

Institute of Biochemistry and Biophysics (IBB)

Unveiling the Past: A Brief Introduction

On May 5, 1975, the 5th Iranian Biochemistry Symposium took place at the University of Tehran with the support of the Iranian Biochemistry Society, focusing on milk proteins. This significant scientific event, which saw the issuance of a commemorative stamp that year, featured the participation of distinguished international scientists such as Francis Crick, the Nobel Prize winner in Medicine and Physiology in 1962 and the co-discoverer of DNA.



Commemorative Stamp of the Symposium Introducing the Proposal to Establish the International Institute of Biochemistry and Biophysics (IBB) in the University of Tehran.

During this conference, recognizing the importance of biochemistry research, a proposal was made to establish a research institute in this field with the necessary independence while being affiliated with the University of Tehran. Subsequently, following this conference, the International Institute of Biochemistry and Biophysics (IBB) was established at the University of Tehran in the same year. IBB was founded in 1976 with the objectives of conducting basic research in cell and molecular sciences and advancing global knowledge in the field. This leading scientific center, during its half-century of activity in Iran, has not only produced valuable scientific contributions on the global stage but has also nurtured numerous internationally renowned scientists in the fields of biochemistry, biophysics, and bioinformatics. IBB is a prestigious and globally acclaimed scientific institute that provides cutting-edge M.S. programs in Biochemistry and Biophysics, along with comprehensive Ph.D. programs across its Biochemistry, Biophysics, and Bioinformatics departments.



The International Institute of Biochemistry and Biophysics (IBB): Reflecting Its Founding Name in Current Approaches.

Currently, IBB boasts a team of 20 dedicated full-time faculty members, consisting of 8 esteemed professors, 5 associate professors, and 7 assistant professors, complemented by 11 distinguished international scientists who contribute as adjunct professors. This esteemed research institute attracts scientists from around the globe, making it a hub for international collaboration and knowledge exchange. This scientific institute is currently led by the internationally renowned scientist, Professor Ali Akbar Moosavi-Movahadi.

Pioneering Biochemistry and Biophysics in Iran

IBB is Iran's foremost establishment in the realms of Biochemistry and Biophysics, boasting a rich history of scientific endeavors and remarkable achievements.

The Secretariat for the Advancement of Science and Technology in the Islamic World (SASTIW) and the International Commission for the Advancement of Science (ICAS) operate within IBB. The institute offers extensive opportunities for both domestic and international students and researchers, including postdoctoral positions funded by grants from UT professors, the Vice-presidency of Science and Technology, with accommodations available at the University Guest House. IBB is globally recognized for its high-quality research publications in prestigious journals and hosts representatives from international associations such as IUBMB and FAOBMB.

International Programs and Approaches

The Institute of Biochemistry and Biophysics has upheld an international approach in its research and educational activities since its inception, originally known as the International Institute of Biochemistry and Biophysics. This leading scientific institution engages in scientific research cooperation with top universities and researchers worldwide, resulting in the publication of a significant portion of its articles in prestigious international journals through collaboration with international researchers. The Institute also actively seeks collaboration opportunities with academic staff members from leading universities and research institutes globally, facilitating professor and student exchange programs and hosting esteemed researchers from universities around the world. Additionally, the Institute welcomes graduate students and post-doctoral researchers in accordance with the University of Tehran's regulations and a rigorous evaluation process aimed at selecting the world's scientific elite.

Scientific Policy Making

IBB leverages the expertise of experienced and capable professors on the international stage to actively engage in scientific policy-making at the national level, establishing itself as an influential institute in this domain.

Demystifying Science: IBB's Efforts to Educate the Public

Moreover, IBB is dedicated to simplifying intricate scientific concepts for the general public through weekly lectures and the creation of Persian articles and books that are easily comprehensible for the general public. It also offers free workshops on the essential laboratory methods, as well as the basic principles and applications of advanced research equipment, for interested individuals. IBB is affiliated with the Third World Academy

of Science (TWAS) and holds a UNESCO Chair in Biochemistry, and also UNESCO Chair in Interdisciplinary Research in Diabetes.



The University of Tehran's IBB Holds a UNESCO Chair in Interdisciplinary Diabetes Research.

Fostering Scientific Associations and Conferences in Iran

IBB is not only the birthplace and headquarters of scientific associations like the Iran Biophysical Chemistry Society (ISOBC) and the Iran Peptide Society (IPS), Iranian Bioinformatics Society, Federation of Iranian Bioscience Societies, Iranian Biomimetic Society but also actively supports related scientific conferences such as the annual Iran Biophysical Chemistry Conference and the Iran Protein and Peptide Science Conference. These two significant scientific events provide a platform for collaboration, knowledge exchange, and innovation between Iranian and foreign researchers and scientists annually.



The 5th Iran Protein and Peptide Sciences Conference took place in May 2024 at IBB.

Training Program at IBB

Building on its longstanding tradition and the belief that significant research accomplishments stem from robust and impactful education, IBB provides a comprehensive and enriching educational program for master's and doctoral students in three key disciplines: biochemistry, biophysics, and bioinformatics. The course titles and descriptions for IBB's offerings are publicly accessible on the personal pages of IBB faculty members. This program undergoes periodic updates every few years to align with the evolving needs of graduate students.

Research Activities at IBB

Research plays a central and prominent role at IBB. The academic staff members at this institute are dedicated to conducting high-quality research in the life sciences, particularly in various branches of biochemistry, biophysics, and bioinformatics. Graduate students at IBB are immersed in a rigorous research environment, working on significant research projects at the forefront of knowledge and utilizing cutting-edge technologies. They are trained to meet scientific demands and contribute to advancing the scientific and technological objectives of the country. Additionally, contributing to scientific production and enhancing Iran's scientific standing in the field of biological sciences are key research objectives at IBB. Consequently, a substantial

number of research accomplishments by IBB researchers are annually published in prestigious international journals.



Biochimica et Biophysica Acta (BBA) -
Nucleic Acids and Protein Synthesis

Volume 478, Issue 3, 4 October 1977, Pages 295-304



Physicochemical studies of non-histone protein HMG₁₇ with DNA

Kashayar Javaherian , Shohreh Amini

The First Paper Published by Researchers of IBB in 1977, Two Years after Its Establishment.

Over the past five decades, IBB has achieved notable scientific research accolades and accomplishments. This esteemed scientific institution has contributed to over 4% of University of Tehran's scientific publications since its inception, having published 2989 scientific documents up to April 2024. Annually, this prominent scientific institution releases a substantial volume of research articles in reputable international journals and collaborates with distinguished researchers from renowned universities worldwide, a fact well evidenced in its published works.

IBB's Contribution to University of Tehran IBB's Types of Documents Since Its Establishment

WOS Factor	No.
Total Documents	2,989
Total Citatin	52,575
Citation/Document	17.6
H-index	84
i 500-Index	1 (with 588)
i 200-Index	10
i 100-Index	58

Type	Number
Article	2,456
Review Article	168
Proceeding Article	48
Book Chapter	10
Editorial	6
Letter	19
Meeting Abstract	290
Note	10
Correction	10
Data Paper	3

IBB's Annual Scientific Documents

Year	Document	Year	Document	Year	Document
2024	36	2014	127	2004	50
2023	149	2013	139	2003	44
2022	177	2012	121	2002	40
2021	172	2011	156	2001	34
2020	178	2010	100	2000	27
2019	126	2009	125	1999	26
2018	131	2008	136	1998	15
2017	143	2007	141	1997	18
2016	116	2006	97	1996	17
2015	134	2005	85	1995	7

IBB's Scientific Partnerships with Other Countries

Countries	Documents	Countries	Documents
USA	297	England	37
Canada	99	Poland	37
India	81	Spain	26
France	78	Pakistan	22
China	67	Switzerland	22
Italy	64	Netherlands	21
Germany	54	Sweden	21
Taiwan	51	Japan	17
Australia	45	Iraq	14

IBB Research Laboratories

Over the course of approximately five decades since its establishment, IBB has operated various laboratories under the supervision of its academic staff members, where graduate students have been trained in various trends of biochemistry and biophysics. This longstanding tradition has continued with the addition of the Bioinformatics Department. The diversity of trends within each of the three groups, coupled with the wealth of experiences and scientific accolades, cater to the preferences and scientific interests of prospective students who select IBB for their graduate studies. This diverse and intellectually stimulating environment has been successful in attracting the top talents of the country who wish to pursue further studies in biochemistry, biophysics, and bioinformatics. In 2006, IBB established a central laboratory and has since been outfitting it with a range of spectroscopic, microscopic, and gene manipulation equipment. In addition to serving the faculty members and students of IBB, the equipment housed in the central laboratory also extends its services to applicants from other units of the University of Tehran.

IBB Greenhouse

The Institute of Biochemistry and Biophysics houses a well-established research facility in the country, equipped with state-of-the-art infrastructure for conducting plant sciences research. A key asset of this facility is its plant growth core facilities, which allows for the controlled cultivation of plants in laboratory settings, regulating factors such as temperature, humidity, and light. The plant growth core facilities consist of one glass greenhouse and two growth chambers. Currently, the laboratory of Genomics and Epigenomics (LGE) at IBB utilizes this facility for genomic studies on plants that exhibit resilience to harsh conditions (such as C4 plants) and economically valuable plants like medicinal plants.



Plant Growth Core Facilities at the Institute of Biochemistry and Biophysics: Enabling Cutting-Edge Genomic Studies.

The Animal Facility

The animal facility at IBB is outfitted with an efficient ventilation system and spans approximately 170 square meters. It comprises three distinct rooms equipped with racks and essential tools for housing and breeding animals, along with a new laboratory dedicated to conducting research experiments. The primary objective of the animal facility at IBB is to enhance understanding of animal behavior and care, supply animals (primarily balbC and Wistar albino rats) to the academic community, and support researchers requiring controlled conditions for their research animals.



The IBB animal facility is responsible for providing laboratory animals for animal studies.

Computer Center

In addition to the central laboratory equipment, IBB researchers also utilize the services of the computer center, which houses a robust server for computational studies.

Admission of Graduate Students

Over the past five decades, IBB has been the preferred choice for the country's top talents and scientific elites seeking to pursue studies in one of its three majors. The admission process for graduate students in both

master's and doctoral programs is carried out through two primary mechanisms. The first method involves applicants participating in a nationwide test conducted annually. The second method allows for admission based on the potential acceptance by a faculty member, following a professor-centered approach. Applicants seeking to further their education can engage with any professors interested in collaborating with the university's vice-chancellor. Additionally, the acceptance of international students is feasible after communication and approval from IBB professors through the International Office of the University of Tehran.

Admission of Postdoctoral Researchers

IBB is a leading institution in accepting both domestic and international postdoctoral researchers in Iran. Prospective postdoctoral candidates can submit their applications and academic resumes to the professor they wish to collaborate with, referencing the personal page of academic staff members on the IBB website. The expenses of postdoctoral researchers will be covered through professors' UT grants, international joint projects, financial support from the Iran Science Foundation (INSF), the industry sector, among other sources. international postdoctoral researchers can be supported by The World Academy of Science (TWAS). The researchers from developing countries can be supported by TWAS programs (see twas.org).

IBB Library

Since its establishment, IBB has maintained a rich library comprising valuable books and significant international journals. The library currently houses 26902 publications and 8963 books related to biochemistry and biophysics.



Exploring the Vast Collection of Biochemistry and Biophysics Literature at IBB Library.

Conference Hall

In 2013, a luxurious conference hall was added to IBB's facilities, serving as the venue for conferences, guest lectures, and thesis defense sessions for graduate students.



Elegant Conference Hall at IBB: Fostering Academic Discourse.

IBB Restaurant

From its inception, IBB has provided a pleasant dining experience through a dedicated restaurant staffed with experienced and friendly personnel. Faculty members, students, and staff have enjoyed this welcoming environment.



IBB Restaurant: A Hub of Hospitality and Community.

Entertainment Programs

Over the years, IBB has organized various recreational activities for its professors, students, and staff, including joint recreational camps in natural and culturally significant environments. This tradition of providing valuable entertainment programs continues to this day.



IBB's Tradition of Recreational Activities: Building Community Through Shared Experiences (Spring 2024, Chalus Road).

Academic and scientific environments should have a friendly atmosphere to foster collaboration, creativity, and innovation among researchers and scholars. A friendly atmosphere promotes open communication, mutual respect, and a sense of community, which are essential for productive teamwork and the exchange of ideas. Additionally, a positive and supportive environment can enhance morale, motivation, and overall well-being, leading to increased productivity and job satisfaction. Those who choose IBB for their continued education also value the friendly and sincere atmosphere it provides, which positively influences the development of their personality and social relationships.



IBB Student (Reza Yousefi) Invites Fellow Students to His Wooden Hut in the Mountains North of Tehran on a Snowy Winter Day in February 2001

Additional information about IBB

For further information about IBB's activities, please visit its website:

ibb.ut.ac.ir