



FORTH

INSTITUTE OF MOLECULAR BIOLOGY & BIOTECHNOLOGY

Strategic Plan 2022 – 2025



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Vision

Support investigator driven frontier research and excellence, in a climate of freedom and independence

Mission

From the beginning of its establishment and over the years, to pursue cutting-edge research and promote scientific excellence in the field of Molecular Biology and Biotechnology, as well as exploit and translate knowledge, including the development of new technologies, innovative products and services.

Specific features:

The specific distinct features of IMBB are the following:

- 1) Harbor a critical mass of excellent Researchers, who will contribute to an inclusive, diverse, creative environment, which operates with the highest ethical standards and enjoys a significant international visibility.
- 2) Pursue frontier research projects and achieve a scientific performance record, which matches the quality of leading European and US research Centers.
- 3) Provide Researchers with state-of-the-art facilities and technological support.
- 4) Provide high quality training and mentorship for PhD students and postdoctoral fellows to foster their career growth.
- 5) Foster diversity and creativity in research encompassing several fields of biology, through employing scientific excellence
- 6) Maintain a prominent role in the multidisciplinary academic and entrepreneurial neighborhood at FORTH campus, the University of Crete (UoC) and the Heraklion University Hospital
- 7) Encourage regular evaluation of the Scientific performance of the Researchers by an international Scientific Advisory Committee (SAC).

Director 's foreword

Director John Vontas

I am pleased to introduce IMBB's Strategic Plan 2022-25. As an Institute unique of its kind in Greece and among few multithematic in Europe, IMBB has been an outward facing and forward thinking "transformer" of the Greek research landscape and postgraduate education. Major undertakings have been implemented or launched in the previous period.



My main endeavor will be to keep IMBB at the highest level. Excellence will be implemented in a climate of scientific freedom and independence that will help to further strengthen and sustain the Institute developments. The goals and supporting enabling strategies presented in this document will promote financial sustainability, strengthen Research Ecosystem and introduce a pioneering young investigator mentoring and career development scheme. We aim to maintain IMBB's recognition as a center of scientific excellence and further improve the impact of our contributions to European and Global Science. The IMBB's 40th anniversary in 2023 is a milestone, when we will be showcasing our past achievements and signaling our ambitious plans to increase our beneficial impact across scientific, human capacity and society indicators. This also provides a significant opportunity to broaden and deepen our funding and sustainability base.

A handwritten signature in black ink, appearing to read "J. Vontas".

John Vontas
Director IMBB

Deputy Director - Electra Gizeli

IMBB has established itself as one of the top-class biology Institutes in Europe and beyond, with research activities spanning from basic biological science to applied biotechnology. Inspired by an ambitious, long-term vision, IMBB for the next five years will continue promoting polythematic curiosity-driven research in biology with emphasis on the translation of research results to the society. These goals will be reached by applying a set of initiatives to follow international best-practices, build on the excellent capacity of researchers and increase competitiveness.



The global nature of today's problems calls for shared multidisciplinary approaches and networking at an international level. IMBB' mission is to contribute in resolving global health and environmental problems through cutting-edge research and innovation; this strategic plan highlights the goals, means and sustainable actions that will help realizing the above.

A handwritten signature in black ink, appearing to read "Electra Gizeli".

Electra Gizeli, FRSC
Deputy Director

Our Strategic Goals 2022–25

The establishment and activity of IMBB by Fotis Kafatos back in the late 1980's introduced a new philosophy adopted from top international research establishments and characterized by: (i) a merit-based recruitment strategy; (ii) organizational and management structures focusing on creating an environment that is optimal for performing top quality research and; (iii) high scientific quality standards, comparable to those of the top-performing international centers.

IMBB has enjoyed a period of scientific excellence and growth over the past 35 years. Despite the difficulties faced, such as the economic crisis in Greece and the COVID19 pandemic, it has achieved remarkable scientific outputs and improved its research potential, thanks to the important work of its members. Major undertakings have been implemented or launched during the past 4 years, including the association with EU Life alliance, a recognition of IMBB's long-term efforts to reach excellence standards of leading European Centers. IMBB's Faculty underwent a very significant renewal in this period (6 new PIs and 10 collaborating University Faculty members), strengthening existing and forging new research areas. On the negative side, the economic crisis played an important role in the departure of several highly successful researchers who moved abroad in the last decade, as well as had a significant impact on the current financial figures of IMBB, which require corrective actions, to ensure sustainability.

The mission and the values to which IMBB aspires, remain unchanged.

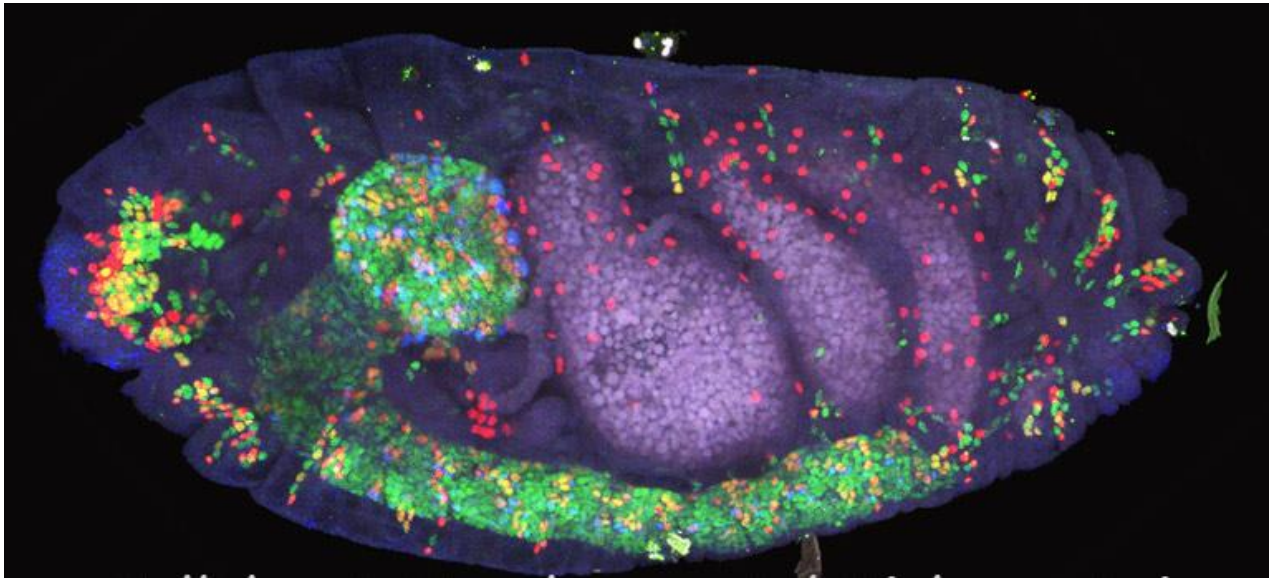
Our three main strategic goals for the next period are the following:

1. Ensure **Sustainable Development goals**
2. Strengthen the **Research Ecosystem**
3. Establish a **Beacon Institute** in Greece for **Practices and Procedures**, including Young Investigators **Mentoring and Career Track programs**

These strategic goals were discussed at the Scientific Council and the Scientific Advisory Committee, also with the FORTH Chairman. They are underpinned by several enabling strategies that are presented in the next session, alongside their performance indicators.

Goal 1. Ensure sustainable development goals

Our ability to drive sustainability at Unit and Institute level and set sustainable growth will be underpinned through increased leverage of external funding, decisions for new faculty members and research directions and capacity/infrastructure building plans. We will reduce/streamline institute costs/expenses, where possible to improve our financial stability.



Funding – financial sustainability

We will continue pursuing most competitive funding, such as ERC, Human Frontiers etc. Funding opportunities within Horizon Europe Widening will also be targeted, by strengthening the IMBB Grant Office and its links with PRAXIS. Support for the development of certain types of proposals will be provided (for example, collaboration with external experts for the development of business plans). The participation of IMBB in national networks, ad-hoc region opportunities and long-term program partnerships with Foundations and Industry will be striven for. We will capitalize on the high-quality critical mass recently developed in Translational Biomedicine, to foster our links with Pharmaceutical Industry and boost sustainable activities with high research potential and societal impact, in the field of Pharmacogenetics and Molecular Diagnostics. Framework agreements with Agrochemical Industry will also be extended and pursued. Finally, the sustainability of individual Units (facilities, support units, research groups) will be monitored and evaluated, versus their overall impact. Corrective actions will apply where necessary, in order to improve functionality and sustainability.

Human resources - Research directions

Our priority is to support our new researchers. Targeted annual internal calls (“internal synergy grants”) to facilitate their integration, as well as enable new interactions between IMBB teams (seed funding for initiating collaboration) will be introduced. We aim to recruit new faculty members (2-3 positions in the next period), which will be aligned with, and supportive of, the critical mass in existing research divisions. Our past practice of recruitment in open thematic areas will remain the basic policy. We will selectively support directions that have both a high potential for scientific excellence and sustainable development perspectives. The affiliation of UoC Faculty members and distinguished Adjunct Researchers for certain strategic scientific areas, will be carefully considered, under the condition of sub serving mature synergies with current IMBB activities. Finally, we will attract more talented leaders via ERA Chair grant applications.

Infrastructure

We will cover IMBB growing needs to maintain and possibly renew in some cases its mid-size equipment, depending on the financial figures and overhead availability. In addition, as previously established, we will continue to follow cutting edge technologies as close as possible, focus on the development/adaptation of protocols and lab know how/expertise to exploit, as well as fully explore the opportunities to have good services from external Facilities, including large European Infrastructure networks. We will develop incentives to motivate facility operators to pursue training opportunities on cutting edge technologies and modern infrastructures. We will support and organise targeted visits in state-of-the-art international facilities, aiming to improve the quality of our services as well as increase the mobility and flexibility of our permanent staff, within IMBB Units, including better utilization of employee time, where possible. Competitive funding will be targeted to cover the needs for new large equipment items, including joint efforts with the UoC (see next session).

Key Objectives (performance indicators) for 2022-2025 (Goal 1):

- Maintain and improve research impact based on ERC evaluation standards (DORA)
- Maintain and increase annual research grant and contract income
- Promote and ensure sustainability

Goal 2. Strengthen the Research Ecosystem

Over the years, IMBB-FORTH has developed a highly successful collaboration framework with the University of Crete (UoC), which includes joint educational programs, shared Research Facilities, and collaborative research activities. The above have undoubtedly transformed the scientific ecosystem in Crete (and Greece), facilitating the successful realisation of goals and maximising the benefits on both sides, for more than 30 years. We will strengthen this “Research Ecosystem”, via targeted interventions.

Infrastructures – Joint facilities

Collaborative frameworks and targeted communication actions will be developed, including the establishment (operational and legal frame) of joint facilities between FORTH and UoC, for example the Bioimaging facility. These will aim to better describe and communicate the capacity of available units (including visibility for grant applications), enable and facilitate their access by internal and external users, overall to better exploit the existing infrastructure. Joint facility frameworks will also facilitate the development of coordinated actions for their support by expert scientists, their maintenance and upgrade of existing equipment. Joint applications for large equipment items, based on strategic analysis of international landscape and scope, via competitive funding (including expected new calls for National Infrastructures), will be pursued preferably in close collaboration with the UoC, to ensure critical mass.



Research collaboration – Joint activities

To continue conducting competitive research, it will be necessary for IMBB, other FORTH Institutes and several departments at the UoC to coordinate and joint their efforts. Actions, including strategic decisions for the development of complementary and synergistic research directions, joint grant applications and targeted modern communication activities (such as thematic clubs in multidiscipline research fields, including bio-imaging, computational biology, and chemical biology), in line with successful examples previously established, will be introduced in the next period. Bottom-up approaches, communication of the benefits of the joint activities and passion should play a key role in these developments.

Teaching and training

The joint educational efforts of IMBB and UoC have revolutionized postgraduate education in Crete, by running highly successful graduate-level training programs which follow practices adopted by top-class Universities. As a result, the two institutes have earned the reputation of producing PhD graduates with an excellent scientific training, as evidenced by the steady employment of our alumni by top international academic and industry institutions. There is a pressing need to maintain and strengthen this reputation and ensure that our students will reach scientific excellence and compete successfully for postdoctoral positions at top labs worldwide. Towards these goals and in close collaboration with the UoC we plan to:

- (1) Renew and improve the curriculum of existing joint graduate programs, so as to account for modern directions in biology and biomedicine, including multidisciplinary research;
- (2) Enrich our teaching staff, via the recruitment and involvement of adjunct professors and members of the EU Life alliance;
- (3) Enhance interactions with industry to include more innovation and practical components in postgraduate teaching; and
- (4) Attract international postgraduate students and postdoctoral researchers, via offering a highly international research environment

Key Objectives (performance indicators) for 2022-2025 (Goal 2):

- More common facilities fully operated within Research Ecosystem (FORTH-UoC)
- More communication platforms (active thematic clubs etc) and collaborative projects within Research Ecosystem (FORTH-UoC)
- Updated and upgraded postgraduate program; more international students and young investigators at IMBB

Goal 3. IMBB becomes a beacon Research Institute for best practices and procedures in Greece, including Young Investigators Mentoring and career track program

Measures for promoting Equality, Inclusion, Ethics and Scientific Integrity

IMBB-FORTH is committed to ensure an inclusive, diverse and equitable environment, where all individuals can achieve their highest potential, regardless of their gender identity and expression, sexual orientation, race, color, ethnicity, religion, age, political views, marital status, health condition or any other element that may result in discrimination. IMBB is also committed to promote the highest standards of scientific integrity and transparency in research. All related policies, previously introduced at IMBB, will be consolidated and fully supported, updated and enforced by the respective Working Groups at IMBB, in association with the respective EU-Life Alliance teams. Training events to disseminate good practices and procedures in research will be encouraged and supported.

Young Investigators Mentoring & Career Track Scheme

In line with international and *EU-Life* practices, IMBB will adopt specific actions to support postdocs during their time in IMBB and towards their future career development whether that will be in academia or beyond. The IMBB mentoring and career track scheme (**MCTS**) for the next period has been designed to provide to all post docs and junior PIs with:

- (1) effective mentoring by senior current or past (alumni) IMBB members;
- (2) training opportunities so as to develop, in addition to research skills, broad competences (e.g., modern communication of science, networking, etc.) that will help them in their future career; and
- (3) a career track scheme to help motivated researchers to obtain an IMBB-funded position, that will facilitate their career development.

The whole process will be overseen by the MCTS Committee which will act as a contact point between post-docs and mentors.



Mentoring. PIs have a responsibility to ensure that post-docs carry out their research and complete their lab-tasks on time. In addition, within their role they should support researchers to their professional and career development. During the mentoring process, more experienced members of IMBB staff (mentors) will share knowledge, experience and wisdom to guide junior researchers

(mentees) to become more effective in their role in IMBB as well as support them to plan and review future career options. The mentoring scheme will be implemented primarily through the following steps:

1. Regular face-to-face meetings between the mentor and mentee
2. Discussion of mentee's Individual Development Plant (IDP) and career plan
3. Discussion on required skills and action plan to achieve goals

Training courses. IMBB recognizes the need to provide young researchers with broader training and career development skills in addition to the research-oriented/technical ones that they typically receive. For this reason, a number of training courses and workshops will be provided covering topics such as managerial and leadership qualities, grant and scientific writing and presentation and communication skills. Postdoctoral researchers will discuss with their mentors on which skills they should develop in order to become more efficient in the current position and be better prepared for their future career.



Career track scheme. Through the career track scheme, an opportunity may arise (subject to available funds and legislation) for supporting the very best and motivated post-docs by offering a Research Associate Fellows (RAF) position, previously introduced by the former Director Iannis Talianidis. Additional IMBB funded positions may also be developed to help young investigator progress their careers towards alternative directions (such as Project Management, Scientific Communication, Research Fund Raising and Intellectual Property Management), while contributing to IMBB's mission.

Key Objectives (performance indicators) for 2022-2025 (Goal 3):

- Full implementation and compliance of best procedures and practices.
- Full implementation of mentoring and career track program
- Improved gender balance/equality indicators.
- Improved rates of former IMBB young investigator employment in relevant sectors

Key Objectives (performance indicators) for 2022-2025

(Goal 1):

- Maintain and improve research impact based on ERC evaluation standards (DORA)
- Maintain and increase annual research grant and contract income
- Promote and ensure sustainability

(Goal 2):

- More common facilities fully operated within Research Ecosystem (FORTH-UoC)
- More communication platforms (active thematic clubs etc) and collaborative projects within Research Ecosystem (FORTH-UoC)
- Updated and upgraded postgraduate program; more international students and young investigators at IMBB

(Goal 3):

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- Full implementation of mentoring and career track program
- Improved gender balance/equality indicators.
- Improved rates of former IMBB young investigator employment in relevant sectors

Milestone

IMBB's 40th anniversary in 2023:

- Showcase our past achievements
- Signal our plans to increase impact in Research, Education and Society
- Broaden and deepen our excellence and sustainability