



2023

වාර්ෂික වාර්තාව ஆண்டறிக்கை ANNUAL REPORT



සෛවරසායන, අණුක සෛවවේද හා සෛවනාක්ෂණ අයතනය කොළඹ විශ්වවිද්‍යාලය
உயிர் இரசாயனவியல், மூலக்கூற்று உயிரியல் மற்றும் உயிர்
தொழில்நுட்பவியல் நிறுவகம், கொழும்பு பல்கலைக்கழகம்
Institute of Biochemistry, Molecular Biology & Biotechnology (IBMBB)
University of Colombo

REFLECTIONS

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

20
23



VISION



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

MISSION

INITIATE

**Advance Research &
Human Resource
Development in
Molecular Life Sciences to
achieve National and
International
Development**

PROMOTE

FACILITATE

Goals and Objectives

Goal 01 To produce High Quality Internationally recognized trainees, graduates and postgraduates in Molecular Life Sciences and allied fields

Objectives

- 1.1 Introduce new programmes and sustain the full capacity of the existing Programmes at postgraduate level
- 1.2 Establish the new undergraduate programs catering to the current local and global needs
- 1.3 Strengthening internship and commencement of short training and certificate courses
- 1.4 Enhance teaching and learning environment by adopting appropriate strategies

Goal 02 To be the Centre of Excellence in Biochemistry, Molecular Biology, Biotechnology, Bioinformatics, Genetic, Cell Biology and Immunology contributing to National Development

Objectives

- 2.1 Increase/ Maintain international recognition of Faculty members
- 2.2. Establish new and continue ongoing nationally relevant research programmes
- 2.3. Consolidate research and developments, services and consultations with viable third parties
- 2.4. Become a focal center in providing knowledge, facilities, expertise and consultancies in the fields of Life Sciences, Immunology, Bioinformatics and allied fields at national policy planning
- 2.5. Establish a repository of archives of landmark developments in Molecular Life Sciences and allied field

Goal 03 To achieve the excellence in infrastructure and human resources

Objectives

- 3.1. Expansion of space and enhance instrumentation, laboratory and library facilities
- 3.2 Shared instrumentation
- 3.3 Empower Human Resources and create new cadres

Goal 04 To achieve the institutional financial stability

Objectives

- 4.1. Enhance revenue
- 4.2 Facilitate new inventions, startups and entrepreneurship
- 4.3 Restrictions on expenditures

Goal 05 To promote Good Governance

Objectives

- 5.1. To practice good governance at all levels
- 5.2 To strengthen the IQAC Activities
- 5.3 Enhance transparency and accountability

Values

Academic Freedom

Subject to the norms and standards of the Institute, there is freedom to conduct research, to teach, speak and publish without interference or penalization wherever the search for truth and understanding may lead

Lifelong Learning and Critical Thinking

The Institute inculcates lifelong learning and critical thinking of staff and students.

Innovativeness and Exploration

The Institute is always ready to find new ventures for development.

Responsibility and Accountability

The Institute operates with a sense of responsibility and accountability.

Diversity and Inclusiveness

The Institute continues to operate across a broad spectrum and cultivates inclusiveness.

Integrity

Achievements of the Institute are based on the transparency of its actions and the integrity of its performance

Professionalism

The Institute expects all students and staff to demonstrate honesty, integrity, attention to detail and conformity

Commitment and Competency

Institute staff is highly committed to develop and deliver knowledge and working with the highest level of enthusiasm

Team Spirit

The Institute has a reputation of working as a team and, therefore, develops a team spirit in all its work

Equal Opportunity

The Institute recognizes that its strength and unity comes from providing equal opportunities to everyone, built on the foundations of social justice and equality.

●	Director's Review	185
●	Directors of the IBMBB	186
●	Introduction to IBMBB	187
●	Organizational Chart	189
●	Governing Authority	190
●	Teaching and Learning	191
●	Postgraduate Degree Programmes	191
●	Post Graduate Convocation 2021	193
●	Short course & Training Program	194
●	Research Activities	199
●	Post Doctoral Research	211
●	Research Publications	211
●	Research Communications	213
●	International Research Funding	216
●	Queen Elizabeth Commonwealth Scholars Program	216
●	Services – IBMBB	217
●	Collaborations	219
●	Student Facilities	222
●	Awards Received in 2023	223
●	CSR Activities	223
●	Quality Assurance	225
●	Employee Classification as at 31st December 2023	226
●	Staff Development, Training and Welfare 2023	227
●	Special Activities	228
●	Plan of work for 2023	230
●	The Future Projection Report on activities to safeguard the environment	232
●	Auditor General Report	233
●	Responses to the Auditor General	239
●	Review on Internal Audit Functions in the Year 2023	248
●	Annual Financial Report	250



The Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo witnessed a challenging year in 2023. From its inception in the year 2003, IBMBB faced the biggest financial constraint for the first time in history due to overnight decision of restricting government funding to the Institute. Such a compromised financial landscape compelled us to engage in self-financing activities along with comprehensive expenses management. Such negative development in finances has been witnessed to be continued and needs urgent remedial measures for survival. However, IBMBB took these challenges with a positive note and initiated some of the vital commitments towards the sustainability and potential development in the operation.

Overview of overall teaching Commitments

In the year 2023 we enrolled students for three Board of Studies: Molecular Life Sciences, Cellular and Molecular Immunology & Bioinformatics at a revised tuition fee. The total enrollment for three programmes was 69 and it was a significant improvement when compared to previous academic years. On the other hand, the QECS programme also allocated a postgraduate scholar in pursuing masters study for the year 2023. However, it was noted that there was a decline in MPhil/ PhD enrollment for the same year, may be due to (a). constraining financial

support by funding agencies, (b). overall economic challenge in the country and (c). poor interest in perusing postgraduate studies. Self-financing Activities (SFA) conducted by the IBMBB contributed immensely towards the income of the Institute for the current financial year. Most of these SFAs were very successful and were well responded by the participants. Newly designed SFAs such as Training Course in Structural Bioinformatics and Computational Drug Discovery was a massive hit that attracted a number of international participants on blended learning platform. Newly launched internship programmes witnessed a significant demand with substantial income generating and promoted indirect marketing for our teaching programmes. In keeping align with University of Colombo vision in strengthening the capacities of different categories of staff within the University system, IBMBB offered training programmes for Technical Officers for the first time in the year 2023. This programme was well responded by staff of other Universities in the country. The total revenue generated by SFAs was Rs. 8 Mn and it was an all-time high when compared to other financial years.

Commitments towards Research & Development

In the year 2023, was significantly compromised funding opportunities by local and international funding agencies. This had a huge impact towards our research and development. IBMBB took all the effort in rectifying this issue with more focus on viable international funding and industrial collaborations. Our discussion with Green Climate Funded project (GCF) one of the UNDP initiatives witnessed a green light, thus accommodating IBMBB as one of the collaborators. This was clearly mentioned in the inception report submitted to the donor agency with

an expectation of capital infusion for infrastructure development at IBMBB, University of Colombo. IBMBB was extremely successful in strengthening industrial collaborations by signing several Memorandum of Understanding (MoU), Material Transfer Agreements (MTA), Non-Disclosure Agreements (NDA). Product commercialization was another initiative of the IBMBB with an agreed terms and conditions with commercial partners that secured long term royalty payments. We anticipate that these initiatives may have a long-term positive impact on the existence of IBMBB with a viable industry networking.

Remedial Strategies

In view of continuous financial threat, it is prudent to implement potential remedial strategies as early as possible. One of the potential strategies in this regard was to initiate an undergraduate programme in the field of life sciences. This commitment was prioritized in the year 2023 and all arrangements were made to offer Bachelors in Molecular Biology and Bio-Entrepreneurship by securing the appropriate approvals from University of Colombo and University Grants Commission. The proposed programme is supported by Indian Institute of Technology (IIT), Madras and Korea Maritime & Ocean University (KMOU) and they will actively contribute to business incubation based on Biotechnology initiatives. We are confident that the proposed programme will cater to the requirements of students as well as the country allowing more business startups in the country. Masters in Medical Biotechnology is the other commitment by the IBMBB in collaboration with University Northumbria, UK. This programme has a novel concept that creates a progression pathway towards Masters in Research offered by University of

Northumbria, UK. We are confident that this programme also makes a huge contribution towards the institute.

Further, we initiated a discussion with the Ministry of Health in securing qPCR working set-up that was established for COVID screening at the Base Hospital Wathupitiwala. This discussion was extremely successful, and approval was given to acquire the whole PCR setting at the said location. We are looking forward in establishing state of art qPCR laboratory facilities at the IBMBB in strengthening our diagnostics

services. Further, we are in the process of negotiations with business partners in supporting their products value addition and validation.

Note of Appreciation

Despite all these challenges IBMBB was able to sustain in a productive manner during the year 2023 with appropriate decision making and timely implementation. This was possible due to the immense contribution by the Board of Management IBMBB, and I take this opportunity to appreciate the guidance given. Further the Vice Chancellor, University of Colombo

was generous in supporting our commitments towards the proposed undergraduate programme despite several obstacles. It is my pleasure in acknowledging his immense guidance and support extended towards the IBMBB. My team at the IBMBB was always with me during this crucial time encouraging myself for more productive sustainable plans. I believe this achievement is not possible without the support from all the staff at the IBMBB and it is my honor to give due recognition to the family of the IBMBB.

Prof. Prasanna Galhena
Director/IBMBB

Directors of the IBMBB

Present Director

Prof. Prasanna Galhena

Founder Director

Prof. Eric H Karunanayake

2004 - 2007

Past Directors

Prof. Kamani H Tennekoon

2007 - 2012

Prof. Kamani H Tennekoon

Jan-Mar 2013 (Acting Director)

Prof. M H Rezvi Sheriff

April 2013 - September 2014 (Acting Director)

Prof. Shiroma M Handunnetti

October 2014 - January 2015 (Acting Director)

Prof. Shiroma M Handunnetti

February 2015 – February 2018

Prof. Tara D. Silva

February 2018 – August 2018 (Acting Director)

Prof. Shiroma M Handunnetti

August 2018 – August 2021

Prof. Shiroma M Handunnetti

September 1st-14th 2021 (Acting Director)



Introduction to IBMBB

The 21st century will be dominated by two disciplines, namely Information and Computer Technology and Molecular Life Sciences. Nations that invested in science and knowledge-based development have progressed significantly compared to those that did not make such commitment. Sri Lanka is yet to have a vibrant industry based on Biotechnology and allied fields whereas our neighbors are far ahead of us. A key factor for lack of industries based on Biotechnology and allied fields in Sri Lanka is the dearth of trained manpower and lack of national policy for novel investments.

The Institute of Biochemistry, Molecular Biology and Biotechnology (IBMBB) was established as an independent

Institute of the University of Colombo with a view to provide for guidance, training, research and development and consultancy in the fields of Biochemistry, Molecular Biology and Biotechnology recognized by University Grants Commission as an affiliated institute of University of Colombo. The establishment of the IBMBB was due to untiring effort by the founder director IBMBB, Prof. Eric H. Karunanayake and support extended by Swedish International Development Agency/ Swedish Agency for Research Cooperation with Developing Countries (Sida/ SAREC). 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 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 IBMBB 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 flow hoods and other facilities such as cell culture, insectary, cold rooms,

local area networking, access to internet via dedicated optical fiber cable and is fully air-conditioned. IBMBB commenced its research activities in June 2004 by facilitating the MPhil and PhD students research work under the supervision of Prof. Eric Karunanayake. Two taught Masters degree courses commenced in February 2005, one in "Molecular Life Sciences" and the other in "Cellular and Molecular Immunology". The third Master of Science degree programme in Bioinformatics commenced in May 2012, as a joint programme with University of Colombo School of Computing.

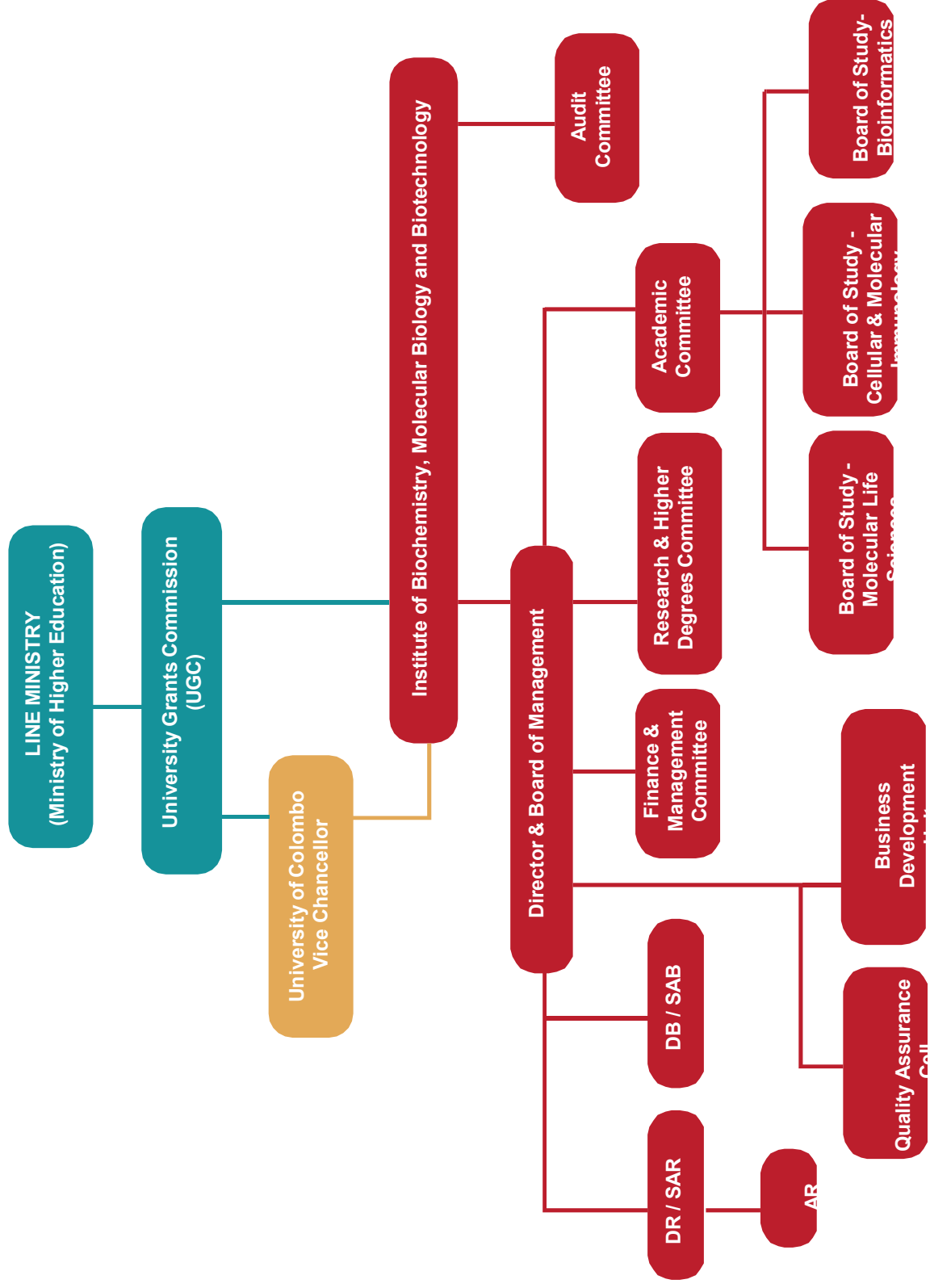
The curriculum revision for these three Masters degree programmes were completed and aligned to SFQF levels 8-10 by end of 2019. All three degree programmes with the new curricular commenced in 2019 with the revised By-Laws and Regulations approved by the Council of the University of Colombo.

Annually, notable number of students enroll for these three postgraduate programmes with the intention of gaining a high-quality post graduate qualification. Among the students who registered for each programme those who obtained required qualifications will be awarded with Master of Science degree in respective field. Students who are not able to fulfill the required qualifications during their first academic year can graduate with Master of Molecular life sciences, Master of cellular and Molecular immunology and Master of Bioinformatics degrees. Students who do not want to continue until the Master degree or are ineligible to do so can discontinue with a Post - Graduate Diploma in the respective field after fulfilling the given criteria. Each Master of science student continues with the Research component during their second academic year which ultimately produces innovative outcomes which will benefit the respective fields.

Further to that number of Mphil/PhD trainees are produced annually through Mphil/PhD programmes with local and foreign academic and industrial collaborations.

In addition, the institution offers a series of short-term training courses, which equip researchers with focussed and specific theoretical and practical knowledge. The short term courses offered includes molecular biological techniques, cell culture techniques, immunological techniques, gene cloning and recombinant protein expression and chromatographic techniques. These courses which are delivered over a span of five days cater toward the skills development of academics, aspiring researchers and research professionals. The resources at IBMBB are utilized for the provision of services for external researchers, this includes sequencing services, cell culture, purification, immunology etc. IBMBB also facilitates internships which are aimed at providing research students and aspiring researchers the opportunity to work closely with a research student for an extended period of time and learn new techniques and the finer details of research planning, preparations etc.

Organizational Chart



Members of Board of Management

Prof. Prasanna Galhena	Director-IBMBB, (Chairman)
Ms. J.A.C.H Jayasingha	Representative,Ministry of Higher Education
Emeritus Prof. Kamani Tennakoon	UGC Nominee
Emeritus Prof. S.P. Deraniyagala	UGC Nominee
Prof. Sagarika Ekanayake	UGC nominee
Prof. Ramanee Wijsekera	UGC Nominee
Mr. Channa De Silva	Council Nominee
Mr.Ashane Joseph Waas Jayasekara	Council nominee
Prof. Sampath Punchihewa	Senate Nominee
Prof. Senaka Rajapakse	Senate Nominee
Prof. Vajira Dissanayake	Dean/ Medicine, University of Colombo, Ex-officio
Prof. Upul Sonnadara	Dean/ Science, University of Colombo, Ex-officio
Dr. Ajantha Athukorala	Director, University of Colombo School of Computing (UCSC), Ex-officio
Prof. Sharmila Jayasena	Head/Biochemistry & Molecular Biology, Faculty of Medicine, Ex-officio

Postgraduate Degree Programmes

Boards of Study – Cellular and Molecular Immunology (CMI), Molecular Life Sciences (MLS), Bioinformatics (BI)

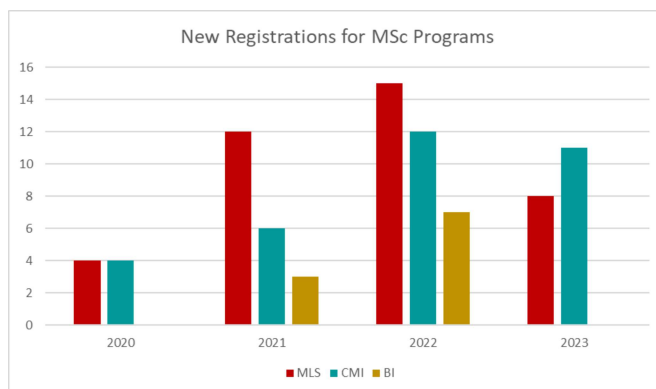
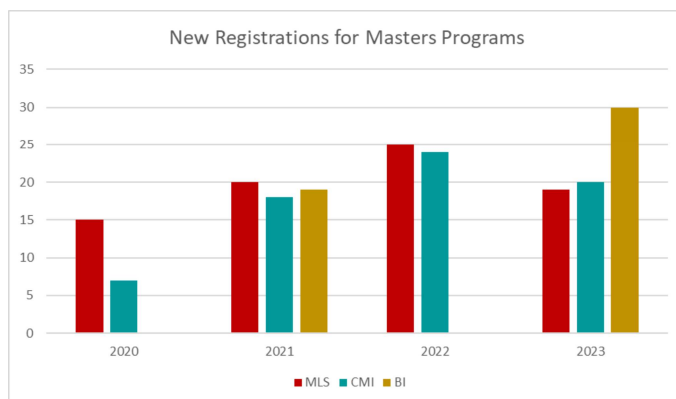
The three main streams of study at IBMBB are governed by three separate boards of study. The boards of study on Cellular and Molecular Immunology, Molecular Life Sciences and Bioinformatics governs the academic activities of the post-graduate diploma in each subject area, the Masters programmes as well as the Master of Science degrees. Each board also governs the delivery of short courses that fall under the purview of its subject area. The Boards of study comprise of teaching faculty including internal and external experts, who are engaged in content development and delivery.

They also oversee and evaluate all course work activities as well as guided independent study and research projects of students completing the Master's and Master of Science degrees, respectively.

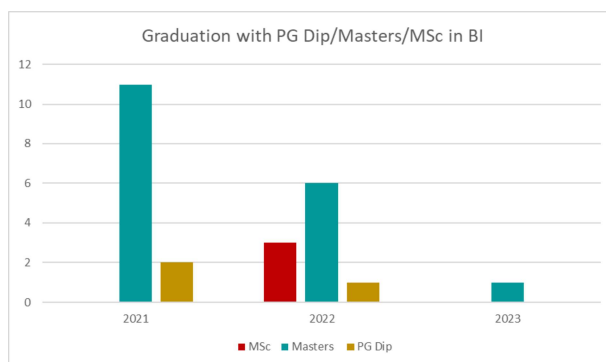
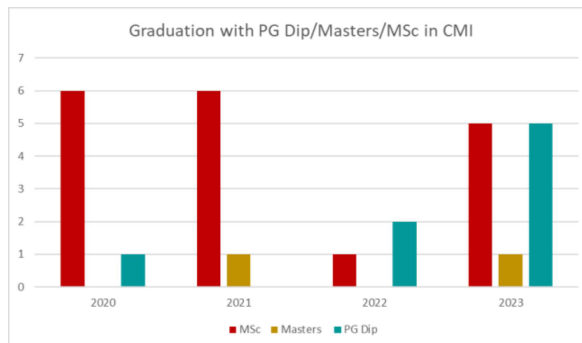
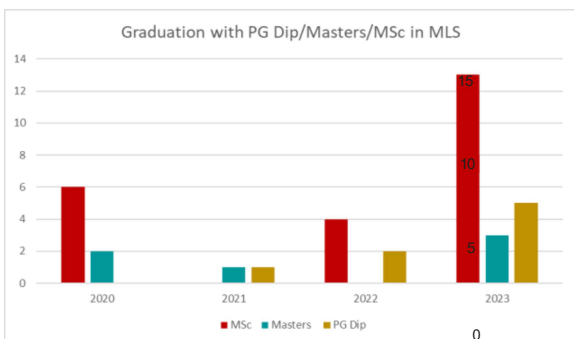
Masters & MSc Programmes

In March 2023, new student enrollment took place for the degree programmes in Molecular Life Sciences, Cellular and, Molecular Immunology and Master of Bioinformatics. In accordance with the revised curricular, the 6th batch of students registered for the Masters (SLQF 9) degrees this includes Master of Molecular Life Sciences (MLS) with nineteen students, Master of Cellular and Molecular Immunology (CMI) with twenty students and Master of Bioinformatics (BI) with Thirty students respectively.

Eight students for Master of Science in Molecular Life Science, Fifteen students for Master of Science in Cellular and Molecular Immunology had been registered and continued their MSc research project work in 2023. Total of fifteen Master of Science in Molecular Life Science students, seven Master of Science in Cellular submitted their dissertation for examination in 2023.

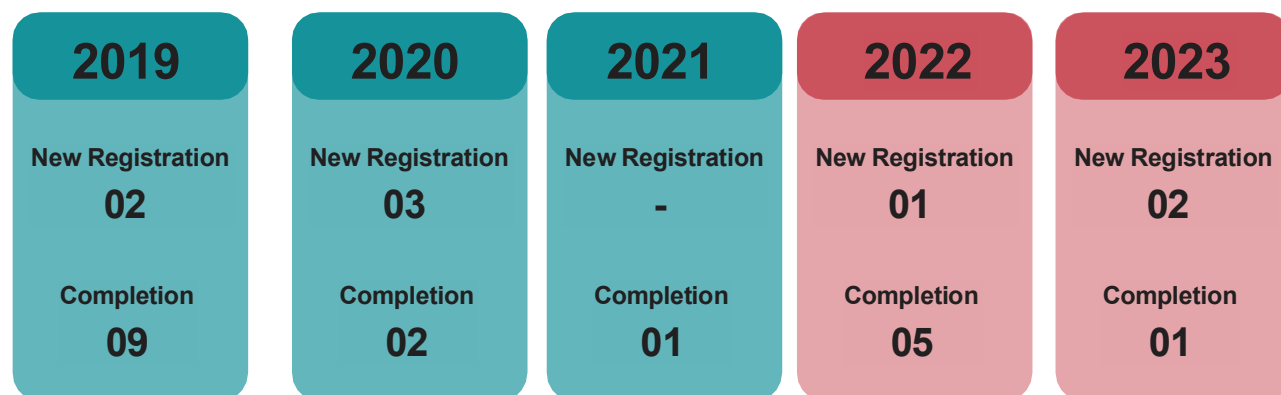


In 2023, a total of 19 Students of MSc in MLS, 4 student of MSc in CMI and a had successfully completed their MSc studies during 2023. Further two MLS students, CMI student, one student of BI opted to leave the programme receiving Masters. Another two students of MLS and five students of CMI opted to leave the programme receiving Post Graduate Diploma.



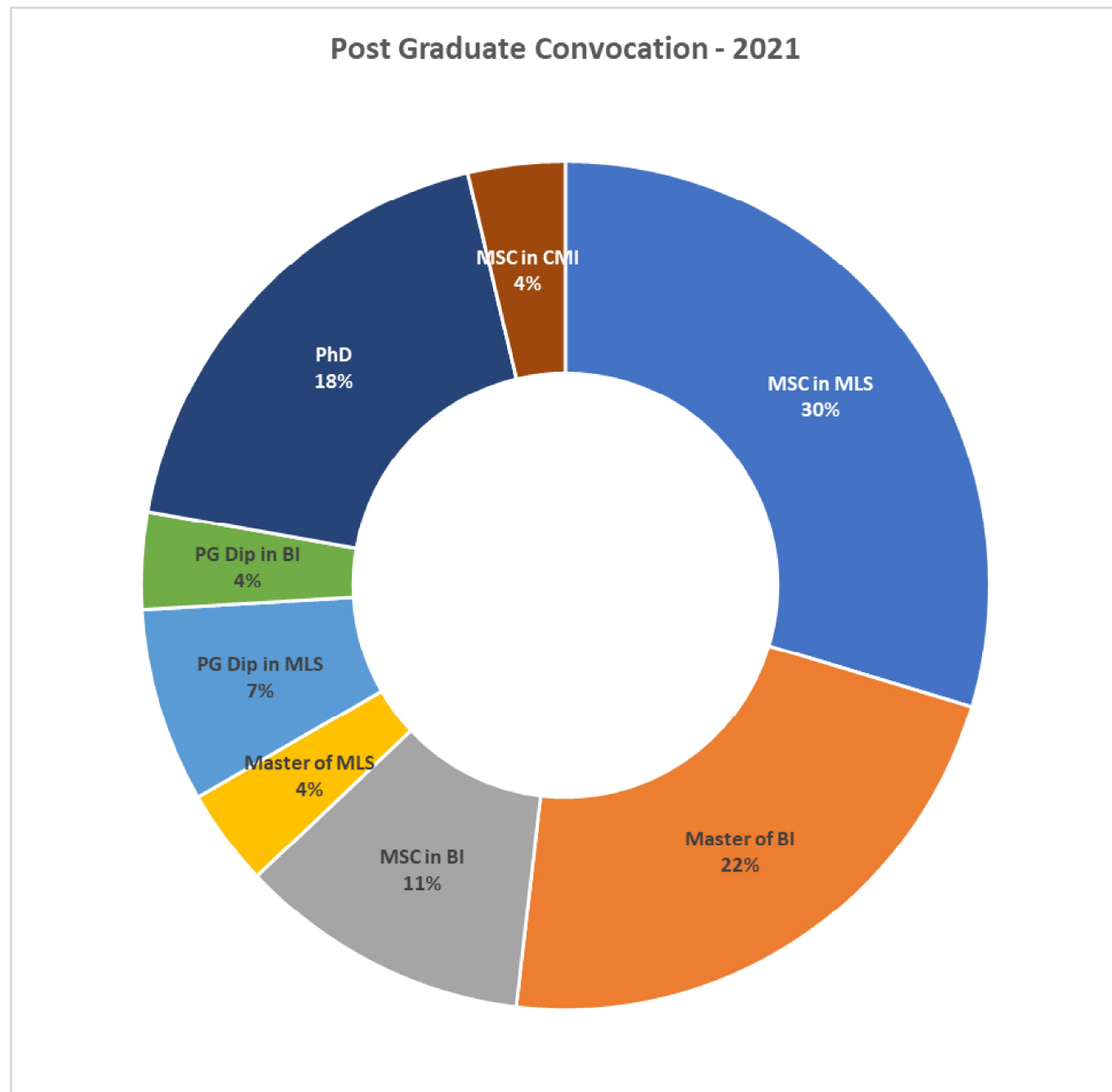
MPhil / PhD Programmes

Two MPhil/PhD students registered during 2023 and there was a total of nineteen registered MPhil/PhD students at the IBMBB. Research programmes based on MPhil/PhD work are described under research activities One MPhil student submitted thesis for examination & viva voce examinations and one MPhil student completed his viva examinations in 2023



Postgraduate Convocation - 2021

The ceremonial postgraduate convocation 2021 was conducted on 01st and 02nd March 2023. Twenty-seven grandaunts of the IBMBB were conferred degrees at the 2023 ceremonial postgraduate convocation.



Short Courses, Workshops and Training Programmes

Workshop for Technical Officers and Laboratory Technicians

Two Workshops for Technical Officers and Laboratory Technicians organized by the Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo was successfully held from 27th to 29th March 2023 & 23rd to 25th August 2023. These workshops were attended by 60 participants,

who represented various state and private sector institutions and organizations.

The workshop covered practical components including experience in Laboratory Safety, handling and maintenance of pH Meters, Analytical Balances, Spectrophotometer, Centrifuges, PCR & Real-time PCR Machines, Use of Micropipettes Laminar flow / Biosafety Cabinets, Microplate /

ELISA Plate Reader, Microscopes, Autoclaving Equipment, and HPLC. This workshop primarily focused on strengthening the understanding of principles, operation protocols, and troubleshooting frequently used instruments in a standard laboratory setting. This workshops also included theory lectures conducted by subject and industry specialists. The workshop was a great opportunity for the participants to broaden their knowledge on Laboratory Safety and maintenance.



Training course in Gene Cloning and Recombinant Protein Expression

A training course in “Gene Cloning and Recombinant Protein Expression” organized by the Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo was successfully held from 20th to 24th November 2023 at the IBMBB premises with 09 participants.

The training course was conducted for young scientists, academics, undergraduate/postgraduate students and students awaiting

higher studies in biological sciences. The training course provided the opportunity to gain hands on experience on the latest as well as commonly used methods in modern biotechnology such as PCR amplification and cloning, preparing recombinant constructs, DNA transformation, protein expression and purification, protein crystallization, structural insights of

proteins using bioinformatics/ computer graphic-based exercises e t c . The training

course was a great opportunity for the participants to broaden their knowledge in the field of Gene Cloning and Recombinant Protein Expression. The training course concluded with an open discussion, where the participants shared their views on the training course and both, its contents and organization, were greatly appreciated. They proposed to conduct many such courses in future.

Training course in Cell Culture Techniques

Twice in the year of 2023, Institute of Biochemistry, Molecular Biology and Biotechnology (IBMBB), University of Colombo hosted a five-day Training Course in Cell Culture Techniques with the guidance of Prof. Sameera R Samarakoon and Prof. Kamani H Tennekoon. The 1st batch of personnel was trained during the period of 09th – 13th January 2023 with 18 external participants and 04 internal participants and the 2nd batch with 09 participants was trained during the period of 07th to 11th August 2023 at the IBMBB premises. The participants were awarded certificates upon their

successful completion of the course. The aim of the program is to train young scientists, clinicians, academics, technical officers, students awaiting and reading higher studies in biological sciences and prospective individuals who are interested in pursuing animal cell culture in their scientific fields.

The course is comprising of 45 hours integrated theoretical and practical training and the content is designed accordingly to provide hands-on experiences in basic cell culture techniques including safety precautions, media preparation, cell counting and

viability determination, growth of adherent and suspension cells, maintenance of cells, freezing and thawing of human cancer cell lines, detection of apoptosis using fluorescence microscopy and DNA fragmentation techniques, determination of cytotoxicity and cell proliferation using cell-based assays for the screening of anti-cancer drugs, isolation and maintenance of primary cells, extraction of nucleic acids from cultured cells and an overview of stem cells. Deliverables of the course were well appreciated by the participants of the course, as evidenced by their feedback.



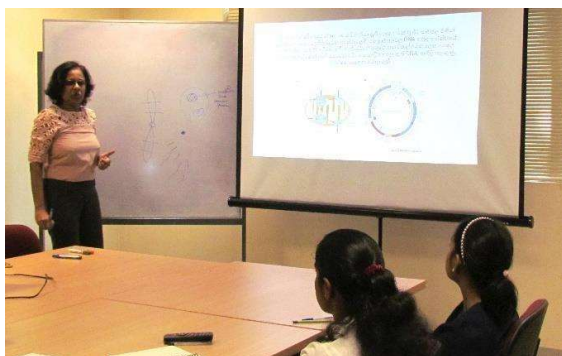
Training Course in Molecular Biology and DNA Recombinant Technology for AL Students

A training course in Molecular Biology and DNA recombinant technology for A/L students in 2023, organized by the Institute of Biochemistry Molecular Biology and Biotechnology, University of Colombo was successfully held from 29th May to 02nd June 2023 at the IBMBB

premises with the 10 participants. The training course covered both theory and practical components related to the A/L syllabus, which includes Molecular Basis of Genetic Materials, Basis of Gene Expression, Mutation and Mutagenesis, DNA Isolation, RNA Isolation, Enzyme Reacting with DNA and related techniques such as PCR,

recombinant DNA technology, DNA sequencing, DNA fingerprinting, and application of Recombinant DNA Technology.

The training course was a great opportunity for the participants to broaden their knowledge in the fields of Molecular Biology and DNA recombinant technology



Workshop on Advanced Chromatographic Techniques

A Workshop on Advanced Chromatographic Techniques jointly organized by the Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo and Industrial Technology Institute (ITI) was successfully held on the 08th and 09th of June 2023 at the IBMBB and ITI premises.

The Workshop covered theory

and practical aspects of chromatographic techniques, with hands-on experience in Advanced Chromatographic Techniques. The workshop included aspects of Advanced Chromatography and practical demonstrations of IC, HPLC-DAD-FLD, LC-MS-MS and GC-MS. Future programmes on Advanced Chromatography will be carried out on demand.

Participants received theoretical knowledge and hands-on experience with techniques such as, HPLC-DAD-FLD, LC-MS-MS, and GC-MS techniques, enhancing their understanding and practical skills in advanced chromatographic analysis.



Training Course in Molecular Biological Techniques

The training course in Molecular Biological Techniques organized by the Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo was successfully held from 19th to 23th June 2023 at the IBMBB premises with 15 participants.

This course offered participants in-depth training in DNA-based techniques like extraction, PCR, RT-PCR, DNA probes, and gel electrophoresis. They also gained

exposure to DNA sequencing and its applications in disease diagnosis and mutation detection. Led by renowned faculty, the course provided valuable knowledge and practical skills in these essential molecular biology techniques.

The training course covered theory and practicals with hands-on experience in DNA based techniques such as DNA extraction and quantification, PCR, RT-PCR, DNA probes, gel

electrophoresis, restriction fragment length polymorphism and an exposure to DNA sequencing. The course also included applications of the techniques in diagnosis of pathogenic diseases, and mutation detection. The training course was a great opportunity for the participants to broaden their knowledge in DNA based techniques.



Training course in Structural Bioinformatics and Computational Drug Discovery

The Training Course in Structural Bioinformatics and Computational Drug Discovery organized by IBMBB was successfully held from 26th to 30th June 2023 at the IBMBB premises. The workshop was resourced by Prof. Sameera Samarakoon (IBMBB), Dr Kanishka Senathilake (IBMBB), Dr Nirupa Nagarathnam (Biodesign Center for Applied Structural Discovery Arizona State University, AZ (ASU) USA (Alumna of IBMBB)), Dr Tolulope Peter Sailu College of Medicine the University of Kentucky USA

(Alumnus of IBMBB), and Dr Arabinda Ghosh (Department of Computational Biology and Biotechnology Mahapurusha Srimanta Sankaradeva University India), Mr Nirmal Perera (IBMBB), Mr Mishal Faizan (IBMBB) and Mr Kanchana Senanayake (IBMBB). There were 24 participants including foreign students. The training course allowed the participants to broaden their knowledge of drug discovery and structural bioinformatics.

The training course covered theory and practicals with hands-on experience in drug discovery, protein structure modeling, molecular docking, molecular dynamic simulations, ADMET, QSAR etc. The training course allowed the participants to broaden their knowledge of Computational drug discovery. The Business Development Unit has made a great contribution in development and establishment of the course while providing coordination support.



Training course in Immunological Techniques

A training course in Immunological Techniques organized by the Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo was conducted successfully from 10th to 14th July 2023 at the IBMBB premises.

There were 11 participants

comprised of Medical Officers, academics, science graduates, science undergraduates and an individual with GCE A/L qualifications.

The training course covered practical components *in cell* isolating methods, *in vitro* culturing of leukocytes, cell counting

methods, functional assays for immune cells, and immunodiagnostic assays (ELISA, IFA, Immunochromatography, SDS-PAGE & Western Blotting). The training course was a great opportunity for the participants to broaden their knowledge and practical expertise in the field of Immunological Techniques



Research Activities

A number of research programmes were in progress at the IBMBB in the fields of Tropical - Parasitic and Infectious Diseases, Molecular Medicine, Ancient DNA studies, Plant Molecular Biology, Metabolomics, Molecular Immunology & immunodiagnostics, Medicinal Plants, Molecular identification of animal species, Meditation & Health

Molecular identification of industrially important microorganisms. Several research projects with industrial applications were also conducted during the year 2023. Each research programme has several projects which provide research training for MPhil/PhD and MSc students under the supervision of the Academic and Academic Support staff

of the Institute and Collaborating Scientists. The Research Students, research projects and supervisors are listed in the table below.

There were a total of 22 full papers in peer-reviewed, indexed, International Journals. There were 32 research communications presented at scientific conferences including international abstracts.

Title of the research	Research Group	Grant
INFECTIOUS DISEASES		
Filariasis		
Bioinformatics Analysis of <i>Setaria digitata</i> genome using new genera on sequencing (NGS) technologies for identification of potential drug targets in <i>Setaria digitata</i>	Prof. Erik Bougcam-Rudlo (University of Agricultural Sciences, Uppsala, Sweden), Prof. Eric Karunanayake (IBMBB) and Prof. Kamani H. Tennekoon (IBMBB)	Swedish Links Grant.
PhD project was in progress in 2023	PhD student: Mr. Kanchana S. Senanayake	
Leptospirosis		
Detection of genotypes and serotypes of <i>Leptospira</i> isolated from leptospirosis patients of different serovars.	Prof. Shiroma Handunnetti (IBMBB), Prof. Jagathpriya Weerasena, Prof. Sunil Premawansa (UOC) and Prof. Senaka Rajapakse (UOC).	National Research Council to Prof. Shiroma Handunnetti, IBMBB (NRC -17-098)
Publication for the Final Report of this NRC grant was submitted in October 2023.	Voluntary Research Assistant - Ms Yomendra de Silva	
Diagnosis of leptospirosis in cattle: Comparison of polymerase chain reaction and in-house <i>Leptospira</i> antigen detection test	Prof. Sisira Pathirana, Prof Sunil Premawansa, Prof Jayantha Rajapaksha, Dr Ama Jayawardana	MSc-CMI programme budget
Research study in progress in 2023	MSc student: Mr Chathura Ranatunga	

Dengue		
Development of a colourimetric reverse transcription on Loop-mediated isothermal amplification (RT-LAMP) assay as a cost-effective novel surveillance tool for differential detection of Dengue serotypes in Aedes mosquitoes PhD project in progress during the year 2023	PI: Dr. Hasitha Tissera, Director of the National Dengue Control Unit (NDCU) (Currently at the Epidemiology Unit of the Ministry of Health), Prof. Shiroma Handunnetti (IBMBB), Dr. OVDS Weerasena (IBMBB) Dr. Sisira Pathirana (IBMBB), Dr. Narmada Fernando (IBMBB), Dr. Subashini Aryaprema (Biologist Antasia Mosquito control district Florida USA) Dr. Rushika Perera Associate Professor (Colorado State University, USA) MPhil/PhD Student: Ms. Sakunthala Janaki (Entomologist, NDCU)	National Research Council to Dr. H Tissera (NRC-19-065)
Effect of Vitamin E supplementation on serum antioxidant capacity levels in 5-14 years old children infected with dengue virus Research study in progress in 2023	Prof Shiroma Handunnetti, Prof Pujitha Wickramasinge, Prof Sisira Pathirana, Dr Dulani Sameranayake, Mr Kaushalya Anuradha, Dr Dilani Rukshala MSc Student: Ms Stefani Duraisamy	CMI programme budget
Effect of Vitamin E supplementation on serum reactive nitrogen intermediate levels in 5-14 year old children infected with dengue virus Research study in progress in 2023	Prof Sisira Pathirana, Prof Pujitha Wickramasinge, Prof Shiroma Handunnetti, Dr Dilani Rukshala, Dr Dulani Sameranayake, Mr Kaushalya Anuradha MSc student : Ms Menu Rodrigo	CMI programme budget
<i>In vitro</i> immunomodulatory effect of Sath Daranee (SD) on dengue virus infected endothelial cells Research study in progress in 2023	Dr Bhagya Deepachandi, Prof Sisira Pathirana, Ms Sanduni de Costa, Prof Shiroma Handunnetti MSc student: Ms Chinthani de Silva	MSc-CMI programme budget

Tuberculosis		
<i>In vitro</i> evaluation of ion pump and ion channel modulators and vitamin D as anti-mycobacterial agents	Prof. Sisira Pathirana (IBMBB), Dr. Nilanthi Senanayake (UoC), Prof. Shiroma Handunnetti (IBMBB)	MSc-CMI programme budget
MSc student: Dr. Thilini Abeyakone		
In progress in 2023.		
Immunomodulatory activity of ion transport modulators and vitamin D on THP-1 derived human macrophages simulated by <i>Mycobacterium tuberculosis</i>	Prof. Sisira Pathirana (IBMBB), Dr. Nilanthi Senanayake (UoC), Prof. Shiroma Handunnetti (IBMBB)	MSc-CMI programme budget
MSc student: Ms. Amila Nandesena		
MSc project work was completed and MSc dissertation was submitted in 2023.		
SARS-CoV-2		
Association of SARS-CoV-2 viral genotype with disease severity and antibody response assessed using in-house IgM and IgG ELISAs in Sri Lankan patients	Prof. PPSL Pathirana (IBMBB), Prof. Inoka Perera (UOC), Prof. Shiroma Handunnetti (IBMBB), Dr. Narmada Fernando (IBMBB), Mr. James Thambyrajah (IBMBB), Ms. Dakshika Gangani (IBMBB), Prof. Sunil Premawansa (UOC), Prof. Senaka Rajapaksha (UOC), Ms. Thejane Perera (UOC), Mr. Sahan Siriwardena (UOC), Dr. Rajiva de Silva (MRI), Dr. Dhanushka Dasanayake (MRI), Dr. Suranga Manilgama (MoH), Dr. Rohitha Muthugala (MoH), Dr. Dhananja Namalie (MoH), Dr. Gayani Premawansa (MoH), Dr. Saranga Sumathipala (MoH), Prof. Andreas Nistche (Robert Koch Institute, Germany)	IDEA Project funded by Robert Koch Institute, Germany
In progress in 2023		
Post-Doctoral Researcher: Dr. Peshala Gunasekera (IBMBB) (up to October 2021), Dr. Bhagya Deepachandi (IBMBB)		
<i>In vitro</i> immunomodulatory effects of Sath Daranee (SD) on human neutrophils interacted with Spike protein 1 of SARS-CoV-2	Prof Sisira Pathirana, Prof Shiroma Handunnetti , Mr Kaushalya Anuradha, Dr Bhagya Deepachandi	MSc-CMI programme budget
MSc student : Ms Gauri Kaushalya		
Research study in progress in 2023.		

Viral Encephalitis		
Studies on Immunological and molecular identification of medically important bat pathogens and viral encephalitis cases in Sri Lanka	Prof. Wipula Yapa, Emeritus Professor Sunil Premawansa, Prof. Andreas Nitsche, Dr. Claudia Kohl, Prof. Inoka Perera, Dr. Gayani Premawansa, Prof. O.V.D.S.J. Weerasena, Prof. Shiroma Handunnetti ,	IDEA Project funded by Robert Koch Institute, Germany
PhD programme was inprogress 2023.	MPhil/PhD Student: Ms. Thejane Perera	
MOLECULAR MEDICINE		
Cancer and Cancer stem cells		
Characterization of Mitochondrial DNA mutations in the D-loop and mtDNA haplogroups in Sporadic Breast Cancer	Prof. Kamani H Tennekoon (Principal supervisor), Dr. Ruwandi Ranasinghe (Co- supervisor), Dr. Kanishka De Silva (Co-supervisor, National Cancer Inst i tute)	PhD scholarship obtained by Ms. Kotelawala (NSF/SCH/2016/004)
PhD project was in progress in 2023.	PhD Student: Ms. J.T. Kotelawala	
Mutations and polymorphisms of mitochondrial genes as risk factors for sporadic breast cancer in Sri Lankan pa ents of Sinhalese ethnicity	Prof. Kamani H Tennekoon (Principal supervisor), Dr. Ruwandi Ranasinghe (Co- supervisor), Dr. Kanishka De Silva (Co-supervisor, National Cancer Insti tute)	NRC Grant awarded to Prof. Kamani Tennekoon (NRC-17-020)
MPhil/PhD project was in progress in 2023.	MPhil/PhD student: Ms. L. Jayasekara	
Genetic analysis for predic ve markers for hepatocellular carcinoma (HCC) in non-alcoholic steatohepa s (NASH) related cirrhosis	Dr. Sudeshini Hewage (Principal supervisor), Prof. Rohan Siriwardena (Co-supervisor- University of Kelaniya), Prof. Kamani Tennekoon (Co-supervisor- IBMBB), Prof. Madunil Niriella (Co-supervisor- University of Kelaniya),	NRC Grant awarded to Dr. Sudeshini Hewage (NRC-19-030)
MPhil/PhD project was in progress 2023.	Mphil / PhD Student : Ms. Saumya Samarasinghe	

Germline variants in the exon 3 of the POLG1 gene: Optimization of the Polymerase Chain Reaction and preliminary analysis in a few selected Sinhalese individuals	Dr. Ruwandi Ranasinghe (Principal supervisor), Ms Joanne Kotelawala (Co-supervisor), Prof. Kamani H Tennekoon (Co-supervisor)	IBMBB (MSc studies)
MSc project was completed and MSc dissertation was submitted in May 2023	MSc student: Chamalka Manohari Kariyawasam	
PCR optimization and amplification of selected exons of mitochondrial transcrip on factor A (TFAM) in sporadic breast cancer patients	Dr. Ruwandi Ranasinghe (Principal supervisor), Ms Joanne Kotelawala (Co-supervisor)	Funding: Research Funds of Dr Ruwandi Ranasinghe
BSc project was completed and BSc dissertation was submitted in May 2023	BSc student: Ms. F Fasha, Faculty of Science, University of Colombo	
Modulation of Adiponectin expression during murine fibroblast (3T3L1) differentiation into adipocyte in-vitro	Prof. B. P. Galhena Prpf. Sameera R Samarakoon Dr. Supun Wijayasinghe	IBMBB (MSc studies)
In progress in 2023	MSc student: Piyumi Dissanayake	
Analysis of BCL2 break apart mutations in lymph node biopsies previously concerned by immunohistochemistry as B Cell lymphomas	Prof. B. P. Galhena Dr. Kanishka Senathilake Ms.Nirman Kaluarachchi	IBMBB (MSc studies)
In progress in 2023	MSc student: Samudra Karunathilaka	
Effects of graphene oxide on the expression of selected genes linked to glucose metabolism in cancer stem cells	Dr. Sameera R Samarakoon Dr. Meran Ediriweera Mr. Manju Gunawardane	IBMBB (MSc studies)
In progress in 2023	MSc student: Navodya Silva	

Human DNA variations and ancient DNA studies		
Insight for molecular Anthropology of early people in Sri Lanka: Ancient human mtDNA and Molecular sex analysis of archeological skeletal remains at Udupiyangalge and Alugalge caves.	Dr. Ruwandi Ranasinghe (Principal supervisor), Prof. Kamani H Tennekoon (Co-supervisor), Prof. Raj Somadeva (Co-supervisor, Postgraduate Institute of Archaeology, University of Kelaniya), Dr. Niraj Rai (Co-supervisor, BSIP, Lucknow, India)	NRC Grant awarded to Dr. Ruwandi Ranasinghe (NRC-17-042)
One PhD project was in progress in 2023.	MPhil/PhD student: Ms. AS Fernando	
Comprehensive analysis of the whole mitochondrial genome in Sinhalese, Sri Lankan Tamil and Vedda population in Sri Lanka	Dr. Ruwandi Ranasinghe (Principal supervisor), Prof. Kamani H Tennekoon (Co-supervisor) Senior Prof. Gamini Adikari (Co-Supervisor)	Initial part of the Research has been progress with the Research Funds of Supervisors. Further funding will be applied
MPhil project was in progress in 2023.	MPhil/PhD student: Ms. Anjana Harshani Jayasinghe Welikala	
Neanderthal inherited Covid-19 genetic variations: Assessing the Polymerase Chain Reaction conditions and frequency analysis	Dr. Ruwandi Ranasinghe (Principal supervisor), Prof. Kamani H Tennekoon (Co-supervisor), Ms Amali Fernando (Co-supervisor)	IBMBB (MSc studies)
MSc project was completed and MSc dissertation was submitted in May 2023	MSc student: Sammani Himasha Galagamaarachchi	
Molecular studies on Genetic disorders		
Analysis of NKX2-5 mutations in a cohort of Sri Lankan patients with ectopic thyroid	Dr. Sudeshini Hewage, Dr. Sumadee de Silva, Dr Navodha Atapattu	IBMBB (MSc studies)
In progress in 2023	MSc student: Nirmani Fonseka	
Analysis of DUOX2 mutation in a cohort of Sri Lankan patients with permanent congenital hypothyroidism	Dr. Sudeshini Hewage, Dr. Sumadee de, Dr Navodha Atapattu	IBMBB (MSc studies)
In progress in 2023	MSc student: Pirasanthiny Thayaparan	
Detection of large deletions/duplications and SNPs in selected human sex determination genes in cohort of 46,XY DSD children in Sri Lanka	Dr. Sumadee De Silva Dr. Sudeshini Hewage Dr. Navoda Atapattu	IBMBB (MSc studies)
In progress in 2023	MSc student: Daniel Sanjeev Ferdinands	
Genetic polymorphisms incorporated in hepatic iron accumulation related to NAFLD pathogenesis	Dr. Sumadee De Silva Dr. Sudeshini Hewage Prof. Kamani H Tennekoon	IBMBB (MSc studies)
In progress in 2023	MSc student: Kavindi Sandamali Sayakkara	

Plant Molecular Biology		
Profiling of Anthocyanins in Red Tea Accessions	Dr. M.A.B. Ranatunga (TRI), Mr. J.D. Kowarachchi (TRI), Prof. Nimal Punyasiri	Tea Research Institute
Effect of <i>Exobasidium vexans</i> infection in tea (<i>Camellia sinensis</i>) on expression of biosynthetic enzymes and biosynthesis of flavonoids Final dissertation was submitted successfully in 2023.	Investigators: Prof. O.V.D.S.J. Weerasena, Prof. Nimal Punyasiri, Dr. L.N.R. Gunaratna MSc student: Ms. K.A.M.J. Edirisinghe	IBMBB (MSc studies)
Effect of <i>Exobasidium vexans</i> infection on flavonoid production and expression of selected flavonoid biosynthesis enzymes during the translucent stage of blister blight disease of the tea leaves Final dissertation was submitted successfully in 2023.	Prof. Nimal Punyasiri Prof. OVDSJ Weerasena Dr. Nilupa Gunarathne MSc student: Chidera Anuforo	IBMBB (MSc studies)
Identification of genes responsible for height of the banana pseudo-stem in local banana variety "Bim Kesel" In progress in 2023	Dr. Nadeesha Lewke Bandara Prof. OVDSJ Weerasena MSc student: Zahwa Abusahid	IBMBB (MSc studies)
Molecular phylogenetic study on some selected Liparis (Orchidaceae) species in Sri Lanka In progress in 2023	Dr. Nadeesha Lewke Bandara Prof. Alessio Papini (Uni Firenze, Italy) Prof. OVDSJ Weerasena MSc student: Upamitha Sapthaki Gunawardane	IBMBB (MSc studies)
Barcoding <i>Tragia spp.</i> (Wal kahambiliya) in Sri Lanka MSc project was completed in 2023 and currently at the examination.	Prof. OVDSJ Weerasena Dr. TMSG Tennekoon Dr. LNR Gunaratna MSc student: Charshinie J. Perera	IBMBB (MSc studies)
A study on allelic and expression differences of selected salt responsive genes in At354 and Bg352 rice varieties. Final dissertation was submitted successfully in 2023	Prof. N.S. Kottearachchi, Prof. O.V.D.S.J. Weerasena & Dr. N. Gunarathne MSc student: D. P. Ruwini Prabha Peiris	IBMBB (MSc studies)

Amino Acid Analysis in Rice	Vimarshi Liyanarachchi (ITI), Prof.K.R Mahanama (UOC), Dr.H.P.S Somasiri (ITI), Prof. Nimal Punyasiri (IBMBB)	Industrial Technology Instiute.
This project was successfully completed in 2023		
Drug Metabolism	Dr.Thusitha Wickramasinghe and his team, Department of Clinical Biochemistry, Faculty of Medicine, University of Kelaniya & Prof. Nimal Punyasiri, IBMBB	University of Kelaniya
Investigation of a termite nest-derived fungus for the presence of novel biologically active secondary metabolites	Prof. Nimal Punyasiri Dr. Nadeesha Lewke Bandara Prof. Dilip De Silva MSc student: Symthiya Sivagnanasundaram Rexon	IBMBB (MSc studies)

Molecular immunology, Immunodiagnos tics and autoimmune diseases

Genetics of immunodeficiency

Comparative analysis of clinical features of agammaglobulinemia and optimizing a PCR based assay for diagnosis of X-linked agammaglobulinemia in Sri Lanka	Dr. Rajiva de Silva (MRI), Dr. Dhanushka Dassanayake (MRI), Dr Kanishka Senarath, Mr. James Thambyrajah	MSc-CMI programme budget
OneMSc disserta on was submitt ed in 2023.	MSc. student: Ms. Neranja Sandamini	

Immunodiagnos tics

Production of Monoclonal antibodies for diagnosis of <i>Leptospira</i> antigens of___selected, most prevalent serovars/serogroups of <i>Leptospira</i> in Sri Lanka	Prof. Shiroma Handunnetti (IBMBB), Prof. Senaka Rajapakse (UOC), Prof. Sunil Premawansa (UOC), Dr. Narmada Fernando (IBMBB). Collaborator: Dr. Lilani Karunanayake (Medical Research Institute).	International Centre for Genetic Engineering and Biotechnology (ICGEB), Italy to Prof Shiroma Handunnetti
	PhD student: Ms. Dakshika Gangani	IBMBB (ICGEB-CRP LKA-17- 1)
Assessment of the usefulness of macrophages differenci ated from HL-60 promyeloblast cell line as a model for <i>in vitro</i> inflammatory assays	Dr Narmada Fernando, Prof SisiraPathirana, Ms Dakshika Gangani	MSc-CMI programme budget
Study was in progress in 2023	MSc student: Ms Ishara Gayathree	
Comparison of level of <i>in vitro</i> inflammation induced by lipopolysaccharides isolated from different bacteria E(. coli, <i>Leptospira</i> , <i>Burkholderia</i>)	Investigators: Dr Narmada Fernando, Prof Sunil Premawansa, Prof Enoka Corea, Mr Kaushalya Anuradha MSc student: Ms Induwari Gunawardane	MSc-CMI Programme Budget
Study was in progress in 2023		

Preliminary study on the presence of missense, gain of function Mutations in Mrgprx2 gene, a receptor for non-IgE mediated basophil degranulation in patients with allergy to ciprofloxacin Study was in progress in 2023	Prof Shiroma Handunne , Dr Rajiva de Silva, Dr Dhanushka Dasanayake, , Dr Kanishka Senarath, Ms Dakshika Gangani, MSc student: Ms Subashini Rathnayake	MSc-CMI programme budget
Autoimmune diseases		
Assessment on selected inflammatory and oxidative stress mediators in patients with psoriasis under Mtx treatment MSc Project work initiated in 2023	Dr Narmada Fernando, Dr Janaka Akarawita, Dr Chalukya Gunasekera, Ms Fatema S Abbasbhoy MSc student: Ms Thilini Dissanayake	MSc-CMI programme budget
Preliminary study on the Assessment on genetic markers predictive of Mtx treatment response in patients with psoriasis in Sri Lanka Study was in progress in 2023	Dr Narmada Fernando, Dr Janaka Akarawita, Prof Senaka Rajapakse, Ms Fatema S Abbasbhoy MSc student: Ms Gayathree Nayanajeewi	CMI programme budget

Medicinal plants		
Research on medicinal plants with anti-inflammatory, immunomodulatory, wound healing and anti-allergic effects		
Study of immunomodulatory activity of <i>Erythroxylum monogynum</i> and <i>Erythroxylum zeylanicum</i> MSc awarded in 2023.	Ms. Dilani Rukshala (IBMBB), Ms. Jayani Kariyawasam (IBMBB), Prof. S Handunnetti (IBMBB) MSc student: Mr. Sajiv De Silva	MSc-CMI Programme budget
Immunomodulatory effects of aqueous leaf extract of <i>Vitex negundo</i> in an in vitro model for hypertension: TPH-1 derived macrophages activated by angiotensin II MSc awarded in 2023.	Prof. Shiroma Handunnetti (IBMBB), Prof. Sunil Premawansa (UoC), Dr. Rajiva de Silva (MRI), Ms. Dilani Rukshala (IBMBB) MSc student: Mr. Boniface Nyamweya (QECS Scholar 2020)	MSc-CMI Programme budget
<i>In vitro</i> effect of <i>Mikania cordata</i> leaf extracts on wound healing MSc awarded in 2023	Dr. Kanishka Senarath (IBMBB), Dr. Narmada Fernando (IBMBB), Mr. Anuradha Kaushalya (IBMBB) MSc student: Ms. Naomi Navaneeta	MSc-CMI Programme budget
<i>In vitro</i> study on immune mechanisms of anti-inflammatory activity of Methanol Dichloromethane Extract of <i>Jeffreyia Zeylanica</i> (<i>Vernonia zeylanica</i>) MSc awarded in 2023	Dr. Narmada Fernando (IBMBB), Dr. Kanishka Senarath (IBMBB), Prof. Shiroma Handunnetti (IBMBB) MSc student: Mr. Kapila Mahawatta	MSc-CMI Programme budget
Preliminary in vitro study on the effect of aqueous extract of leaves and stem of <i>Bacopa monnieri</i> on TrkA and p75 on human leukocytes MSc project work in progress in 2023.	Prof Shiroma Handunnetti, Dr Dilshani Dissanayake, Dr Dilani Rukshala, Mr James Thambyrajah MSc student: Ms Deborah Harikrishnan	MSc-CMI Programme budget
Immunomodulatory, an oxidant, and an -bacterial bio-activities of selected Sri Lankan medicinal plants MPhil/PhD project work in progress in 2023.	Dr Radhika Samarasekera (ITI), Dr Narmada Fernando (IBMBB), Dr G. D Liyanaarachchi (ITI), Prof Shiroma Handunnetti (IBMBB) MPhil/PhD student: Ms Dulini Jagoda	Funds made available from Dr Radhika Samarasekera at ITI.
Anti-cancer effects of medicinal plants		
<i>In vitro</i> and <i>in vivo</i> epigenetic investigations on anti-cancer and radio priming effects of different parts of <i>Mangifera indica</i> (India) and <i>Mangifera zeylanica</i> (Sri Lanka) and impact of green silver nanocomposites One MPhil student project was in progress in 2023.	Prof. Kamani H Tennekoon, Dr. Sameera Samarakoon, Dr. Meran Ediriweera (IBMBB), Dr. N. Devipriya & Dr. V. Vadivel (India) PhD student/IBMBB: Mr. A.A.D.N. Perera	Ministry of Science, Technology and Research under Indo-Sri Lanka bilateral agreement

Anti -cancer drug development	Prof. Kamani Tennekoon, Dr. Sameera Samarakoon, Prof. Ira Thabrew, Prof. E Dilip De Silva, Prof. Nedra Karunaratne (UoP), Dr. A Adhikari (Nepal), Prof. Iqbal Chaudhry (Pakistan), Dr. Poorna Piyathilake (Wayamba University), Dr. Gomika Udugamasooriya, USA	National Science Foundation Grant - RPHS/2016-C07, PI - Prof. Kamani Tennekoon and Prof. Sameera Samarakoon (Co-PI)
Three MPhil/PhDs were in progress in 2023.		
	Research Scientists: Dr. Kanishka Senathilake, Dr. Meran Ediriweera	
	MPhil/PhD students: Ms. Nimesha Wickramasinghe, Mr. J. Thushyanthan, Mr. Kelum Rathnayake	
	Volunteers and MSc students	
<i>In silico</i> prediction and <i>in vitro</i> validation of new anti -aging herbal product	Dr. Kanishka Senathilake Prof. Sameera Samarakoon Prof. Prasanna Galhena	IBMBB (MSc studies)
In progress in 2023	MSc student: Nipuni Hennadige	
Anti - cancer effects of isolated compound from <i>Adenanthera Bicolor</i> on cancer stem cells	Dr. Sameera R Samarakoon Dr. Umapriyatharshani Rajagopalan Prof. Prasanna Galhena	IBMBB (MSc studies)
<i>In progress in 2023</i>	MSc student: Manukalpa Bandara	
<i>In vitro</i> screening for anti-cancer activity and in vivo toxicity evaluation of a Diterpene isolated from <i>Caesalpinia pulcherrima</i>	Prof Sameera R Samarakoon Dr. Kanishka Senathilake Prof. Prasanna Galhena	IBMBB (MSc studies)
In progress in 2023	MSc student: Panapitiya Kankanamalage Shalini Kaushalya Wijerathne	
Industrial Applications		
Study on Immunostimulatory activity and underlying immune mechanism of a herbal formulation in the Sri Lankan Market	Prof. Shiroma Handunnetti (IBMBB), Prof. O.V.D.S.J. Weerasena (IBMBB), Prof. A.Abeysekera, Link Natural Products Pvt Ltd.	Research collaborative study initiated following an MOU with Link Natural Products Pvt Ltd. and the IBMBB, University of Colombo for funding this MPhil/PhD study.
PhD study was completed in 2023.	PhD Student: Ms. Loshini Ranaweera	
Cloning, expression and purification of a commercially viable enzyme	Dr. Kanishka Senathilake Prof. Sameera R Samarakoon	IBMBB (MSc studies)
In progress in 2023.	MSc student: Rathnayake Mudiyansele Nishadi Tharuka Roshanthi Rathnayake	

Development of molecular method/s to detect adulteration of <i>Saraca asoca</i> (Asoka) bark with <i>Polyalthia</i> spp. and <i>Longifolia</i> spp. in herbal medicine industry	Prof. O.V.D.S.J. Weerasena Dr. TMSG Tennekoon Dr. LNR Gunaratna	
Final dissertation was submitted successfully in 2023	MSc student: Sivanjale Ravindrakumar	
Molecular Identification of Animal Species in Sri Lanka		
Molecular Identification of new animal species. The study was in progress in 2023.	Mr. Mendis Wickramasinghe (Sri Lanka Herpetological Society), Prof. Kamani Tennekoon (IBMBB) & Dr. Sameera R Samarakoon (IBMBB)	Funding: Sri Lanka Herpetological Society
	PhD Student: Ms. Nethu Wickramasinghe (Sri Lanka Herpetological Society)	
Study on immunological, hormonal and biochemical parameters of the stress response in meditators. PhD study was completed in 2023 and thesis was being written.	Prof. Shiroma Handunnetti (IBMBB), Dr. D.H. Warawitage, Prof. Dilshani Dissanayake (Faculty of Medicine, Colombo).	Funding: AHEAD project funded by the World Bank Grant No 6026 – LK/8743 – LK awarded to Prof. Dilshani Dissanayake.
	PhD student: Mr. J.C. Thambyrajah	
Molecular identification of industrially important microorganisms		
Isolation, Purification and activity study of laccase enzyme from <i>Rigidoporus microporus</i> . Final dissertation was submitted successfully in 2023	Prof. O.V.D.S.J. Weerasena & Dr. N. Gunaratne	IBMBB (MSc studies)
	MSc student: K. Sandali Geethma	
Development of Compost accelerator and biofertilizer formulation using natural microflora The study was in progress in 2023	Prof. O.V.D.S.J. Weerasena & Dr. L. N.R. Gunaratne	Self Funded
	MPhil Student: Mayura Prabakaran	

Postdoctoral Research

Prof. Nimal Punyasiri was engaged in a post-doctoral research project on the Identification of the disease resistance biomarker in the tea leaves (*Camellia sinensis*) against the Blister Blight Leaf disease (*Exobasidium vexans*). This research was carried out the Technical University of Braunschweig, Institute of Food Chemistry, Braunschweig, Germany from the 1st October to 14th December 2023.

This research was self-funded.

Above project was successfully completed and the outcome will be peer-reviewed publications or a patent on biofungicide development

Research Publications

All authors affiliated to the IBMBB are indicated in bold font.

Dhungel J, Marasini BP, Manandhar E, **Rathnayaka RK, Samarakoon SR**, Shyaula SL. Cytotoxic Activity of Alkaloids Isolated from *Stephania glandulifera* Miers, Journal of Biologically Active Products from Nature, 13:2, 118-128. 2023. DOI: 10.1080/22311866.2023.2224283

Gangani D, Dissanayake W, de Silva R, **Anuradha K**, Karunanayake L, **Fernando N**, Rajapakse S, Premawansa S, **Handunnetti S**. Humoral immune response and changes in peritoneal cell populations in rats immunized against two *Leptospira* serovars; serovar patoc and serovar pyrogenes. BMC Immunol 24, 39 (2023)

Gunasekera WMKTdeAW, Premaratne RG, **Handunnetti SM**, **Weerasena OVDSJ**, Premawansa S, Fernando SD. The role of WHO/MMV genotyping in differentiating *Plasmodium falciparum* recrudescence from re-infections in the POR phase in Sri Lanka. Malaria Journal. 2023, PREPRINT (Version 1) available at Research Square [<https://doi.org/10.21203/rs.3.rs-3233790/v1>]

Iddagoda J, Gunasekara P, Handunnetti S, Jeewandara C, Karunathilaka C, Malavige GN, De Silva R, Dasanayake D. Identification of allergens in *Artocarpus heterophyllus*, *Moringa oleifera*, *Trianthema portulacastrum*, and *Syzygium samarangense*. Clinical and Molecular Allergy Journal, 2023; 21 (1), 1-10.

Jayasekera LP, Ranasinghe R, Senathilake KS, Kotelawala JT, de Silva K, Abeygunasekara PH, Goonesinghe R, **Tennekoon KH**. (2023) Mitochondrial genome in sporadic breast cancer: A case control study and a proteomic analysis in a Sinhalese cohort from Sri Lanka. PLoS ONE 18(2): e0281620. <https://doi.org/10.1371/journal.pone.0281620>. Published on February 9, 2023. ISSN 1932-6203

Kaluthanthiri D, **Rajagopalan U, Samarakoon S**, Weerasinghe L, Perera IC and Perera T. Synthesis and Characterization of Novel Diethylenetriamine Based Sulfonamide Ligands and Their Bidentate Platinum (II) Complexes Toward Anticancer Drug Leads. Current Scientia 26 No. 02 (2023) 78-98.

Munezero PC, Handunnetti S, Fernando N, Ranaweera L, Hapuarachchi SD, **Nyamweya BM**, JNdacyayisenga J, (2023) Preliminary study on the effect of *Munronia pinnata* (Wall) Theob. (Meliaceae) aqueous extract on functional change in endothelial cells infected by dengue virus, Scientific African, Volume 21, e01861, ISSN 2468-2276, <https://doi.org/10.1016/j.sciaf.2023.e01861>.

Muzenieck T, Perera T, Siriwardana S, Bas D, Bayram F, Öruc M, Becker-Ziaja B, Perera I, **Weerasena OVDSJ, Handunnetti S**, Schwarz F, Premawansa G, Premawansa S, Yapa W, Nitsche A, Kohl C. Comparative virome analysis of individual shedding routes of *Miniopterus phillipsi* bats inhabiting the Wavul Galge cave, Sri Lanka. Scientific Reports, 2023 13, 12859. <https://doi.org/10.1038/s41598-023-39534-3>

Niroshan JJ, Liu Y, Martinez J, Que P, Wei C, Weerakkody S, Panagoda G, **Weerasena OVDSJ**, Amarasinghe TAA, Székely T, Bond AL, Seneviratne SS. Systematic revision of the 'diminutive' Kentish Plover (*Charadriidae*: *Charadrius*) with the resurrection of *Charadrius seebahmi* based on phenotypic and genetic analyses. International Journal of Avian Science, Version of Record online: 07 May 2023

Nyamweya B, Rukshala D, Fernando N, de Silva R, Premawansa S, **Handunnetti S**. Cardioprotective Effects of Vitex negundo: A Review of Bioactive Extracts and Compounds. J Evid Based Integr Med. 2023 Jan-Dec;28:2515690X231176622. doi: 10.1177/2515690X231176622. PMID: 37279951; PMCID: PMC10259128.

Perera DN, Palliyaguruge CL, Eapasinghe DD, Liyanage DM, Seneviratne RACH, Demini SMD, Jayasinghe JASM, **Faizan M, Rajagopalan U, Galhena BP**, Hays H, **Senathilake K, Tennekoon KH, Samarakoon SR**. Factors affecting iron absorption and the role of fortification in enhancing iron levels, Nutrition Bulletin, 48(4), pp. 442–457. 2023. doi:10.1111/nbu.12643.

Perera HDSM, Samarasekera JKRR, **Handunnetti SM, Weerasena OVDSJ**, Liyanaarachchi GD, Jabeen A, Choudhary MI. Formulation and evaluation of a hydrogel containing a bioactive extract of Murraya koenigii for topical applications. Journal of Herbal Medicine 2023, 42: 100753.

Perera N, Ediriweera MK, Samarakoon SR, Selvakumar I, Nagarajan D, Vellingiri V, **Tennekoon KH**, Mangifera zeylanica and Mangifera indica Leaf Extracts Exert Anticancer Effects Possibly by Inhibiting Histone Deacetylases, Journal of Herbs, Spices & Medicinal Plants, 29:1, 98-113. 2023. DOI: 10.1080/10496475.2022.2110348

Prajval Pratap Singh, Sachin Kumar, Nagarjuna Pasupati, **P. R. Weerasooriya, Kamani H Tennekoon**, Niraj Rai, Gyaneshwer Chaubey, **R. Ranasinghe**. Reconstructing the population history of Sinhalese, the major ethnic group in Śrī Lāṅkā. iScience. Published: August 31, 2023. <https://doi.org/10.1016/j.isci.2023.107797> ISSN 2589-0042 (Online)

Samarasinghe SASM, Hewage AS, Siriwardena RC, **Tennekoon KH**, Niriella MA, **De Silva S**. Genetic and metabolic aspects of non-alcoholic fatty liver disease (NAFLD) pathogenicity. Egypt J Med Hum Genet. 2023; 24, 53. Doi: <https://doi.org/10.1186/s43042-023-00433-x>

Shyaula, S. L., Shah, T., Rathnayaka, R. K., **Samarakoon, S. R.**, Manandhar, E., Yue, J. M., & Manandhar, M. D. (2023). Cytotoxicity of Compounds Isolated from Usnea aciculifera. Journal of Nepal Chemical Society, 43(2), 125–129. <https://doi.org/10.3126/jncs.v43i2.53357>

Thambyrajah JC, Fernando N, Ratnayake V, **Handunnetti S**, Jayamaha J, (2023) A preliminary study on the UL97 gene of cytomegalovirus isolated from patients suspected of ganciclovir resistance in Sri Lanka, Sri Lankan Journal of Infectious Diseases 13 (1), 1-6

Thambyrajah JC, Hewa Warawitage D, **Handunnetti SM**, Dissanayake WDN. Serum melatonin and serotonin levels in long-term skilled meditators. EXPLORE, 19(5): September–October 2023; 695-701.

Thusyanthan, J., Wickramaratne, N. S., Senathilake, K. S., Rajagopalan, U., Tennekoon, K. H., Thabrew, I., & Samarakoon, S. R. (2023). Cytotoxicity against Human Hepatocellular Carcinoma (HepG2) Cells and Anti-Oxidant Activity of Selected Endemic or Medicinal Plants in Sri Lanka. Advances in Pharmacological and Pharmaceutical Sciences, 2023, 1–9. <https://doi.org/10.1155/2023/6407688>

Wedage WMM, Harischandra IN, **Weerasena OVDSJ**, De Silva BGDNK (2023) Genetic diversity and phylogeography of Phlebotomus argentipes (Diptera: Psychodidae, Phlebotominae), using COI and ND4 mitochondrial gene sequences. PLOS ONE 18(12): e0296286. <https://doi.org/10.1371/journal.pone.0296286>

Welikala AHJ, Ranasinghe R, Tennekoon KH, Kotelawala JT, Weerasooriya P R. Mitochondrial DNA (CA)_n dinucleotide repeat variations in Sinhalese and Vedda populations in Sri Lanka. Genetica (2023). <https://doi.org/10.1007/s10709-022-00150-0>

Wickramasinghe, N., Wickramasinghe, L. J. M., Vidanapathirana, D. R., Tennakoon, K. H., Samarakoon, S. R., & Gower, D. J. (2023). A molecular-genetic perspective on the systematics of the parthenogenetic ophiomelanophoran blind snake Indotyphlops braminus (Daudin, 1803) (Squamata: Serpentes):

Papers Published in Conference Proceedings - 2023

Research Communications – 2023 (Abstracts published in Conference Proceedings)

Anti-protein Glycation Active of a Range of Srilankan Plants, ARS 2023 - Faculty of Technology, UOC

de Silva Y, Weerasena J, Fernando N, Sathkumara H, Chandrapadma N, Rajapakse S, Premawansa S, **Handunnetti S**. Genetic analysis of *Leptospira* from clinically characterized leptospirosis patients from Western Province, Sri Lanka. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Fernando AS, Bandyopadhyay E, de la Fuente Castro C, Wintonsky D, **Karunanayake EH**, Somadeva R, Rai N, **Tennekoon KH**, Raghavan M, **Ranasinghe R**. Comparison of uniparental inheritance in a cohort of Adivasi inhabiting in a Rathugala area. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Fasha M A, Kotelawala J T, Ranasinghe R. PCR optimization of selected exon of mitochondrial transcription factor A (TFAM) in sporadic breast cancer patients IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Fonseka WNT, Hewage S, De Silva S, Athapattu N. Analysis of NKX2-5 mutations in a cohort of Sri Lankan patients with ectopic thyroid. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Galagamaarchchi SH, Fernando AS, Tennekoon KH, Ranasinghe R. Neanderthal inherited COVID-19 genetic variations: Assessing the Polymerase Chain Reaction conditions and database- based allele frequency analysis. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Hennadige ND, Senathilake NHKS, Samarakoon SR, Galhena BP. In silico prediction and in vitro validation of new anti-aging natural compounds. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Kariyawasam CM, Kotelawala JT, Tennekoon KH, Ranasinghe R. Germline variants in the exon 3 of the PLOG1 gene: optimization of the polymerase chain reaction and preliminary analysis in a few selected Sinhalese individuals and breast cancer patients. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Kehelgamuwa RP, De Silva S, Hewage S, De Silva K. Detection of disease-associated variant (n.662G>T) in Colon Cancer Associated Transcript 2 RNA gene in a cohort of patients with colorectal cancer in Sri Lanka. Proceedings of the 12th Annual Scientific Sessions, Institute of Biochemistry, Molecular Biology and Biotechnology: 2023. pp 52 (PP11)

Manoharan V, De Silva S, Karunanayake EH, Tennekoon KH, De Silva K, Angunawela P, Lunec J. Analysis of somatic mutations and protein expression of tp53 gene in selected cancers in a cohort of Sri Lankan patients". National Research Council of Sri Lanka-World Science Week 2023: Research Symposium, 13th and 14th November 2023

Mishal MFM, Senathilake KS, Samarakoon SR. Virtual Screening and Molecular Dynamics Based Identification of Bismahanine as a Potential Anti-Aging Compound. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Niroshan JJ, Liu Y, Martinez J, Que P, Wei C, Weerakkody S, Panagoda G, **Weerasena OVDSJ**, Amarasinghe TAA, Székely, Alexander L. Bond, Sampath S. Seneviratne (2023) Systematic revision of the 'diminutive' Kentish Plover (*Charadriidae*: *Charadrius*) with the resurrection of *Charadrius seebohi* based on phenotypic and genetic analyses. International Journal of Avian Science, Version of Record online: 07 May 2023

Nyamweya B, Rukshala D, Fernando N, de Silva R, Premawansa S, **Handunnetti S**. Aqueous leaf extract of *Vitex negundo* exerts immunomodulatory effects in an in vitro model of hypertension. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Pathirana SL, Deepachandi B, Gunasekara P, Premawansa G, Namalie D, **Fernando N**, Perera IC, Nanayakkara S, Kumarasinghe D, **Gangani PD, Thambyarajah J**, Perera T, Siriwardana S, Manilgama S, Sumathipala S, Muthugala R, Rajapakse S, Dassanayake D, De Silva R, Premawansa S, Nitsche A, **Handunnetti S**. Detection of Anti-SARS-CoV-2 spike

protein antibodies in COVID-19 patients and naïve recipients of different COVID-19 vaccines in Sri Lanka (OP24). IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Perera AADN, Samarakoon SR, Ediriweera MK, Tennekoon KH. Isolation of a potential anti-cancer compound from *Mangifera zeylanica* leaves and investigation of its effects. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Perera KDC, **Faizan M, Senathilake NHKS, Samarakoon SR.** In silico investigation of anticancer properties of *Withania somnifera* on cancer stem cells. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Rexon SS, Punyasiri N, Lewke Bandara N, **Rajagopalan U, deSilva ED.** Investigation of a Termite Nest-Derived Fungus for the Presence of Biologically Active Secondary Metabolites. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Sailu PT, Seneviratne NN, Faizan M, Rajagopalan U, Adhikari A, **Senathilake KS, Galhena PB, Tennekoon KH, Samarakoon SR.** Alpha-hederin modulates β -catenin pathway target genes and induces caspase dependent programmed cell death in breast cancer stem cells. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Samarasinghe SASM, Hewage AS, Siriwardana RC, **Tennekoon KH,** Niriella MA, **De Silva S.** Association of PNPLA3 gene variants with non-alcoholic steatohepatitis (NASH) related hepatocellular carcinoma (HCC) patient cohort in Sri Lanka. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Sayakkara KS, De Silva S, Hewage S, Tennekoon KH, Siriwardana RC, Niriella MA, **Samarasinghe S.** Selected genetic variants in the HFE gene incorporated in iron accumulation related to NAFLD pathogenesis in Sri Lanka. Proceedings of the Young Scientists' Conference Multidisciplinary Research (YSCMR)-2023, Young Scientists' Association, National Institute of Fundamental Studies, Sri Lanka. 2023.pp 34 (CMT-128)

Shafeeu FA, De Silva S, Hewage S, De Silva K. Detection of selected SNPs of HOX transcript antisense RNA (HOTAIR) gene in a cohort of patients with breast cancer in Sri Lanka. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Thayaparan P, Hewage S, De Silva S, Athapattu N. Analysis of DUOX2 mutations in a cohort of Sri Lankan patients with permanent congenital hypothyroidism. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Thusyanthan, J., Wickramaratne, N.S., Rajagopalan, U., Senathilake, K.S., Samarakoon, S.R., Tennekoon, K.H., and Thabrew, M.I., (2023). Cytotoxicity of endophytic fungi strains of *Rhizophora mucronata* using human hepatocellular carcinoma (HepG2) cell line. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Vijithsingh NN, **Anuradha K, Shiroma Handunnetti S, Fernando N, Senarath K.** The in vitro effect of *Mikania cordata* aqueous leaf extract on wound healing. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Welikala AHJ, Fernando A, Kotelawala JT, Tennekoon KH, Ranasinghe R. Length Heteroplasmy analysis in the C-stretch of Mitochondrial DNA hypervariable region I in Sinhalese, Sri Lankan Tamil and Vedda population in Sri Lanka. IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Wickramaratne NS, Thusyanthan J, Adhikari A, **Rajagopalan U, Tennekoon KH,** Karunaratne DN, **Samarakoon SR.,** Lactone ring enhances anti-breast cancer activity of three structurally related compounds isolated from *Gardenia crameri*, IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Wickramasinghe N, Wickramasinghe LJM, **Tennekoon KH, Samarakoon SR,** Vidanapathirana DR, Gower DJ., Species delimitation of blind snakes by molecular phylogenetic analysis of mitochondrial DNA sequences, IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

Wijerathne PKSK, Saliu TP, Rathnayake RK, Rajagopalan U, Senathilake NHKS, Samarakoon SR. Cancer stem cell targeted in vitro anti-cancer activity and acute in vivo toxicity studies of a diterpene isolated from *Caesalpinia pulcherrima*, IBMBB 12th Annual Scientific Sessions, IBMBB, University of Colombo, Sri Lanka, 31st May 2023

International - Posters

Fernando A, Jayasekera L, Ranasinghe R, Tennekoon K, Karunanayake EH, Somadeva R, Rai N. An overview of the maternal genetic affinity of Sinhalese and Tamils in relation to Eastern and Western populations. *European Journal of Human Genetics* (2023, June) 31:312 [Abstracts from the 55th European Society of Human Genetics (ESHG) Conference: Posters].

Jagoda D, Liyanaarachchi GD, Weeratunge HD, **Handunnetti SM, Fernando N**, Samarasekara JKRR, Chemical profile and in vitro immunomodulatory activity of *Citrus aurantium* Linn. leaf extracts. 6th ITI Biennial International Research Symposium November 2023, Pg 26

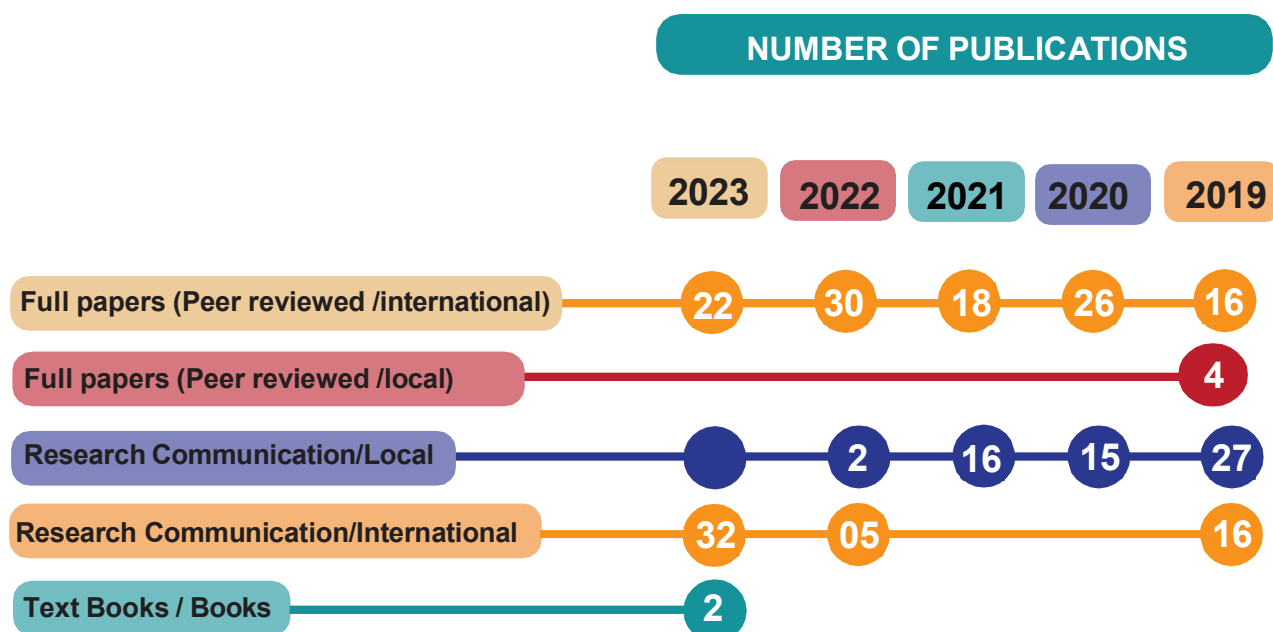
Jayasekera L, Ranasinghe R, Kotelawala J, De Silva K, Abeygunasekera P, Goonesinghe R, **Tennekoon KH.** Mitochondrial genome in sporadic breast cancer: A case-control study of Sri Lankan women of Sinhalese ethnicity. *European Journal of Human Genetics* (2023, June) 31:263 [Abstracts from the 55th European Society of Human Genetics (ESHG) Conference: Posters]

Welikala A, Fernando A, Faizan M, Rai N, Thangaraj K, **Tennekoon KH, Ranasinghe R.** "Understanding the maternal genetic affinities of Adivasi (Vedda) population in Sri Lanka: exploring the complete mitochondrial DNA". (Control No. 2714). The European Society of Human Genetics (ESHG) conference, Glasgow, United Kingdom from June 10-13, 2023

No. of Books/Text Books published in the area of expertise

De Silva S, Samarasinghe N, Mahaliyanage D, Jasinge E, Dilanthi HW, Punyasiri N. Impact of Selected Genetic Variants of CBS and MTHFR Genes in a Cohort of Children with Homocystinuria in Sri Lanka. *Novel Research Aspects in Medicine and Medical Science*, 2023. Vol. 1, 129–152. Doi:<https://doi.org/10.9734/bpi/nramms/v1/5998B>. Publisher: BP International, Print ISBN: 978-81-19491-92-6, eBook ISBN: 978-81-19491-93-3.

11TH YSF SYMPOSIUM PROCEEDINGS OF THE 11TH YSF SYMPOSIUM JANUARY 27, 2023 Young Scientists Forum National Science and Technology Commission Page 2 11TH YSF SYMPOSIUM 27th January 2023 Organized by Young Scientists Forum National Science and Technology Commission Chief Editor Dr. CC Kadigamuwa Editorial Board Prof. SR Samarakoon Dr. KW Samarakoon Dr. A. Kanagasundaram Dr. R. Ranasinghe Dr. AU Rajapaksha Dr. U. Liyanaarachchi Ms. KIS Thamali Page 3 © National Science and Technology Commission Responsibility of the content of papers included in this publication remains with the respective authors but not the National Science and Technology Commission. ISBN 978-955-8630-26-6 Published by: National Science and Technology Commission, 6th Floor, Wing D, Sethsiripaya Stage II, Battaramulla

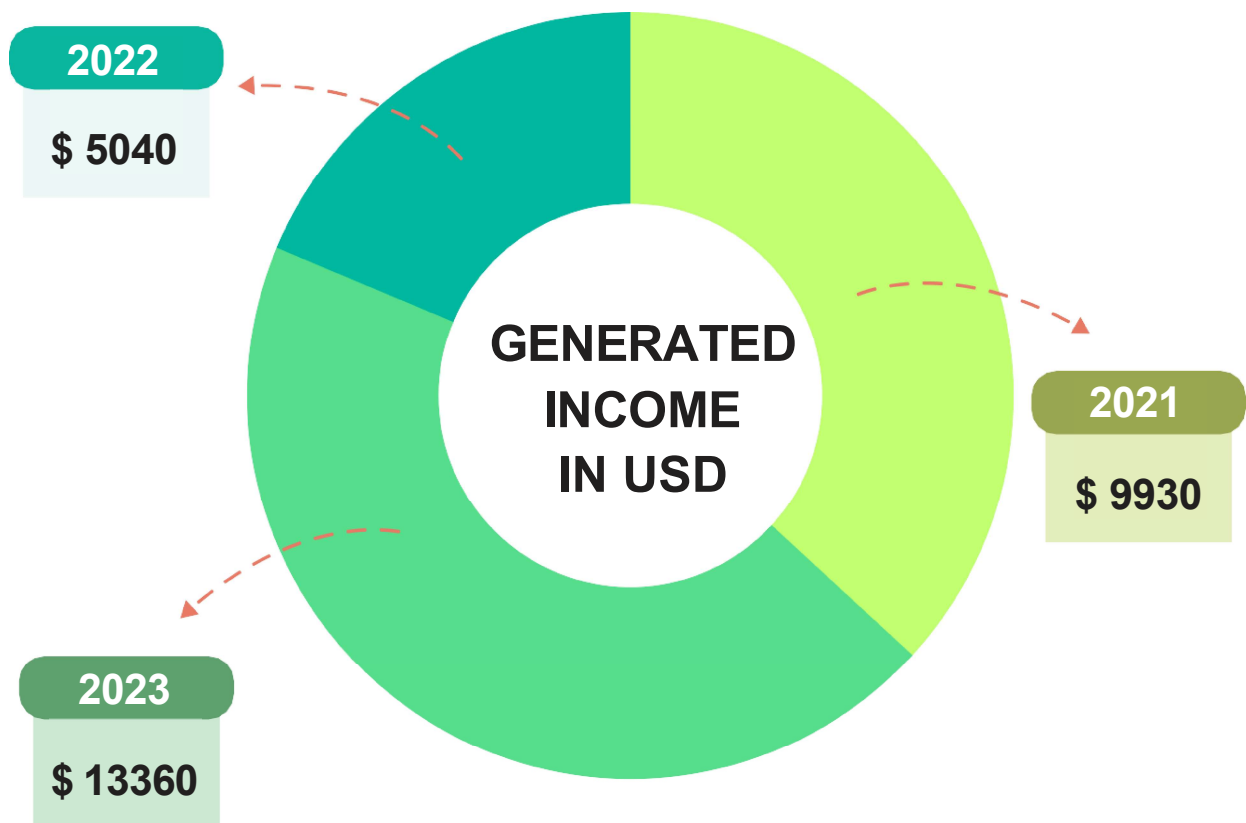


International Research Funding

Prof Shiroma Handunnetti (PI) Prof. Sunil Premawansa (Co-I) Prof Senaka Rajapakse (Co-I)	Development of an antigen-based immunodiagnostic test for leptospirosis.	International Center For Genetic Engineering and Biotechnology	CRP/LKA17-01 – Contract No. CRP/18/008	263,727.00
---	--	--	--	------------

Queen Elizabeth Commonwealth Scholars Program

The Institute of Biochemistry, Molecular Biology and Biotechnology has successfully hosted Queen Elizabeth Commonwealth Scholars since 2014 in the Master's programmes of Molecular Life Sciences and Cellular and Molecular Immunology. Since 2014 to 2023 the institute has hosted a total of 10 Commonwealth Scholars.



Provide services including

- DNA sequencing
- Cell culture facility
- Genetic analysis for several human diseases such as cancer, developmental disorders and immunodeficiency diseases.
- HPLC facility to the public and private sector [Available for non ATCC Cell lines]

Deliver professional consultancy in Research and Higher Education

Development of projects to facilitate the expansion of the knowledge of Molecular Biology and Biochemistry among Advanced Level students in rural, non-urban schools through conducting guest lectures, road shows and various other programmes.

Consultancies

Prof Shiroma Handunnetti

- Council member, Allergy and Immunology Society of Sri Lanka
- Evaluator of Research project proposals – National Research Council
- Moderator, Course Examinations for MSc in Medical Entomology and Applied Parasitology
- Reviewer of Manuscripts submitted to The Journal of National Science Foundation
- Member, Biotechnology Committee, National Science Foundation
- Member, Advisory Committee for Center of Meditation Research, UCFM, UoC

Prof Nimal Punyasiri

- Member Faculty Board, Faculty of Technology, University of Sabaragamuwa
- Member Steering Committee Centre for Gender Equality, University of Colombo
- Member Steering Committee, Academic Mentoring, University of Colombo
- Member Advisory Committee on Ayurveda, Herbal Products and Cosmetic Sector
- Steering Committee Member - Implementation of UN Resolution 1540

Dr Narmada Fernando

- Deputy director, CQA
- Standing committee of the Senate on Quality Assurance
- Secretary and council member of the Allergy and Immunology society of Sri Lanka

Teaching Activities

Prof Nimal Punyasiri

PGIS University of Peradeniya
Faculty of Technology, University of Sabaragamuwa
Faculty of Science, University of Colombo
Institute of Chemistry, Sri Lanka
CINEC Campus, Malabe
Faculty of Technology, University of Sri Jayawardanapura
Faculty of Science, University of Sri Jayawardanapura

Prof Sameera Samarakoon

PGIM, University of Colombo
Faculty of Technology, University of Colombo

Dr Sumadee De Silva

PGIM, University of Colombo

Dr Narmada Fernando

Faculty of Science, University of Colombo

Dr Kanishka Senathilake

PGIM, University of Colombo
Faculty of Technology, University of Colombo

Memorandum of Understandings

Memorandum of Understanding with Northumbria University, Newcastle, UK

Signing of the MoU between the two institutes took place with the presence of the Professors Andy Long, Vice Chancellor, University of Northumbria and H.D. Karunaratne, Vice Chancellor, University of Colombo on 26th July 2023 at the Prime Minister's office Colombo. This occasion was graced by the Prime Minister, Acting British High Commissioner to Sri Lanka, Chairman, University Grants Commission, Vice Chancellors, University of Colombo and University of Sri Jayawardenepura, Auditor General, Governor Business Management School, Dean, Faculty of Medicine, University of Colombo, Director, Postgraduate Institute of Marketing, University of Sri Jayawardenepura, Director IBMBB and other distinguished guests.

The scope of this agreement is to establish a relationship to cooperate in a broad range of areas and to work together for their mutual benefits. The parties may seek to encourage and develop collaborative activities in various ways including the development of educational and research partnerships with a specific focus on Postgraduate taught and research studies, exchange of scholarly ideas/expertise, the support of specific discipline interaction, the development of programmes and the advanced entry to Northumbria programmes of appropriately qualified students from the Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo..



Memorandum of Understanding with IIT, Madras

The University of Colombo and the Indian Institute of Technology Madras (IIT Madras) have partnered to explore joint opportunities in teaching, learning, and research across diverse fields. Signed on February 3, 2023, this Memorandum of Understanding (MoU) opens doors for collaborations in natural sciences, humanities, and potentially even specific areas like biochemistry, molecular biology, and biotechnology. IBMBB as the vital

institution specialized in the above said areas will be the moderator/coordinator for the partnership. This partnership promises enriched educational experiences and research advancements, fueled by the combined expertise of both institutions. The MoU signing ceremony, held at the University of Colombo, was attended by prominent figures from both sides. Representing the University of Colombo were Senior Professor H.D. Karunaratne, Vice Chancellor,

Professor Prasanna Galhena, Director of the Institute of Biochemistry, Molecular Biology and Biotechnology (IBMBB), and other esteemed faculty members. IIT Madras was represented by Professor Raghunathan Rengaswamy, Dean of Global Engagement, and other officials.

Memorandum of Understanding with Fadna Tea (Pvt) Ltd

To bridge the gap between academia and industry, the IBMBB signed a Memorandum of Understanding with Fadna Tea Pvt. Ltd. This collaboration aims to leverage IBMBB's expertise in molecular biology, biochemistry, and biotechnology to develop functional products like nutraceuticals and improve the quality of Sri Lankan products. This partnership signifies a promising step towards innovation and economic development.



Innovation Nexus: IBMBB and Fadna's Vision

This event celebrated the successful collaboration between IBMBB and Fadna Life Science, resulting in four innovative products: Vernolac, Satiny, Ortho Shield, and Bio Shape. This partnership, spearheaded by Prof. Sameera R. Samarakoon, was not only about creating new products but also about demonstrating resilience and innovation in the face of Sri Lanka's economic challenges.

The event highlighted the importance of collaboration between academia and industry, leading to the transfer of royalties from Fadna to IBMBB, signifying the partnership's success and contribution to Sri Lanka's economic revival. These products, born from rigorous research, address real-life challenges, like combating cancer stem cells and promoting hair growth. This collaboration goes beyond product development; it empowers local businesses, promotes research development, and fosters a brighter future for Sri Lanka through innovation.



Monetary Income

Monetary income of the IBMBB consists of recurrent and capital block grants received from the General Treasury, generated income from Masters. MSc programmes and Self Financing Activities (SFAs) and interest income from investments.

Student Facilities

IT Facilities

Learning Management System (LMS) and Zoom conferencing facilities, creating a virtual learning environment along with distance learning capabilities.

Students are provided with access to IBMBB Self Service Portal (SSP) where students can apply for courses, request transcripts and

check availability of books in the IBMBB Library online. SSP is integrated with the online payment gateway facilitating online payments to IBMBB.

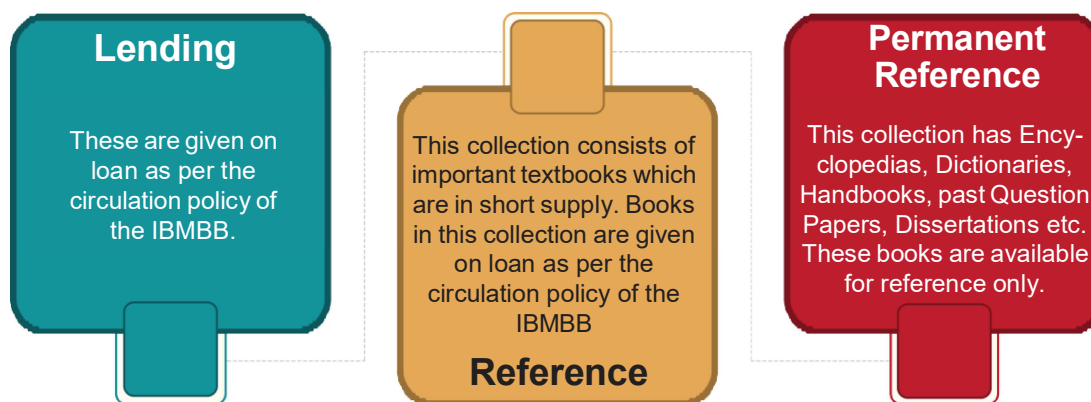
Wireless internet access is available to all students at IBMBB providing unlimited internet access and to other online services provided by IBMBB

Locally provided services include locally installed Bioinformatics tools and databases, shared storage and printing services.

IBMBB currently has two teaching computer laboratories for master's students and two for research students. All laboratories have access to unlimited internet and necessary software installed.

Library

The IBMBB Library is composed of large collection of books and journals in Molecular Biology, immunology, biotechnology, Bioinformatics and related fields. They are basically categorized in to 3 types - lending, reference and permanent reference



LIBRARY RESOURCES

Books Classification - Universal Decimal Classification (UDC) System is followed up with the special library i.e., for IBMBB Library.

Student Mentoring

A personal student mentor for each student enrolled at IBMBB was appointed.

Prof. Nimal Punyasiri has been a member of the mentoring pool of the University of Colombo since 2018 and this membership continued in 2024 as well.

Awards Received in 2023

Presidents Award for Scientific Publications for year 2022

Prof Kamani Tennekoon
Prof. Shiroma Handunnetti
Prof. Jagath Weerasena
Prof Sameera Samarakoon
Dr Narmada Fernando

Senate Awards for Research 2022

Prof. Shiroma Handunnetti

Senate Commendations for year 2022

Prof. Nimal Punyasiri
Prof. Sisira Pathirana
Dr Narmada Fernando

CSR Activities

Molecular Life Sciences for Next Generation

3rd Year Environmental Technology Students Visit IBMBB

The Environmental Technology students from Faculty of Technology, visited IBMBB, University of Colombo, on 24th May 2023. The field visit was organized for 50 students from the 3rd year Environmental Specialization. They were exposed to Molecular Biological Techniques (DNA sequencing, Electrophoresis and Real Time PCR, Gene transformation techniques, radioisotope techniques etc.), HPLC, FPLC and cell culture & immunology techniques. Apart from that the students were introduced to the labs, research, and equipment available at IBMBB by the academic staff and PhD students. The session was planned and executed by the Business Development Unit with help of other Academic and Non- Academic Staff.



Animal Tissue Culture Technology Visit for Biosystems Technology Students (May 26, 2023)

The Department of Biosystems Technology, Faculty of Technology, University of Ruhuna, visited IBMBB, University of Colombo, on 26th May 2023. The field visit was organized for 47 students from the Biosystem Technology Specialization. They were exposed to Safety and Sterilization techniques, Culture media and media preparation, Cell line and maintenance and Cell based assays involves in cell viability detection with live demonstrations. Apart from that the students were introduced to the labs, research, and equipment available at IBMBB by the academic staff and PhD students. The session was planned and executed by the Mr. Mishal Business Development Unit with help of Prof. Sameera and Dr. Uma.



Summary of activities coordinated by IQAC, IBMBB - 2023

Dr Narmada Fernando served as the IQAC Coordinator of IBMBB till July 2023. Afterwards, Dr. Sumadee De Silva started to serve as IQAC Coordinator of IBMBB from August 2023 and Dr. Dilani Rukshala continued her service as the Scientific Assistant, IQAC of IBMBB.

Dr Fernando contributed to a self-evaluation report writing committee of the Institutional Review (IR) 2023. Awareness programmes were conducted on SLQF compliance, External review processes, and

Institutional Review by the IQAC. IBMBB has been commended under multiple criteria by the reviewers in their report. Institute Review was completed and obtained an overall "A" grade for the University of Colombo.

Mapping of graduate profiles of all degree programmes with the graduate profile of the University of Colombo was completed. Student feedback on teacher performances, postgraduate programmes, and learning environment were conducted, and completed and reports were

generated for the year 2022. IQAC organized an awareness programme on Peer observation and Prof Gominda Ponnamparuma, Director, CQA contributed as the resource person. Based on the comments obtained from the Academic staff of IBMBB and recommendation during the awareness programme on Peer observation, the peer observation form has been revised and will be administrated from 2024 onwards.

Preparations for Programme Review

Preparations for the Postgraduate Programme Review (PGPR) for SLQF level 11 and 12 have been initiated and tentatively scheduled after June 2024. Coordinators were appointed for each criterion and staff responsible for every standard were identified in view of the upcoming Postgraduate Programme Review. Further, seven preliminary meetings on several criteria of the PGPR were held with the scope of identifying the evidences.

Compliance with relevant policies, regulatory QA frameworks were adopted and for that, an awareness session was conducted in March 2023 to make the programme coordinators aware of how to demonstrate SLQF compliance in level descriptors of SLQF level 9 and 10 Master degree programmes,

Self-evaluation of SLQF compliance in level descriptors of all six Masters degree programmes

at SLQF level 9 and 10 was completed. All postgraduate degree programmes (SLQF level 9, 10, 11 and 12) offered by IBMBB were mapped with SLQF categories of outcomes. Self-evaluation of SLQF compliance in the qualification descriptors of the above degree programmes are in progress.

Employee Classification as at 31st December 2023

Service Category	Salary Code	Approved Cadre	Actual Cadre		Vacancies	Remarks
			Permanent	Temporary		
Primary Level						
Primary Grade- Unskilled	U- PL 1	01	00	01	01*	* Works Aide has been appointed on assignment basis. ** Driver has submitted the resignation on 15.03.2023 while he is in overseas. IBMBB still not accept the resignation. New driver has been appointed on contract basis.
Primary Grade- Semi skilled	U- PL 2	03	03			
Primary Grade- Skilled	U- PL 3	01		01	01**	
Secondary Level						
Management Assistant - non-Technical	U- MN 1	11	10	01	01	The permanent Management Assistant has resigned from the post 31.10.2022 and one Trainee Management Assistant has been appointed from 07.09.2023 on assignment basis
Management Assistant - Technical	U- MT 1	04	03			
Associate Officers- Segment 2	U- MN 2		00			
Associate Officers- Segment 1	U- MN 3		00			
Staff Assistant/Supra & Senior Staff Assistant	U- MN 4		01			
Tertiary Level						
Junior Executive/ Managers	U- EX 1	01	01			*DMS has approved four (04) posts of permanent Scientific Assistants (SA) and two Temporary Scientific Assistants (contract). The contract basis SAs are with fixed salaries
Academic Support - Segment 2	U- AS 1	07*	01	07**	01	
Academic Support - Segment 1	U- AS 2		03*			
**Two SA’s have been appointed on contract basis and Four Scientific Assistants have been appointed on temporary basis. The permanent Scientific Assistant (BI) has resigned from the post 2022.09.14 and one Scientific Assistant has been appointed from 23.10.2023 on contract basis						
Senior Level						
Medical Officer	U- MO 1	00	00			
Chief Medical Officer	U- MO 2	00	00			
Middle Level Executives	U- EX 2	01	01			
Middle Level Executives*	U- EX 2 (a)	01	01			
Senior Executives	U- EX 3	00	00			

227					
Lecturer	U- AC	3	04*	00	*One senior Lecturer has been appointed on 01 st December 2023.
	U- AC	4	00	00	
Associate Professors		11		02	
Professors/ Senior Professors	U- AC	5	05	00	
Director	U-AC	5	01	00	00
Post- Doctoral Research Fellow **	Fixed	03	00	01	02
Temporary Assistant Lecturer **	Fixed	02	00	02	**03 posts of Post-Doctoral Research Fellows and 02 posts of Temporary Assistant Lecturer have been approved by DMS. All 5 posts are with fixed salaries (contract appointment)

Staff Development, Training and Welfare-2023

IBMBB strongly believes in ensuring and facilitating the continuous professional development of all its staff members. The following staff members engaged in training in order to develop their skills further that will enable them to contribute towards the delivery of excellence by IBMBB. The staff members' names and the training programmes attended are indicated below.

Name	Designation	Workshop / Training Course	Duration/Dates
Ms. S.M. Withana Arachchi	Deputy Bursar	Training Programme on SLPSAS for Public Officials	02 nd , 03 rd , 16 th , 17 th March 2023
Ms. R.K.H.A. Jayaweera	Assistant Registrar	Induction Training Programme for Administrative and Financial Officers-2023.	10 days
Ms. A.A. Jayasoma	Staff Technical Officers	Residential Workshop "UWU Techno Camp-2023"	20 th to 26 th February 2023

Health Insurance Scheme

A Health Insurance policy was purchased from Sri Lanka Insurance Corporation for the employees at the IBMBB in 2023. The Board of Management of the Institute approved the policy be purchased on welfare basis that a 50% at the total sum insured to be borne by the Institute. Twelve employees at the IBMBB and 25 number of their family members were included in the Health Insurance Policy. A total of Rs. 130,416.78 was borne by the Generated funds of the Institute for this purpose in 2023.

Annual Scientific Sessions - 2023

The 12th Annual Scientific Sessions was held on 31st of May 2023 at the Conference hall IBMBB. The sessions this year had a record total of 40 abstracts presented as oral and poster presentations by masters and PhD research students of IBMBB as

well as researchers from many other local universities. As per tradition, the Prof. Stanley Wijesundara memorial lecture was delivered on this day at the inauguration ceremony. The memorial lecture was delivered by Prof. Rohana Siriwardana Professor

in Gastroenterology and Hepatobiliary Surgery at the Faculty of Medicine of the University of Kelaniya. The vice-chancellor of the University of Colombo Senior Prof. H. D. Karunaratne was also attendance at the inauguration.



Open Day

This event offered over 100 participants a glimpse into the world of biotechnology and molecular biology at IBMBB. The day included:

Laboratory tours: Participants witnessed firsthand the groundbreaking research conducted in state-of-the-art laboratories.

Engaging conversations: Researchers and educators

discussed the dynamic fields of biotechnology and molecular biology.

Academic pathways: Information about academic programs and short courses was presented, guiding potential participants towards careers in these fields.

Career opportunities: Attendees explored diverse career prospects and networked with professionals in the field.

The event's success was attributed to the dedicated staff and their efforts to create an engaging and informative experience. Additionally, a flash quiz competition and a food stall enhanced the overall experience for participants. This open day showcased IBMBB's commitment to fostering an environment of learning, research, and community engagement.



Financial Constraints

Financial Resources were the major constraint in 2023 for implementing the activities stipulated in the Action Plan 2023 and the Corporate/ Strategic & Management Plan 2023-2026. The institute had estimated a capital expenditure of Rs 36.85 million. Since no funds were received from the General Treasury for capital grant, the institute had to borne Rs. 4,518 million from Generated income as capital investment.

Hence the number of planned activities related to capital, research and development had been remarkably decreased during the year 2023.

Plan of work for 2024

Teaching

- Initiate external undergraduate Programme
- Initiate new postgraduate programme Master of Medicinal Biotechnology
- Continue/strengthen existing MPhil and PhD programmes
- Design new short courses
- Strengthening existing short courses
- Strengthen biannual student feedback on teaching, learning and assessments
- Strengthening student mentoring program
- Establishment and maintenance of a comprehensive resource pool of Faculty
- Align teaching learning assessments with learning outcomes
- Strengthening modern teaching / learning methods
- Introduce/ continue novel student-centered teaching learning activities (eg: Coursera, PBL, SDL)
- Introduce student internships/industrial training through collaborations with industry

Research

- Strengthen research under three nationally relevant key research themes
- Implement an appropriate mechanism to review the periodical progress of research activity
- Establish new and strengthen the existing collaborative assignments with the industry
- Enact memoranda of understanding with Research Institutes/ Private sector Institutes
- Complete Patent Applications and Non-Disclosure Agreements
- Commercialize the research findings
- Strengthen collaborative research programmes with health sector
- Expand the scope of the PhD Programmes
- New admissions to MPhil/PhD programmes, Training of professionals/ technocrats in the applications of Molecular Life Sciences
- Generating new knowledge through research programmes
- Encourage and assist in obtaining National/ International competitive research grants by faculty members/ collaborators
- Strengthen cooperation with other Faculties/ Universities and private sector Educational Institutes
- Dissemination of Knowledge/ Research Findings

Service

- Develop collaboration with Industry/Private sector
- Conduct awareness programme targeting relevant social segments
- Enriching teaching and learning activities targeting advance level students following Biology/ Technology stream
- Organize annual blood donation camp
- Carryout annual event at Apeksha Hospital
- Conduct annual school programme targeting resource limited Advance Level students
- 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
- 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
- Development and implementation of new laboratory establishment policy by addressing the current and future demands
- Acquisition and upgrading of IT infrastructure facilities
- 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
- Conduct an International research symposia
- Encourage and assist in participation at International conferences by faculty members/collaborators/ students to present research carried out at the IBMBB

Governance

- Adhere to the Human Resources and Safeguard policy of IBMBB
- Code of Ethics for staff and students
- Compliance with accepted norms of Accounting and auditing standards
- Provide regular training for staff members
- Strengthen and sustain an effective managerial structure in safeguarding the practices to good governance.

The Future Projection Report on activities to safeguard the environment and mitigate the negative impact on the environment based on Sustainable Development

Institute of Biochemistry, Molecular Biology and Biotechnology (IBMBB), University of Colombo is a research institute which was established with the view to provide guidance, training, research, development and consultancy in Biochemistry, Molecular Biology, Biotechnology, Immunology, Bioinformatics and other allied fields. IBMBB directly contributes to the Goal 04 of Sustainable Development Goals; Quality Education. While the Institute contributes to the Quality of Education, Institute has given concern of safeguarding the environment and to mitigate the negative impact on the environment

Reduce paper work

IBMBB is in the process of digitization of paper based document to reduce paper usage. Currently, inter-division work flow is carried out in the MS Teams platform enhancing the work out come and reducing the paper use. Self Service Portal (SSP) was implemented in 2023 by integrating the online application system and online payment gateway with a staff/student login system. The online processing of course applications and payments is done via SSP reducing the paper usage and increasing the efficiency of day to day work. Document Management System for the IBMBB is planned to introduce in 2023. Further, emails are used for the internal and external communications to reduce paper works and toner usage within the Institute.

Polythene Free Zone

Institute of Biochemistry, Molecular Biology and Biotechnology is located at a Polythene free zone and the Institute has taken action to maintain it.

Wastage Management System

IBMBB, University of Colombo has state of the art laboratories for postgraduate teaching and training purposes that are well equipped with safety precautions required for handling human donor blood samples and cell lines which are used in laboratories. Standard safety procedures are practiced and are being continued in handling and disposal of biohazard material. All necessary laboratory procedures are taken and are being continued to minimize environmental risk of handling and disposal of hazardous chemicals and reagents.

Green Office Design

The principles of green building were followed in the design of IBMBB building. Accordingly, office space has been designed to maximize natural light and ventilation, reducing the need for artificial lightning.

Energy Efficiency

Improving energy efficiency is crucial for reducing the environmental impact. IBMBB makes use of natural light wherever possible by positioning workstations near windows and using light-colored paint inside the building. Energy efficient LED bulbs are intended to replace inefficient incandescent bulbs as part of the transition to an energy-efficient lighting system.

My No. : HED/B/IBMBB/2023/FA/05

Your No:

Date: 16th May 2024

Director

Institute of Biochemistry, Molecular Biology and Biotechnology.

Report on the Auditor General on the Financial Statements and other legal and monitoring requirements of Institute of Biochemistry, Molecular Biology and Biotechnology affiliated to the University Of Colombo for the year ended 31st December 2023 in terms of section 12 of the National Audit Act, No. 19 of 2018.

The aforesaid report has been sent herewith.

WMPA Fonseka

Deputy Auditor General

For Auditor General

Copies:

1. Secretary – Ministry of Education
2. Secretary – Ministry of Finance, Economic Stabilization and National Policies
3. Chairman – University Grants Commission
4. Vice Chancellor - University of Colombo

My No.} HED/B/IBMBB/2023/FA/05 Your No.} Date} 16th May 2023

Director,
Institute of Biochemistry, Molecular Biology and Biotechnology.

Report on the Auditor General on the Financial Statements and other legal and monitoring requirements of Institute of Biochemistry, Molecular Biology and Biotechnology affiliated to the University Of Colombo for the year ended 31st December 2023 in terms of section 12 of the National Audit Act, No. 19 of 2018.

1. Financial Statements

1. Qualified Opinion

The audit of Financial Statements of the of Institute of Biochemistry, Molecular Biology and Biotechnology affiliated to the University Of Colombo for the year ended 31st December 2023 comprising the Statement of Financial Position as at 31st December 2023 and the Statement of Financial Performance and Statement of Changes in Equity and Cash Flow Statement for the year then ended and a summary of significant accounting policies and other explanatory notes were carried out under my direction in pursuance of provisions laid down by section 17 of the Protocol of Institute of Biochemistry, Molecular Biology and Biotechnology No. 1 of 2003 vested upon by section 18 and subsection 107 (5) and Article 108 (1) of the Universities Act No. 16 of 1978 which should be read in conjugation with Article 154 (1) of the Constitution of the Democratic Socialist Republic of Sri Lanka and section 12 of the of the National Audit Act, No. 19 of 2018. My report will be tabled in the parliament in due course in terms of Article 154 (6) of the Constitution.

In my opinion, the Financial Statements of the entity give a true and fair view of the financial position of the entity as at 31 December 2022 and its Financial Performance and Cash Flows for the year then ended in accordance with Sri Lanka Public Sector Accounting Standards.

2. Basis for Qualified Opinion

My audit was carried out in accordance with Sri Lanka Auditing Standards. My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report. I believe that the audit evidence I have obtained is sufficient and appropriate enough to provide a basis for my qualified opinion.

1.3 Other Information available in the Annual Report of the entity- 2023

Other information refers to the information obtained by me before the date of this report that are included in the annual report of the entity -2023 , yet not available in my audit report. The management is responsible for this other information.

My opinion of the Financial Statements does not cover this other information and I do not confirm or express an opinion regarding that.

My responsibility regarding the auditing of the Financial Statements is to reading the above recognized other information and to consider whether other information quantitatively contradict with my knowledge obtained through the Financial Statements, auditing or in any other means.

In case I conclude that this other information is materially misstated based on the other information obtained by me prior to the date of this audit report and work performed by me, I am required to report that fact. I have nothing to say in this regard.

1.4 Responsibility of Management and Controlling Parties for the Financial Statements

Management is responsible for the preparation and fair presentation of these Financial Statements in accordance with Sri Lanka Public Sector Accounting Standards and for determining the internal controls which are necessary to enable the preparation of Financial Statements that are free from material misstatements whether due to fraud or error.

It is the responsibility of the management to decide on the going concern ability of the entity in preparation of Financial Statements. It is also a responsibility of the management to keep accounts on a going concern basis and disclosure of the facts in relation to the going concern of the entity except in case the management intends to liquidate the institution or it is intended to cease operation in the absence of any other option.

The controlling parties of the entity are responsible for the financial reporting system of the institution.

According to the subsection 16 (1) of the National Audit Act, No. 19 of 2018, the entity shall maintain proper books and records of all its income, expenditure, assets and liabilities, to enable annual and periodic Financial Statements to be prepared in respect of the entity.

1.5. Responsibility of the Auditor in the audit of Financial Statements

My objective is to provide a fair assurance on the Financial Statements that they are free from material misstatements as a whole whether due to fraud or error and to issue the auditor's report comprising my opinion. Although fair assurance is a high quality assurance, it does not confirm that it would always expose quantitative misstatements when the audit is done in accordance with Sri Lanka Auditing Standards. It is expected that individual or collective impact of fraud or error may result in quantitative misstatements and it may have an effect on the decisions taken by the users based on these Financial Statements.

This audit has been carried out by me with professional judgment and professional skepticism. Also,

- Obtaining sufficient and appropriate audit evidence to avoid risks caused by fraud or error by designing appropriate audit procedures that are appropriate in the circumstances in recognizing and evaluating possible misstatements that may occur in Financial Statements due to fraud or error is the basis of my opinion. Fraud will have a higher impact than that of material misstatements and collusion, preparation

of fake documents, intentional avoidance, misuse and avoidance of internal controls may result in fraud.

- The auditor considered internal controls relevant to the university 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 internal controls of the institution.
- The audit included evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management as well as the suitability of the related disclosures made by the management.
- The relevance of using the going concern basis for accounting purpose was determined based on the audit evidence obtained on whether there is a sufficient contingency on the going concern of the university due to events or circumstances. In case I conclude that there is a sufficient contingency, my audit report should attend to the related disclosures in the Financial Statements and my opinion must be modified in case the disclosures are not sufficient enough. However, going concern may end due to future events or circumstances.
- Presentation, structure and content of the Financial Statements with disclosures was assessed and underlying transactions and events were evaluated for whether they were included in the Financial Statements in an appropriate and reasonable manner.

The controlling parties will be made aware of the important audit findings, major internal control weaknesses and other facts recognized in the audit.

2. Report on other Legal and Monitoring Requirements

- 2.1 Special provisions are included regarding the following requirements in the National Audit Act, No. 19 of 2018.
 - 2.1.1. I have obtained all the information and explanations required for the audit according to the requirements of section 12 (a) of National Audit Act, No. 19 of 2018, except for the impact of matters described in the paragraph “Basis for Qualified Opinion” of this report. As seen in my investigation the university had maintained proper financial reports.
 - 2.1.2. According to the requirements of section 6 (I) (d) (iii) of National Audit Act, No. 19 of 2018, the Financial Statements presented by the university are in consistent with the preceding year.
 - 2.1.3. According to the requirements of section 6 (I) (d) (iv) of National Audit Act, No. 19 of 2018, the recommendations made by me in previous year have been included in the presented Financial Statements.

2.2. According to of the procedures followed, evidence obtained and within the restriction of the quantitative matters, nothing caught my attention that was sufficient to make the following statements.

- 2.2.1. According to the requirements of section 12 (d) of National Audit Act, No. 19 of 2018, any member of the council of the university has any direct or indirect interest in any contract entered into by the university that is outside the normal business arrangement.
- 2.2.2. According to the requirements of section 12 (f) of National Audit Act, No. 19 of 2018, the auditee entity has not complied with any applicable written law or other general or special directions issued by the governing body of the auditee entity.

	Reference to the Rules	Observation
(a)	Section 4.2 of the UGC Circular no. 04/2016 dated 01 st March 2016	Approval of the University Grants Commission had not been granted for the Mphil/PhD degree programmes offered by the entity.
(b)	Section 03 (viii) of the National Budget Circular no. 03/2022 dated 26 th April 2022	Funds amounting to Rs. 128,840 and Rs. 127,922 had been spent in 2022 & 2023 respectively on the employee Medical Insurance Scheme, which was implemented by the entity as an employ welfare scheme, without obtaining cabinet approval.

- 2.2.3. According to the requirements of section 12 (g) of National Audit Act, No. 19 of 2018, the university has not performed according to its powers, functions and duties.
- 2.2.4. According to the requirements of section 12 (h) of National Audit Act, No. 19 of 2018, the resources of the auditee entity had been procured and utilized economically, efficiently and effectively within the time frames and in compliance with the applicable laws.

2.3.Other observations

- a) An amount of Rs. 894,616 was under-remitted from the course income for four expenditure heads, including the Development Fund, because the remittance was calculated as a percentage of the budgeted income rather than as a percentage of the actual income from the eight courses implemented during the year under review.
- b) Four (04) extra officers had been recruited for the post of Temporary Scientific Assistant (on contract basis), even though the approved cadre contained only 2 such posts. Thus, an amount of Rs. 3,628,644 had been overdisbursed in wages and allowances in the year under review with the generated funds.
- c) A distress loan balance of Rs. 212,497, owed by a driver who left the entity in February 2023, remained unrecovered by the end of the fiscal year under review

WPC Wickramarathna
Auditor General.

Responses to the Auditor General Report

25.07.2024

Auditor General,
Auditor General's Department,
306/72,
Polduwa Road,
Baththaramulla.

Dear Sir,

Report on the Auditor General on the Financial Statements and other legal and monitoring requirements of Institute of Biochemistry, Molecular Biology and Biotechnology affiliated to the University Of Colombo for the year ended 31st December 2023 in terms of section 12 of the National Audit Act, No. 19 of 2018.

This is with reference to your letter bearing no. HED/B/IBMBB/2022/FA/04 on the above heading. The relevant information regarding the pertaining matters given in the report is attached herewith.

Thank you.

Professor Prasanna Galhena
Director
Institute of Biochemistry, Molecular Biology and Biotechnology

Copies:

1. Secretary – Ministry of Education
2. Secretary – Ministry of Finance
3. Chairman – University Grants Commission
4. Vice Chancellor - University of Colombo

kj

1. Financial Statements

1.1. Opinion

The audit of Financial Statements of the of Institute of Biochemistry, Molecular Biology and Biotechnology affiliated to the University Of Colombo for the year ended 31st December 2023 comprising the Statement of Financial Position as at 31st December 2023 and the Statement of Financial Performance and Statement of Changes in Equity and Cash Flow Statement for the year then ended and a summary of significant accounting policies and other explanatory notes were carried out under my direction in pursuance of provisions laid down by section 17 of the Protocol of Institute of Biochemistry, Molecular Biology and Biotechnology No. 1 of 2003 vested upon by section 18 and subsection 107 (5) and Article 108 (1) of the Universities Act No. 16 of 1978 which should be read in conjugation with Article 154 (1) of the Constitution of the Democratic Socialist Republic of Sri Lanka and section 12 of the of the National Audit Act, No. 19 of 2018. My report will be tabled in the parliament in due course in terms of Article 154 (6) of the Constitution.

In my opinion, the Financial Statements of the entity give a true and fair view of the financial position of the entity as at 31 December 2022 and its Financial Performance and Cash Flows for the year then ended in accordance with Sri Lanka Public Sector Accounting Standards.

1.2. Basis for Qualified Opinion

My audit was carried out in accordance with Sri Lanka Auditing Standards. My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report. I believe that the audit evidence I have obtained is sufficient and appropriate enough to provide a basis for my qualified opinion.

1.3. Other Information available in the Annual Report of the entity- 2023

Other information refers to the information obtained by me before the date of this report that are included in the annual report of the entity -2023 , yet not available in my audit report. The management is responsible for this other information.

My opinion of the Financial Statements does not cover this other information and I do not confirm or express an opinion regarding that.

My responsibility regarding the auditing of the Financial Statements is to reading the above recognized other information and to consider whether other information quantitatively contradict with my knowledge obtained through the Financial Statements, auditing or in any other means.

In case I conclude that this other information is materially misstated based on the other information obtained by me prior to the date of this audit report and work performed by me, I am required to report that fact. I have nothing to say in this regard.

1.4. Responsibility of Management and Controlling Parties for the Financial Statements

Management is responsible for the preparation and fair presentation of these Financial Statements in accordance with Sri Lanka Public Sector Accounting Standards and for determining the internal controls which are necessary to enable the preparation of Financial Statements that are free from material misstatements whether due to fraud or error.

It is the responsibility of the management to decide on the going concern ability of the entity in preparation of Financial Statements. It is also a responsibility of the management to keep accounts on a going concern basis and disclosure of the facts in relation to the going concern of the entity except in case the management intends to liquidate the institution or it is intended to cease operation in the absence of any other option.

The controlling parties of the entity are responsible for the financial reporting system of the institution.

According to the subsection 16 (1) of the National Audit Act, No. 19 of 2018, the entity shall maintain proper books and records of all its income, expenditure, assets and liabilities, to enable annual and periodic Financial Statements to be prepared in respect of the entity.

1.5. Responsibility of the Auditor in the audit of Financial Statements

My objective is to provide a fair assurance on the Financial Statements that they are free from material misstatements as a whole whether due to fraud or error and to issue the auditor's report comprising my opinion. Although fair assurance is a high quality assurance, it does not confirm that it would always expose quantitative misstatements when the audit is done in accordance with Sri Lanka Auditing Standards. It is expected that individual or collective impact of fraud or error may result in quantitative misstatements and it may have an effect on the decisions taken by the users based on these Financial Statements.

This audit has been carried out by me with professional judgment and professional skepticism. Also,

- Obtaining sufficient and appropriate audit evidence to avoid risks caused by fraud or error by designing appropriate audit procedures that are appropriate in the circumstances in recognizing and evaluating possible misstatements that may occur in Financial Statements due to fraud or error is the basis of my opinion. Fraud will have a higher impact than that of material misstatements and collusion, preparation of fake documents, intentional avoidance, misuse and avoidance of internal controls may result in fraud.
- The auditor considered internal controls relevant to the university 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 internal controls of the institution.
- The audit included evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management as well as the suitability of the related disclosures made by the management.
- The relevance of using the going concern basis for accounting purpose was determined based on the audit evidence obtained on whether there is a sufficient contingency on the going concern of the university due to events or circumstances. In case I conclude that there is a sufficient contingency, my audit report should attend to the related disclosures in the Financial Statements and my opinion must be modified in case the disclosures are not sufficient enough. However, going concern may end due to future events or circumstances.
- Presentation, structure and content of the Financial Statements with disclosures was assessed and underlying transactions and events were evaluated for whether they were included in the Financial Statements in an appropriate and reasonable manner.

The controlling parties will be made aware of the important audit findings, major internal control weaknesses and other facts recognized in the audit.

2. Report on other Legal and Monitoring Requirements

2.1 Special provisions are included regarding the following requirements in the National Audit Act, No. 19 of 2018.

2.1.1. I have obtained all the information and explanations required for the audit according to the requirements of section 12 (a) of National Audit Act, No. 19 of 2018, except for the impact of matters described in the paragraph “Basis for Qualified Opinion” of this report. As seen in my investigation the university had maintained proper financial reports.

2.1.2. According to the requirements of section 6 (I) (d) (iii) of National Audit Act, No. 19 of 2018, the Financial Statements presented by the university are in consistent with the preceding year.

2.1.3. According to the requirements of section 6 (I) (d) (iv) of National Audit Act, No. 19 of 2018, the recommendations made by me in previous year have been included in the presented Financial Statements.

2.2. According to the procedures followed, evidence obtained and within the restriction of the quantitative matters, nothing caught my attention that was sufficient to make the following statements.

2.2.1. According to the requirements of section 12 (d) of National Audit Act, No. 19 of 2018, any member of the council of the university has any direct or indirect interest in any contract entered into by the university that is outside the normal business arrangement.

2.2.2. According to the requirements of section 12 (f) of National Audit Act, No. 19 of 2018, the auditee entity has not complied with any applicable written law or other general or special directions issued by the governing body of the auditee entity.

Observation	Opinion of the Mangagement
a) Approval of the University Grants Commission had not been granted for the Mphil/PhD degree programmes offered by the entity.	The University Grants Commission has resolved to grant blanket approval for Postgraduate study programs initiated prior to the implementation of the formal approval procedure for study programs by the UGC, i.e., before 2016. In line with this decision, the information and documentation required for the approval of the MPhil/PhD degree programs offered by the IBMBB were submitted by the institution's Internal Quality Assurance Unit to the Quality Assurance Unit of the University of Colombo on the 11 th November 2023. Subsequently, these materials were forwarded to the UGC by the Internal Quality Assurance Unit of the University of Colombo.
b) Funds amounting to Rs. 128,840 and Rs. 127,922 had been spent in 2022 & 2023 respectively on the employee Medical Insurance Scheme, which was implemented by the entity as an employ welfare scheme, without obtaining cabinet approval.	In accordance with the provisions of Section 8(d) of the Universities Act No. 16 of 1978, the University Grants Commission is entitled to establish and regulate welfare schemes for the benefit of its staff and to make contributions to such schemes on their behalf. Pursuant to this section, the University Grants Commission has issued directives to implement a Health Insurance Scheme similar to that available for Public Officers within the University System. Furthermore, Section 718(1)(b) stipulates that 50% of the insurance premium for such a scheme shall be borne by the employees, while the remaining 50% is to be covered by the respective entity using its generated funds. Additionally, Section 3 of the letter dated April 30, 2004, addressed to the Chairman of the University Grants Commission by the Secretary to the Treasury (Annexure 02), grants permission for universities to utilize their generated income for financial management at their discretion, in accordance with standard regulations.

	In accordance with the aforementioned circular letter, the institute has established and is operating a Health Insurance Scheme for its employees, based on the recommendation of the 49 th Finance & Management Committee meeting held on December 13, 2018, and with the approval of the 169 th Management Board.
--	---

2.2.3. According to the requirements of section 12 (g) of National Audit Act, No. 19 of 2018, the university has not performed according to its powers, functions and duties.
2.2.4. According to the requirements of section 12 (h) of National Audit Act, No. 19 of 2018, the resources of the auditee entity had been procured and utilized economically, efficiently and effectively within the time frames and in compliance with the applicable laws.

2.3. Other Observations	
Observation	Opinion of the Mangagement
a) An amount of Rs. 894,616 was under-remitted from the course income for four expenditure heads, including the Development Fund, because the remittance was calculated as a percentage of the budgeted income rather than as a percentage of the actual income from the eight courses implemented during the year under review.	When implementing training courses, an estimated cost document is first prepared and submitted for approval to the Finance & Management Committee. Upon completion of the course, in line with Commission Circular No. 04/2016, a financial statement detailing the actual expenditures and revenues is prepared and submitted for approval once again. The remittance for the four expenditure categories—Establishment Development, Program Development, Director Vote, and Equipment Vote—has been made based on this approved financial statement.

b) Four (04) extra officers had been recruited for the post of Temporary Scientific Assistant (on contract basis), even though the approved cadre contained only 2 such posts. Thus, an amount of Rs. 3,628,644 had been overdisbursed in wages and allowances in the year under review with the generated funds.	The approved cadre of the organization comprises 04 permanent Scientific Assistant positions and 02 temporary Scientific Assistant (on contract-basis) positions funded by the Treasury. However, 04 individuals have been appointed to the temporary Scientific Assistant (on contract-basis) positions, and their salaries are paid from the generated funds of the institution. Of the aforementioned positions, a permanent Scientific Assistant (Bioinformatics) resigned effective 14.09.2022. To maintain productivity, ensure timely completion, and facilitate the smooth operation of the institute's studies and research in the field of Bioinformatics, a temporary Scientific Assistant (on contract-basis) was recruited. This employee is compensated through Treasury funds. Additionally, the approved academic staff cadre for the institute is 11. However, the current academic staff consists of only 08 members due to resignations and retirements. Institute of Biochemistry, Molecular Biology and Biotechnology offers Masters and PhD degrees and carries out studies and researches in the field of Biochemistry, Cellular & Molecular Immunology and Bioinformatics. It is essential to carry out this studies and researches effectively and on time. In addition to the two approved positions for scientific assistants, four temporary scientific assistants have been recruited on assignment basis, supported by the income generated through the existing research and study capabilities of the institute's three academic departments.
---	--

c) A distress loan balance of Rs. 212,497, owed by a driver who left the entity in February 2023, remained unrecovered by the end of the fiscal year under review.	Mr. L.C.S. Liyanage, who has been employed as the institute's driver since February 17, 2023, was granted one month of foreign leave by the Ministry of Education and subsequently traveled abroad and while being overseas, submitted his resignation. The Council has decided to initiate a formal disciplinary inquiry to investigate his failure to report back to duty after the expiration of his overseas leave. Action will be taken to recover the outstanding balance of his distress loan once a final decision on this matter is reached.
---	--

Professor Prasanna Galhena
 Director
 Institute of Biochemistry, Molecular Biology and Biotechnology.

Review on Internal Audit Functions in the Year 2023

Review on Internal Audit Functions in the Year 2023

Introduction

The Audit Committee is one of the main Committees of the Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo, Sri Lanka. The three -member Committee meets on a quarterly basis each year and discusses the Audit Reports and Audit Queries issued by the Auditor General's Department and Institute's financial, administrative, human assets and academic activities. Its membership, terms of office, responsibilities, powers, and electoral procedures are governed by the Treasury of Sri Lanka through University Grants Commission and Board of Management

Composition of the Audit Committee – Year 2023

Name of the Members/Observers	Designation
Members	
Prof. Ramanee Wijsekera	Chairperson
Mr. Channa de Silva	Member
Prof. Sampath Punchihewa	Member
Mr. K. Piratheepan	Treasury Representative
Convener	
Mr. K.E.W. Jayasiri	Senior Assistant Internal Auditor/UOC
Observers	
Ms. S.M.C. Indika	Superintendent of Audit/ Government Audit- UOC
On Invitation	
Prof. BP Galhena	Director/ IBMBB
Ms. SM Withana Arachchi	DB/IBMBB
Ms. KGI Udayangani	SAR/IBMBB

Meetings

As per the Public Enterprise circular No PED/31, the committee is required to meet at least four times a year. During the year under review, the Committee has met four times.

Internal Audit

The internal audit activities of the Institute of Biochemistry, Molecular Biology and Biotechnology has been conducted by the Internal Audit Division of the University of Colombo. The Internal auditor has carried post, pre and other audit activities as included in the audit plan for 2023.

Review of Chairman/ Audit Committee on Internal Audit Function in the Year – 2023

The Audit Committee is satisfied with the active participation of the Committee members and their commitment towards the good governance of the Institute. The Committee is satisfied with the internal audit functions of the internal audit division. The Committee while satisfied with the follow up action taken and the progress achieved regarding the recommendations given by the Committee, continue to emphasize the implementation of good governance, transparency, proper financial, administrative, and academic performance.



Prof. Ramanee Wijesekera

Chairperson /Audit Committee, IBMBB

Annual Financial Report

STATEMENT OF FINANCIAL POSITION AS AT 31ST DECEMBER 2023

[Figures adjusted to the Nearest Rupee]

		2023	2022 Restated	% Change
	Note	Rs.	Rs.	
ASSETS				
CURRENT ASSETS				
Cash & Cash Equivalents	Note - 01	18,717,782	16,411,439	14
Other Receivables	Note - 02	4,195,795	5,505,426	(24)
Advances	Note - 03	203,948	3,197,599	(94)
Staff Loans - Within one year	Note - 04	716,372	727,511	(2)
Investments - Mature within one year	Note - 05	41,491,391	22,315,941	86
Chemicals & Glassware		796,988	869,060	(8)
		66,122,276	49,026,977	35
NON-CURRENT ASSETS				
Property, Plant & Equipment	Note - 06			
Building		17,545,696	23,388,928	(25)
Motor Vehicles		4,960,679	1,546,499	-
Library Books & Periodicals		1,224,193	175,216	599
Lab & Teaching Equipment		17,257,714	9,636,041	79
Computers		5,969,835	4,395,381	36
Office Furniture & Equipment		12,967,634	10,950,813	18
Intangible Assets - Computer Software	Note - 06.1	600,000	-	-
Staff Loans - More than one year	Note - 04	1,963,082	2,606,978	(25)
Investments - Mature after one year	Note - 05	49,940,988	66,716,482	(25)
		112,429,820	119,416,338	(6)
TOTAL ASSETS		178,552,096	168,443,315	6
EQUITY & LIABILITIES				
CURRENT LIABILITIES				
Refundable Tender Deposit		41,602	41,602	-
Refundable Laboratory Deposits		8,588,635	7,272,635	18
Accrued Expenses & Other Payables	Note - 07	5,518,660	4,319,893	28
		14,148,897	11,634,130	22
NON CURRENT LIABILITIES				
Provision for Gratuity	Note - 08	30,950,473	28,317,795	9
Provision for Audit Fees		475,700	1,578,517	(70)
Research Grants	Note - 09	3,542,726	5,599,976	(37)
Deferred Income	Note - 10	5,219,328	4,568,682	14
		40,188,227	40,064,969	-
TOTAL LIABILITIES		54,337,124	51,699,100	5
NET ASSETS/EQUITY		124,214,972	116,744,214	6

STATEMENT OF FINANCIAL POSITION AS AT 31ST DECEMBER 2023 (Contd..)

(Figures adjusted to the Nearest Rupee)

		2023	2022 Restated	% Change
	Note	Rs.	Rs.	
ACCUMULATED FUNDS & RESERVES				
Accumulated Funds - Capital	Note - 19	30,213,727	38,932,716	(22)
Accumulated Funds - Recurrent		14,418,490	30,146,098	(52)
Revaluation Surplus/(Deficit)		29,539,809	10,665,445	177
		74,172,026	79,744,258	(7)
DESIGNATED FUNDS				
Institute Development Fund	Note - 20	20,965,241	14,631,203	43
Director's Vote		2,806,200	1,786,724	57
Equipment & Technology Vote		2,373,089	1,321,113	80
Programme Development Vote		5,465,514	2,592,364	111
		31,610,044	20,331,405	55
RESTRICTED FUNDS				
Endowment Fund		5,737,662	4,003,310	43
Cancer Research Endowment Fund		30,000	-	-
Asset Replacement Funds		12,665,241	12,665,241	-
		18,432,903	16,668,551	11
		124,214,972	116,744,214	6

Prepared & Certified by
26.02.2024


Deputy Bursar


Senior Asst. Registrar

The Accounting policies on pages 6 to 15 and other notes on pages 16 to 22 form an integral part of these Financial Statements. The Board of Management is responsible for the preparation and presentation of these Financial Statements.

The Financial Statements have been prepared and presented in compliance with the Sri Lanka Public Sector Accounting Standards (SLPSAS) issued by the Institute of Chartered Accountants of Sri Lanka.


Board Member


Director / Board Member

**STATEMENT OF FINANCIAL PERFORMANCE
FOR THE YEAR ENDED 31ST DECEMBER 2023**

		2023	2022 Restated	% Change
		Rs.	Rs.	
REVENUE	Note			
Revenue from Non- Exchange Transactions - Current				
Govt. Grant for Recurrent- Expenditure		73,000,000	115,830,000	(37)
Grant for Research	Note - 11	2,178,600	1,302,333	67
Total Revenue from Non Exchange Transaction - Current		75,178,600	117,132,333	(36)
Revenue from Exchange Transaction - Current				
Generated Income	Note - 12	44,002,198	36,455,916	21
Interest Income		19,075,713	12,593,302	51
Other Income	Note - 13	372,269	525,049	(29)
Exchange Gain		-	897,615	(100)
Total Revenue from Exchange Transaction - Current		63,450,181	50,471,882	26
Total Revenue Current		138,628,781	167,604,215	(17)
Revenue from Non- Exchange Transactions - Capital				
Govt Grant for Capital Expenditure		-	4,443,000	(100)
Capital Transfer - Generated Income		4,517,609	-	-
Gifts, Donations, Goods In-kind		1,043,884	-	-
Total Revenue from Non Exchange Transaction - Capital		5,561,493	4,443,000	25
Revenue from Exchange Transaction - Capital		-	-	-
Total Revenue from Exchange Transaction - Capital		-	-	-
Total Revenue Capital		5,561,493	4,443,000	25
TOTAL REVENUE		144,190,273	172,047,215	(16)
OPERATING EXPENDITURE - RECURRENT				
Personnel Emoluments	Note - 14	89,075,526	97,639,112	(9)
Travelling		2,552	11,610	(78)
Supplies	Note - 15	11,356,202	10,821,785	5
Maintenance Expenditure	Note - 16	4,761,102	9,384,775	(49)
Contractual Expenditure	Note - 17	21,726,436	15,071,664	44
Other Recurrent Expenditure	Note - 18	8,496,858	6,001,308	42
Gratuity		2,632,678	4,268,116	(38)
Exchange Loss		1,399,991	-	-
Total Operating Expenditure - Current		139,451,344	143,198,369	(3)
Non-Operating Expenditure				
Depreciation & Amortization		14,280,482	16,767,979	(15)
Total Non- Operating Expenditure		14,280,482	16,767,979	(15)
TOTAL EXPENDITURE		153,731,827	159,966,349	(4)
Total Surplus / (Deficit) for the year		(9,541,553)	12,080,867	(179)
Current Surplus / (Deficit) for the year		(822,564)	24,405,846	(103)
Capital Surplus / (Deficit) for the year		(8,718,989)	(12,324,979)	(29)

STATEMENT OF CASH FLOW
FOR THE YEAR ENDED 31ST DECEMBER 2023

	2023	2022 Restated	% Change
	Rs.	Rs.	
<i>Surplus / Deficit for the year</i>	(9,541,553)	12,080,867	(179)
Add: Adjustments for items not involving movement of Funds			
Provision for Gratuity	2,632,678	4,268,116	(38)
Adjustment to the Retained Earnings	1,236,705	9,851	12,454
Depreciation & Amortization	14,280,482	16,767,979	(15)
Provision for Restricted Funds	1,141,351	472,139	142
Foreign Exchange Gain / Loss	1,399,991	(897,615)	(256)
Gifts, Donations, Goods In-kind	(1,043,884)	-	-
Capital Transfer - Generated Income	(4,517,609)	-	-
Operating Surplus before working capital changes	5,588,162	32,701,337	(83)
Changes of Working Capital			
(Increase)/Decrease in Other Receivables	1,309,631	(2,639,356)	(150)
(Increase)/Decrease in Advances	2,993,652	(3,127,536)	(196)
(Increase)/Decrease in Staff Loans	655,036	(770,143)	(185)
(Increase)/Decrease in Chemicals & Glassware	72,072	496,810	(85)
Increase/(Decrease) in Refundable Tender Deposits	-	(24,810)	(100)
Increase/(Decrease) in Refundable Laboratory Deposits	1,316,000	1,280,000	3
Increase/(Decrease) in Accrued Expenditure and Other Payables	1,198,767	(3,195,231)	(138)
Increase/(Decrease) in Research Grants	(2,057,250)	(803,456)	156
Increase/(Decrease) in Deferred Income	650,646	(195,302)	(433)
Increase/(Decrease) in Audit fees payable	(1,102,817)	400,000	-
Gratuity Paid	-	(10,224,734)	(100)
	5,035,737	(18,803,759)	(127)
NET CASH FLOW FROM OPERATING ACTIVITIES	10,623,899	13,897,577	(24)
CASH FLOWS FROM INVESTING ACTIVITIES			
(Increase)/Decrease in Investments	(2,399,956)	(12,918,214)	(81)
Acquisition of Fixed Assets	(4,517,609)	(4,880,728)	(7)
NET CASH FLOW FROM INVESTING ACTIVITIES	(6,917,566)	(17,798,942)	(61)
CASH FLOWS FROM FINANCING ACTIVITIES			
NET CASH FLOW FROM FINANCING ACTIVITIES	-	-	-
Net Increase in Cash & Cash Equivalents	3,706,334	(3,901,365)	(195)
Effect of exchange rate changes on cash & cash equivalents held in foreign currency	(1,399,991)	897,615	(256)
Cash & cash equivalents at the end of 31/12/2022	16,411,439	19,415,189	(15)
Cash & cash equivalents at the end of 31/12/2023	18,717,782	16,411,439	14

**STATEMENT OF CHANGES IN EQUITY
FOR THE YEAR ENDED 31ST DECEMBER 2023**

Restated

Description	Accumulated Funds (Recurrent)		Asset Replacement Reserve		Endowment Fund		Cancer Research Endowment Fund		Designated Funds (Note - 20)		Accumulated Funds (Capital)		Revaluation Reserve		Total	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Balance as at 31st December 2021	12,054,636	12,665,241		3,531,171	-				10,040,598		49,711,196		10,665,445		98,668,287	
Surplus / Deficit for the period	24,405,846	-		-	-	-	-	-	-	-	(12,324,979)	-	-	-	12,080,867	-
Transfer to Restricted Funds	3,976,422	-		472,139	-		-	-	-	-	1,546,499	-	-	-	5,995,061	-
Vote Transfer 2022	(10,290,807)	-		-	-		-	-	10,290,807	-	-	-	-	-	-	-
Balance as at 31st December 2022	30,146,098	12,665,241		4,003,310	-		-	-	20,331,405		38,932,716		10,665,445		116,744,214	
Surplus / Deficit for the period	(822,564)	-		-	-		-	-	-	-	(8,718,989)	-	-	-	(9,541,553)	-
Prior Year Adjustment	1,514,205	-		-	-		-	-	-	-	-	-	-	-	1,514,205	-
Contribution to Endowment Fund	-	-		-	30,000		-	-	-	-	-	-	-	-	30,000	-
Article Processing Charges from Director's Vote	-	-		-	-		-	-	(32,500)		-	-	-	-	(32,500)	-
Expenses incurred from Restricted Funds	-	-		-	-		-	-	(590,501)		-	-	-	-	(590,501)	-
Revaluation Surplus	-	-		-	-		-	-	(4,517,609)		-	-	18,874,365	-	14,356,755	-
Transfer to Restricted Funds	(16,419,249)	-		1,734,352	-		-	-	16,419,249		-	-	-	-	1,734,352	-
Balance as at 31st December 2023	14,418,490	12,665,241		5,737,662	30,000		-	-	31,610,044		30,213,727		29,539,809		124,214,972	

NOTES TO THE FINANCIAL STATEMENTS

1. REPORTING ENTITY

1.1 Domicile and Legal Form

Institute of Biochemistry, Molecular Biology and Biotechnology (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 Statements of the IBMBB are prepared for the year ending 31/12/2023.

1.2 Principal Activities and Nature of Operation

IBMBB is engaged in post graduate teaching and training for local and foreign students and conduct research and development and consultancy in the fields of Biochemistry, Molecular Biology, Biotechnology, Immunology, Bioinformatics, and related fields of studies.

1.3 Date of Authorization

The Financial Statements of Institute of Biochemistry Molecular Biology and Biotechnology (IBMBB) were authorized by the Board of Management held on 26th February 2024.

1.4 Reporting Period

The reporting period of the Financial Statements represents a twelve-month period from 01st January 2023 to 31st December 2023.

2. BASIS OF PREPARATION

2.1 Statement of Compliance

The Statement of Financial Position, Statement of Financial Performance, Statement of Changes in Equity and Cash Flow Statement and Notes to the Financial Statements thereto have been prepared under the historical cost convention in conformity with Sri Lanka Public Sector Accounting Standards (SLPSASs) issued by the Institute of Chartered Accountants of Sri Lanka.

The principal accounting policies applied in the preparation of the financial statements are set out below.

2.2 Basis of Measurement

The financial Statements are prepared on the historical basis of accounting. 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.

2.3 Functional and Presentation of Currency

The Financial Statements are presented in Sri Lankan Rupees, which is the functional and presentation currency of the IBMBB. Financial Statements have been rounded-off to the nearest rupee unless otherwise indicated as permitted by the Sri Lanka Public Sector Accounting Standards

2.4 Comparative Information

Comparative information including quantitative, narrative and descriptive information is disclosed in respect of the previous period for all amounts reported in the financial statements in order to enhance the understanding of the financial statement current period and to improve the comparability.

When the presentation or classification of the items in the financial statements is amended, comparative amounts are re-classified unless reclassification is impracticable.

2.5 Offsetting

Assets and liabilities and revenue and expenses have not been offset unless required or permitted by a SLPSAS.

2.6 Going Concern

The financial statements have been prepared on a going concern basis.

2.7 Events after the Reporting Period

The materiality of the events occurring after the reporting period has been considered and where appropriate adjustment or disclosures wherever necessary have been made in the financial statements.

2.8 Significant Accounting Estimates, Judgments and Assumptions

The preparation of Financial Statements require management to make judgment, estimates and assumptions that affect the application of accounting policies and the reported amounts as assets, liabilities, income & expenditure. Actual results may differ from the estimations.

Estimates underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised and in any future periods affected.

3. SIGNIFICANT ACCOUNTING POLICIES

3.1 Foreign Currency Transactions

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.

3.2 Property Plant & Equipment

3.2.1 Recognition and Measurement

In terms of the SLPSAS 7, Property Plant and Equipment of the IBMBB are at cost less accumulated depreciation.

According to the information given by University of Colombo the acquisition date of the building is 01.01.2007 and this was presented in the financial statements w.e.f. 01st January 2020. The value of the land has not been included in the PPE since legal ownership of land has not been 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.

3.2.2 Measurement after Recognition

- Cost Model

After recognition all the PPE except the classes of Building is carried at its cost less than accumulated depreciation.

- Revaluation Model

After initial recognition below classes of PPE whose fair value can be measured reliably has been carries out at revalued amount, which is fair value at the date of revaluation less any subsequent accumulated depreciation and subsequent any impairment losses. The institute revalued the motor vehicle through authorized agent of Sri Lanka Auto Mobile Association and the below mentioned assets revalued through the internally appointed two committees approved by the Board of Management.

- Office Furniture and equipment
- Lab and Teaching Equipment
- Computers & Accessories
- Computer Software
- Library Books

The revaluation amount of Rs. 45,855,816.19 arising from the revalued assets has been identified as assets and surplus of Rs. 18,874,364.55 was transferred to revaluation reserves and included in accumulated fund and reserve in the statement of financial position. Carrying value of PPE and intangible assets are reviewed at each reporting date to determine whether there is any indication of impairment if such any indication exist, then the assets recoverable amount is estimated. An impairment loss is recognized if the carrying amount of an assets exceeds its recoverable amount.

3.2.3 Intangible Assets

All intangible items are initially recognized at cost less accumulated depreciation and any impairment losses.

The cost of intangible assets comprises its purchase price and any directly attributable cost of bringing the asset to working condition for its intended use.

Amortization of intangible assets is charged to statement of financial performance over a period of 05 years. Further, as per the Sri Lanka Public Sector Accounting Standards No 20, Intangible Assets, the amortization period will be reviewed at the end of each reporting period and any changes shall be accounted as changes in accounting estimates.

3.2.3.1. Computer Software

Computer Software has been recognized as intangible assets when it is probable that future economic benefits that are attributable to the assets will flow the enterprise and the cost of the assets can be measured reliably. The costs are amortized over their estimated useful life of five (5) years on straight line basis or life time available to use.

The revaluation amount of Rs. 750,000.00 arising from the revaluation of three computer software namely Accounting System, Payroll System and Asset Management System

Following are the major assumptions used by the revaluation committees in revaluation of the above classes of the assets.

1. Evidence is available of obsolescence or Physical damage of an asset
2. Significant changes affecting the entity have taken place during the period, or are expected to take place in the near future in the extent to which, or manner in which an asset is used or is expected to be used.
3. Evidence is available for internal reporting that indicates the economic performance of an asset.

3.2.4 Impairment

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

3.2.5 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.

3.2.6 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.

3.2.7 Depreciation & Amortization

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 & Amortization

• Building	-	5% per annum
• Vehicles	-	20% per annum
• Fixtures & Fittings	-	10% per annum
• Office Furniture & Equipment	-	10% per annum
• Computers	-	20% per annum
• Laboratory & Teaching Equipment	-	20% per annum
• Library Books and Periodicals	-	20% per annum
• Computer Software	-	20% per annum

3.3 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.

Stocks in stores have been valued at cost using First in First out (FIFO) basis.

3.4 Investments

Investment in Fixed Deposits, Treasury Bills & savings are stated at cost and interest accrued on short term investment is accounted as a receivable in the financial statement.

3.5 Receivables

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

3.6 Cash and Cash Equivalent

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

3.7 Liabilities & Provisions

3.7.1 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.

3.7.2 Employee Benefits

3.7.2. a Defined Benefit Plans

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

The provision for the obligations under the Act is determined based on the present value method in accordance with LKAS 19 using the discount rate equal to the government bond rate.

Year	Bond Rate
2023	13.87%
2022	14.5%

According to the instructions given by UGC – Commission Circular No: 05/2019, Academic allowance and Monthly Compensatory Allowance had been taken into calculation of Gratuity for Academic staff members and Non-academic staff members w.e.f. 01.06.2019.

3.7.2. b Defined Contribution Plan – Universities Provident Fund (UPF), Universities Pension Fund and Employees' Trust Fund (ETF)

A defined contribution plan is a post-employment plan under which an entity pays fixed contribution into a separate entity and will have no legal or constructive obligation to pay further amounts.

Employees are eligible for universities provident Fund Contributions, Employees Trust Fund Contributions and Universities Pension Fund in line with respective statutes and regulations.

These are recognized as an expense in the Statement of Financial Performance as incurred. The Institute contributes 7%, 3% and 8% of gross emoluments of the employees to Universities Provident Fund and Employees' Trust Fund and Universities pension fund respectively.

3.7.3 Differed Income

Deferred income results when invoices relating to Self-Financing Activities (Study Programmes) are raised at the commencement of the study programme where the study programme delivery taken place over a period of several years.

Deferred income is recognized in the Statement of Financial Performance to the extent of study programme delivery taken place and balance attributable to the remaining course period is recognized as a liability on the Statement of Financial Position until income is recognized.

3.7.4 Funds

Endowment Fund and other specific funds are disclosed separately in the Statement of Financial Position as per SLPSAS 1, Presentation of Financial Statements.

Endowment Funds are donations received and the interest income received on investment. All these funds are utilized for the purpose it has been established. Purposes of Endowment Funds are to award subject prizes and merit prizes for the best performances in each specified examination.

In-terms of the 579th University council approval, The Cancer Research Endowment Fund of the IBMBB had been established during the year 2023 with the contribution of well-wishers.

3.8. Financial Performance

3.8.1 Revenue Recognition

Revenue comprises gross inflows of economic benefits or service potential received and receivable by Institute (IBMBB) during the year and represents an increase in net assets/equity. Institute recognizes revenue following the established criteria of SLPSAS 10 (Revenue from Exchange Transactions) and SPSAS 11 (Revenue from Non-Exchange Transactions).

A) Revenue from Non-Exchange Transaction

Non-exchange transactions are those where the IBMBB receives value from another entity (e.g. cash or other assets) without giving approximately equal value in exchange. Inflows of resources from non-exchange transactions, other than services in-kind, that meet the definition of an asset are recognized as an asset only when;

- It is probable that the IBMBB will receive an inflow of economic benefits or service potential —
- The fair value of can be measured reliably.

IBMBB Inflows of resources from non-exchange transactions that are recognized as assets are recognized as non- exchange revenue, to the extent that a liability is not recognized in respect to the same inflow.

The following are the specific recognition criteria in relation to the IBMBB non exchange transactions.

(a) Government Grant

Assets and revenue arising from government grants are recognized in the period in which the transfer arrangement becomes binding at the fair value. Where a transfer is subject to conditions and when there is a resulting present obligation, as a result of the non-exchange transaction, IBMBB recognizes a liability until the conditions is fulfilled. Assets and revenue arising from government grants are measured at the fair value as at the date of recognition Monetary assets are measured at their nominal value.

- Recurrent Grant

Government grants received for the recurrent nature expenditures are recognized in the statement of financial performance under non-exchange transactions. The government grants of Rs. 73 Mn was received as recurrent grant for the year 2023.

- Capital Grant

Capital transfers received for the capital expenditure from General Treasury and generated fund are recognized in the statement of financial performance in accordance with the requirement of SLPSAS 11, Revenue from Non exchange transactions with effect from the financial year 2021. Capital surplus / (deficit) arising from the capital transactions are accumulated under the Accumulated Fund – Capital in the statement of financial statement.

- Reclassification to Accumulated - fund Capital

IBMBB adopt and applied SLPSAS 11 – Revenue from Non-Exchange transaction standard with effect from the year 2021 prospectively. To harmonize the presentation of financial statements, comparative figures in relation to Capital grant spent, Capital grant committed and Gift & Donations were reclassified in to “Accumulated Fund-capital” in the statement of financial position accordance with the SLPSAS 11 and guidance issued by the APFASL.

- Gifts, Donations and goods received in kind

Gifts, donations are voluntary transfers of assets including cash or other monetary assets and goods in-kind that the Institute receives which are free from stipulations. Gift and donations and goods in kind received are recognized as non-exchange revenue at its fair value when it is probable that the future economic benefits or service potential will flow to the University, and the fair value of the assets can be measured reliably.

During the year 2023, IBMBB received Library books, Lab equipment and Computer server by third parties, fair value of those donation recognized under Revenue from Non exchange transaction in the Statement of Financial Performance

B) Revenue from Exchange Transaction

i) Course Fees

Course fees are recognized over the period of instruction. Based on the availability of data, course fees are recognized on accrual basis and income received for future period is recognized as deferred income

ii) Student Registration

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

iii) Investment Income

Interest income received for the period from fixed deposits, Treasury Bills and money market investments is recorded as exchange revenue in the statement of financial performance on accrual basis

3.8.2 Expenditure Recognition

Expenses incurred in carrying out all the activities of IBMBB are recognized on an accrual basis and charged to revenue in ascertaining the income over expenditure as shown in the statement of Financial Performance

3.9 Cash Flow Statement

The cash flow statements have been prepared using the "Indirect Method" in accordance with the SLPSAS- 2 where the gross cash receipts and gross cash payments of operating activities, financing activities and investing activities have been recognized. Cash & cash equivalents are comprised cash & bank balances, short term deposits.

3.10 Related Party Transactions

The key management personnel of the Institute are the members of the Board of Management. The Board of Management is the executive body of the institute which consist of the Director and ex-officio members of the faculties and institutes of the University, two members elected by the Senate and four external members appointed by the University Grants Commission.

There is no any contract entered between the institute and any member of the key management personnel who is having direct or indirect interest and there are no any Related-party transactions including sales purchases loans transfers leasing agreements guarantees, amount receivable from or payable to related parties other than the employee remuneration and allowances for service provided during the period.

3.11 Comparison of Budget and Actual Amounts

Budget and accounting basis is different. Annual budget to the Institute is approved in cash basis where as financial statements covers all the financial activities in accrual basis. The statement of comparison of budget and actual amounts compares the final budget to actual amounts calculated on the same basis as the corresponding budgetary amounts.

3.12 Disclosures

- a) The IBMBB has occupied in a land where the ownership of the land belongs to the University of Colombo.
- b) Provision for the gratuity was updated current year for one staff member who resigned during the year 2023.
- c) The interest earned from investment of Endowment fund has reinvested and added to the carried forward balance of the Endowment Fund.
- d) The appropriate adjustments have been made in the accounts of year 2022 and accordingly comparative figures were restated in the financial statement for following events.
 - Adjustment of the Foreign Exchange gain /loss has been made and comparative figures were restated in financial position and financial performance for the year 2022.
 - Adjustment made for the effect of change in rate of motor vehicle depreciation in the year 2022.
 - Adjustment for the transfer to Development votes from the respective course income have been made through equity statement for the year 2022.
- e) Relevant amounts for the year 2023 have been transferred to Institute Development Fund, Director's Vote, Equipment & Technology Vote and Programme Development Vote are shown under the designated fund in the statement of Financial Position.

Fixed assets, amounting to Rs. 4,517,609.32 had been purchased by utilizing development vote during the year 2023.

Note - 01**Cash & Cash Equivalents****People's Bank - Thimbirigasyaya****Account No.**

	2023 Rs.	2022 Restated Rs.	% Change
86100121189723	437,811	1,303,606	(66)
86100151192314	910,302	552,154	65
86100211189723	2,137,834	3,417,873	(37)
86100301189723	73,330	23,629	210
86100491189723	169,583	169,608	-
86200101189723	309,027	601,310	(49)
86402121189723	14,022,518	9,271,862	51

Bank of Ceylon - Thimbirigasyaya

84885727

657,377	1,071,398	(39)
18,717,782	16,411,439	14

Note - 02**Other Receivables**

Receivable Course Income

Pre Payment

Refundable Deposit for Fuel

Refundable Deposit for Dogle

Refundable Deposit for CO2 Cylinders

Interest Receivable

Other

	2023 Rs.	2022 Rs.	% Change
Receivable Course Income	735,500	208,333	253
Pre Payment	903,052	717,272	26
Refundable Deposit for Fuel	50,000	50,000	-
Refundable Deposit for Dogle	1,000	1,000	-
Refundable Deposit for CO2 Cylinders	83,500	83,500	-
Interest Receivable	2,175,654	4,442,821	(51)
Other	247,089	2,500	9,784
	4,195,795	5,505,426	(24)

Note - 03**Advances**

Miscellaneous Advances

	2023 Rs.	2022 Rs.	% Change
Miscellaneous Advances	203,948	3,197,599	(94)
	203,948	3,197,599	(94)

Note - 04**Staff Loans - Current**

Distress Loans

Computer Loans

Vehicle Loan

Staff Loans

	2023 Rs.	2022 Rs.	% Change
Distress Loans	677,927	677,421	-
Computer Loans	20,000	30,000	(33)
Vehicle Loan	16,745	16,690	-
Staff Loans	1,700	3,400	(50)
	716,372	727,511	(2)

Staff Loans - Non current

Distress Loans

Computer Loans

Vehicle Loan

Staff Loans

	2023 Rs.	2022 Rs.	% Change
Distress Loans	1,820,977	2,549,373	(29)
Computer Loans	18,000	35,000	(49)
Vehicle Loan	122,235	19,035	542
Staff Loans	1,870	3,570	(48)
	1,963,082	2,606,978	(25)
	2,679,454	3,334,490	(20)

Note - 05**Investments - Current FDs and TBs**

Endowment Fund

Generated Funds

Imprest

	2023 Rs.	2022 Rs.	% Change
Endowment Fund	300,000	-	-
Generated Funds	40,653,493	21,848,324	86
Imprest	537,898	467,617	15
	41,491,391	22,315,941	86

Investments - Non Current FDs and TBs

Treasury Fund - Security Deposit

Endowment Fund

Institute Development Fund

Generated Funds

	2023 Rs.	2022 Rs.	% Change
Treasury Fund - Security Deposit	28,625	-	-
Endowment Fund	7,874,429	6,320,479	25
Institute Development Fund	7,809,660	6,167,729	27
Generated Funds	34,228,274	54,228,274	(37)
	49,940,988	66,716,482	(25)
	91,432,379	89,032,422	3

Notes to the Financial Statements - 2023 (Contd..)

Note - 06
NON-CURRENT ASSETS - Property, Plant & Equipment

Description	Land & Building Rs.	Motor Vehicle Rs.	Furniture & office Equipment Rs.	Computers Rs.	Lab and Teaching Equipment Rs.	Library books and Periodicals Rs.	Total Rs.
Cost/Revalued Balance as at 01 01 2023	116,864,648.71	5,155,002.76	21,829,525.04	18,385,823.75	78,142,946.05	3,760,342.91	244,138,289.22
Removal of Cost of assets due to Revaluation	-	(5,155,002.76)	(21,829,525.04)	(18,385,823.75)	(78,142,946.05)	(3,760,342.91)	(127,273,640.51)
Revaluation of Assets	-	6,200,000.00	13,761,105.96	6,292,532.67	17,356,193.01	1,495,984.55	45,105,816.19
Additions	-	-	652,993.76	-	3,864,615.56	-	4,517,609.32
Donations	-	-	-	970,000.00	40,000.00	33,883.54	1,043,883.54
Balance as at 31 12 2023	116,864,648.71	6,200,000.00	14,414,100.37	7,262,531.14	21,260,805.09	1,529,869.21	167,531,954.52
Rate of Depreciation	5%	20%	10%	20%	20%	20%	
Accumulated Depreciation as at 01 01 2023	93,475,720.27	3,608,501.13	10,878,712.54	13,990,442.83	68,506,905.50	3,585,126.87	194,045,409.14
Removal of Accumulated Depreciation Provision for Revaluation		(3,608,501.13)	(10,878,712.54)	(13,990,442.83)	(68,506,905.50)	(3,585,126.87)	(100,569,688.87)
Depreciation for 2023	5,843,232.44	1,239,320.72	1,446,466.03	1,292,697.56	4,003,090.23	305,675.35	14,130,482.33
Accumulated Depreciation as at 31.12.23	99,318,952.71	1,239,320.72	1,446,466.68	1,292,696.03	4,003,091.17	305,676.57	107,606,203.88
WDV 31.12.2023	17,545,696.00	4,960,679.28	12,967,633.69	5,969,835.11	17,257,713.92	1,224,192.64	59,925,750.64
WDV 31.12.2022	23,388,928.44	1,546,501.63	10,950,812.50	4,395,380.92	9,636,040.55	175,216.04	50,092,880.08

Notes to the Financial Statements - 2023 (Contd..)

Note - 06.1

NON-CURRENT ASSETS - Intangible Assets - Computer Software

Description	Software Rs.	Total Rs.
Cost/Revalued Balance as at 01 01 2023	-	-
Revaluation of Assets	750,000.00	750,000.00
Disposals/Adjustments	-	-
Balance as at 31 12 2023	750,000.00	750,000.00
Rate of Amortization	20%	
Accumulated Amortization as at 01 01 2023	-	-
Amortization for 2023	150,000.00	150,000.00
Accumulated Amortization as at 31.12.23	150,000.00	150,000.00
WDV 31. 12. 2023	600,000.00	600,000.00
WDV 31. 12.2022	-	-

Notes to the Financial Statements - 2023 (Contd.)

Note : 06.2
Revaluation of Non-current Assets as at 01.01.2023

Description	Motor Vehicle Rs.	Furniture & Office Equipment Rs.	Computers Rs.	Lab and Teaching Equipment Rs.	Software Rs.	Library books and Periodicals Rs.	Total Rs.
Cost/Revalued Balance as at 01.01.2023	5,155,002.76	21,829,525.04	17,960,823.75	78,142,946.05	-	3,760,342.91	126,848,640.51
Accumulated Depreciation as at 01.01.2023	3,606,501.13	10,878,712.54	13,990,442.83	68,506,905.50	-	3,585,126.87	100,569,688.87
Net Carrying Amount as at 01.01.2023	1,546,501.63	10,950,812.50	3,970,380.92	9,636,040.55	-	175,216.04	26,278,951.64
Revaluation value of Assets as at 01.01.2023	6,200,000.00	13,761,105.96	6,292,532.67	17,356,193.01	750,000.00	1,495,984.55	45,855,816.19
Removal of Purchasing Cost from Accumulated Fund Recurrent	-	-	-	-	(277,500.00)	-	(277,500.00)
Transfer of value from Computer & Accessories	-	-	-	-	(425,000.00)	-	(425,000.00)
Revaluation Surplus Transferred to the Revaluation Reserve	4,653,498.37	2,810,293.46	2,322,151.75	7,720,152.46	47,500.00	1,320,768.51	18,874,364.55

Adjustment to the Revaluation Reserve Account	
Opening Balance as at 01.01.2023	10,665,445.00
Revaluation Surplus on Revalued Assets	18,874,364.55
Closing Balance As at 31.12.2023	29,539,809.55

Notes to the Financial Statements - 2023 (Contd..)

Note - 07	2023	2022	% Change
	Rs.	Rs.	
Accrued Expenses And Other Payables			
Accrued Expenses	2,439,840	4,319,893	(44)
Other Payables	3,078,820	-	-
	5,518,660	4,319,893	28

Note - 08	2023	2022	% Change
	Rs.	Rs.	
Provision for Gratuity			
Opening Balance 01.01.2023	28,317,795	38,240,985	(26)
Provision During the year	2,632,678	4,268,116	(38)
Paid During the year	-	(10,224,734)	(100)
Under Provision	-	198,175	(100)
Provision of Resigned Employees	-	(4,164,747)	(100)
Closing Balance 31.12.2023	30,950,473	28,317,795	9

Provision for Gratuity - Non Current	30,950,473	28,317,795	9
---	-------------------	-------------------	----------

Note - 09	2023	2022	% Change
	Rs.	Rs.	
Research Grants - 2024			
IPICS - 2024	296,702	296,702	-
NSF Grant III - 2024	-	48,458	(100)
Swedish Research Grant - 2024	1,190,163	1,313,851	(9)
Individual Research Votes - 2024	644,260	459,018	40
C/R Grant - Ms.D.V.D. Hemalika - 2024	-	34,051	(100)
Research Collaboration Grant - Dr Andrew - 2024	-	89,653	(100)
CRP/LKA 17- 01 2024	263,727	1,219,919	(78)
Subsidies for Reagents	1,133,755	1,183,596	(4)
ICGEB Course (W/SRI/2019-01) - 2024	14,120	15,830	(11)
Immunodiagnosics 2024 - Prof. S.M. Handunnetti	-	125,000	(100)
Collaborative Research 2024 - Dr. S.S.R. Samarakoon	-	813,899	(100)
	3,542,726	5,599,976	(37)

Note - 10	2023	2022	% Change
	Rs.	Rs.	
Deferred Income			
MSc in CMI 2021	-	274,583	(100)
MSc in MLS 2021	-	1,760,555	(100)
MSc in Bioinformatics 2021	110,000	466,667	(76)
MSc in CMI 2022	375,000	850,000	(56)
MSc in MLS 2022	772,485	1,216,877	(37)
Master of MLS 2023	1,226,843	-	-
Master of CMI 2023	725,000	-	-
Master of BI 2023	2,010,000	-	-
	5,219,328	4,568,682	14

Note - 11	2023	2022	% Change
	Rs.	Rs.	
Grant for Research			
IPICS 2023	-	55,900	(100)
Swedish Research Grant 2023	123,688	69,150	79
CRP/LKA 17- 01 2023	991,253	747,924	33
MSTR/TRD/AGR/3/02/08 (INDO) 2023	-	189,723	(100)
Research Collaboration Grant- Dr Andrew-2023	89,000	-	-
ICGEB Course [W/SRI/19-01] - 2023	1,710	29,924	(94)
C/R Grant- Ms.D.V.D. Hemalika - 2023	34,051	32,416	5
Immunodiagnosics 2022 - Prof. S.M. Handunnetti	125,000	-	-
Collaborative Research 2023 - Dr. S.S.R. Samarakoon	813,899	177,296	359
	2,178,600	1,302,333	67

Notes to the Financial Statements - 2023 (Contd.)

Note - 12	2023	2022	% Change
Generated Income	Rs.	Rs.	
Annual Session Sponsorships	217,000	-	-
Examination fees	1,856,000	1,182,000	57
MSc Course Fee	30,094,153	28,118,156	7
Short Courses Income	8,666,547	5,057,783	71
Research Course Fee	800,000	-	-
Application Fee	1,386,652	1,265,681	10
Internship Income	540,000	235,000	130
Sample collection Charges	-	542,650	(100)
Library Fee	30,000	-	-
Liquidated Damages	411,847	54,646	654
	44,002,198	36,455,916	21

Note - 13	2023	2022	% Change
Other Income	Rs.	Rs.	
Computer loan Interest	2,982	4,037	(26)
Staff Loan Interest	466	537	(13)
Transcript Fee	80,500	122,800	(34)
Distress Loan Interest	111,883	103,676	8
Vehicle Loan Interest	2,277	2,135	7
Other Sundry Income	174,161	291,863	(40)
	372,269	525,049	(29)

Note - 14	2023	2022	% Change
Personnel Emoluments	Rs.	Rs.	
Salaries & Wages	29,538,427	33,486,344	(12)
U.P.F	4,490,236	4,836,358	(7)
Pension	3,845,396	4,399,610	(13)
E.T.F.	1,876,232	1,976,421	(5)
E.P.F	719,589	516,909	39
Academic Allowance	19,991,198	22,833,952	(12)
Cost of Living Allowances	3,262,589	3,646,935	(11)
Over Time and Holiday Payment	82,707	186,858	(56)
Other Allowances	13,393,042	13,610,959	(2)
Research Allowances	5,064,147	5,824,332	(13)
Allowances	5,358,484	4,487,742	19
Visiting Lecturer Fee	1,317,384	1,565,599	(16)
Course Coordinator Allowance	36,000	162,000	(78)
Property Loan Interest	100,097	105,093	(5)
	89,075,526	97,639,112	(9)

Note - 15	2023	2022	% Change
Supplies	Rs.	Rs.	
Stationery & Office Requisites	355,952	744,306	(52)
Fuel and Lubricant	580,789	897,226	(35)
Uniforms	-	56,257	(100)
Mechanical & Electrical Goods	-	54,622	(100)
Chemicals & Glassware	Note-15.1 10,323,525	9,069,374	14
Other	95,936	-	-
	11,356,202	10,821,785	5

Note -15.1			
Chemicals & Glassware			
Opening Balance	869,060	1,365,871	(36)
Purchase During the Year	10,251,453	8,572,563	20
	11,120,513	9,938,434	12
Closing Balance	(796,988)	(869,060)	(8)
	10,323,525	9,069,374	14

Notes to the Financial Statements - 2023 (Contd..)

Note - 16	2023	2022	% Change
Maintenance Expenditure	Rs.	Rs.	
Rehabilitation & Maint. Of Capital Assets	55,000	1,313,902	(96)
Plant, Machinery Equipment	727,120	1,968,269	(63)
Buildings & Structures	2,906,908	4,748,203	(39)
Office Equip. Maintenance	427,112	633,530	(33)
Other	644,962	720,872	(11)
	4,761,102	9,384,775	(49)

Note - 17	2023	2022	% Change
Contractual Expenditure	Rs.	Rs.	
Transport	285,616	311,525	(8)
Telecommunication	2,139,880	1,884,946	14
Postage	65,237	66,156	(1)
Security Service	2,700,424	2,118,211	27
Electricity	13,484,723	7,441,506	81
Water	314,102	200,246	57
Cleaning Service	2,157,603	1,945,718	11
Rates, Taxes & Local Authorities	269,438	199,584	35
Printing, Advertising etc.	265,033	757,568	(65)
Other	44,380	146,203	(70)
	21,726,436	15,071,664	44

Note - 18	2023	2022	% Change
Other Recurrent Expenditure	Rs.	Rs.	
Special Services - Board Meeting & Committees	936,115	1,267,087	(26)
Workshops, Seminars	-	38,500	(100)
Academic Research	-	215,666	(100)
Staff Development	10,000	94,127	(89)
Entertainment Expenses	165,534	48,149	244
Contribution & Membership Fee	178,140	109,070	63
Bank Charges	81,346	53,972	51
Holiday Warrants & Season Tickets	221,400	157,260	41
Awards And Indemnities	-	7,500	(100)
Examination Expenses	990,275	804,004	23
Audit Fee	400,000	400,000	-
Short Course Expenses	5,164,812	2,657,423	94
Medical Insurance	127,922	128,840	(1)
Other	221,313	19,710	1,023
	8,496,858	6,001,308	42

Note - 19	2023	2022	% Change
Accumulated Funds - Capital	Rs.	Rs.	
Treasury	32,280,925	38,650,255	(16)
Generated	(1,761,702)	110,394	(1,696)
SIDA SAREC	90,647	99,302	(9)
Research Grants	(396,144)	72,765	(644)
	30,213,727	38,932,716	(22)

Note - 20	2023	2022	% Change
Designated Funds	Rs.	Rs.	
Institute Development Fund	20,965,241	14,631,203	43
Director's Vote	2,806,200	1,786,724	57
Equipment & Technology Vote	2,373,089	1,321,113	80
Programme Development Vote	5,465,514	2,592,364	111
	31,610,044	20,331,405	55

**COMPARATIVE STATEMENT OF FINANCIAL PERFORMANCE WITH BUDGET
FOR THE YEAR ENDED 31ST DECEMBER 2023**

					Rs. '000
Description	Note	2023 Actual (Rs.)	2023 Original Budget (Rs.)	2023 Revised Budget (Rs.)	Change %
Revenue					
Recurrent Grant from Treasury		73,000	59,000	73,000	-
Generated Income	Note - 12	44,002	36,375	36,375	21
Interest Income		19,076	12,525	12,525	52
Other Income	Note - 13	372	2,000	2,000	(81)
Total Revenue		136,450	109,900	123,900	10
Operating Expenses					
Personnel Emoluments	Note - 14	89,076	98,195	94,000	6
Travelling & Subsistence		3	25	5	96
Supplies & Consumables	Note - 15	11,356	6,151	7,566	(33)
Maintenance Expenses	Note - 16	4,761	4,248	3,938	(17)
Contractual Services	Note - 17	21,726	16,443	19,873	(9)
Other Recurrent Expenses	Note - 18	8,497	2,838	2,518	(70)
Total Operating Expenses		135,419	127,900	127,900	(6)



The annual report of IBMBB provides a snapshot of all the achievements as well as activities undertaken and delivered by the institute during the course of the year 2023, along with the financial operations of the institute.

Accordingly, the annual report was prepared as per the guidelines issued by the Ministry of Education. The information contained within the annual report was submitted by the respective departments within the institute. The final annual report was compiled and designed by the following committees and individuals.

Annual Report Editorial Committee.

Prof. Prasanna Galhena, Director, IBMBB
Ms. Harshani Jayaweera, Assistant Registrar, IBMBB
Dr. B A D Rukshala, Temporary Scientific Assistant/IQAC
Dr Uma Rajagopalan, Temporary Scientific Assistant/ Cell Biology
Ms. Joanne Kotelawala, Temporary Assistant Lecturer, Molecular Life Science

Page Setup and Design

Dr. Kanchana Senanayake, Assistant Network Manager, IBMBB
Mr. Raveen Perera

Compilation

Ms. P P M Subasinsani



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