year - MSc & MPhil/PhD Programmes

		2004 June to Dec	2005*	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
MSc *(commenced in 2005)	Total		8	18	25	24	24	33	34	34	34	42	33	
	New intake		8	10	11	13	12	19	10	22	11	18	12	146
	Continuing			8	14	11	12	14	24	12	23	24	21	
	Output				3	11	10	8	8	17	11	8	18	94
MPhil/PhD	Total	3	3	8	8	13	13	12	13	14	17	24	27	
	New intake	3	0	5	1	5	1	1	1	11	7	6	3	44
	continuing		3	3	7	8	12	11	12	6	10	18	24	
	Output				1	0	1	1	1	3	4	1		12
MSc (indirect)	Total	2	6	3	1									
	New intake	2	4	1					1					8
	Continuing		2	2	1									
	Output	1		4		1				1				7
MPhil/PhD (indirect)	Total	7*	6	4	6	5	8	6	3	1	6	4	5	
	New intake		1	0	3		4	0	1	0	0	1		11
	Continuing	7	5	4	3	5	4	6	2	1	6	3	5	
	Output		1	2		1			3	1		3	1	12
Postgraduate students	Total	12	23	33	40	42	45	51	51	52	57	70	65	
	New intake	5	13	16	15	18	17	20	13	33	18	25	15	209
	Continuing	7	10	17	25	24	28	31	38	19	39	45	50	
	Output	1	1	6	4	13	11	9	12	22	15	12	19	125
Staff:Student ratio		1:12	1:8	1:8	1:10	1:14	1:15	1:17	1:17	1:17	1:14	1:14	1:13	

Includes * students registered at other Faculties / Universities under the SAREC Grant before relocation to IBMBB

Summary 2004-2015	MSc	MPhil/PhD	Total	
Direct Output	94	12	106	125
Indirect Output	7	12	19	
Direct Intake	146	44	190	209
Indirect Intake	8	11	19	

