



# Call for Trainees for the Third International Training Course on Industrial Synthetic Biotechnology

## 1. Background

Synthetic biology is widely regarded as a forward-looking and disruptive technology. The industrial application of synthetic biology is expected to provide new solutions to the major challenges being faced by people around the world related to conservation of resources, health and environment. The Tianjin Institute of Industrial Biotechnology (TIB), Chinese Academy of Sciences (CAS), committed to promoting eco-friendly development in industrial sectors through innovative biotechnology, is a leading institute in the field of synthetic biology and green biomanufacturing of China with state-of-the-art facilities. TIB, as a Centre of Excellence of the Commission on Science and Technology for Sustainable Development in the South (COMSATS), is hosting the COMSATS Joint Centre for Industrial Biotechnology (CCIB) at Tianjin. Previously, TIB organized two editions of the International Training Course on Industrial Synthetic Biotechnology (ITC-ISB) in 2019 and 2021, during which collectively over 100 researchers and young scholars from about 20 countries were trained. The trainings helped improve the innovative capacity of the trainees in the areas of industrial biotechnology and synthetic biology, and led to a series of collaborations. With the aim of further enhancing the capacity of researchers and scientists in the field of industrial synthetic biotechnology, and to explore further collaborations, TIB in collaboration with its partner organizations, is going to organize the 3<sup>rd</sup> ITC-ISB during December 2022.



## 2. Contents

The training course will focus on the theory, practice and application of industrial synthetic biotechnology. The primary contents include:

- Technical courses: eminent experts and scholars from around the world will be invited to introduce the recent advances in frontier technologies involved in various areas, such as biomedicine, bio-agriculture, future food, bio-chemicals, bio-based materials, and bioenergy;
- Experimental courses: experiments of enabling technologies will be demonstrated, including High Throughput Genome Editing, Systems Biotechnology, Protein Structure Analysis, DNA Synthesis, Bio-design and Intelligent Fermentation Technology;
- Industrial courses: founders of outstanding startups will be invited to share the applications and market prospects of synthetic biology in related industries;
- Invited lectures: the training course will invite related international organizations and funding agencies to introduce the new opportunities for scientists and researchers, such as support for international cooperative projects, trainings and fellowships for young talents;
- Interactions: trainees' introduction and discussions for potential cooperation, etc.

## 3. Tentative Agenda

The tentative agenda of the training course, provisionally planned to be held during 12-23 December 2022, is as follows:



Days	Beijing Time (GMT+8)	Contents
Day 1	14:00-14:30	Trainee check-in and device tuning
	14:30-15:00	Opening Ceremony
	15:00-16:00	Invited Lectures
	16:00-17:30	Keynote Course: Introduction to Industrial Synthetic Biotechnology
	17:30-18:30	Online Visit to TIB
Day 2	14:00-18:30	Technical Courses, Session 1: Frontier technology progress on biomedicine
Day 3	14:00-18:30	Technical Courses, Session 2: Frontier technology progress on bio-agriculture
Day 4	14:00-18:30	Technical Courses, Session 3: Frontier technology progress on future food
Day 5	14:00-18:30	Technical Courses, Session 4: Frontier technology progress on bio-chemicals
Day 6	14:00-18:30	Technical Courses, Session 5: Frontier technology progress on bio-based materials
Day 7	14:00-18:30	Technical Courses, Session 6: Frontier technology progress on bioenergy
Day 8	14:00-18:30	Experimental Courses, Sessions 1-3: High Throughput Genome Editing, Systems Biotechnology, Protein Structure Analysis
Day 9	14:00-18:30	Experimental Courses, Sessions 4-6: DNA Synthesis, Bio-design, Intelligent Fermentation Technology
Day 10	14:00-18:30	Industrial Courses
Day 11	14:00-18:30	Group Discussions and Graduation Ceremony

*Note: Each session contains three lectures, including presentation and Q&A*

#### **4. Platform**

- The training course is intended to be held online via Tencent VooV platform.

#### **5. Costs**

- There is no training fee

#### **6. Eligibility Criteria**

- Enrollment regions: Researchers from the Belt and Road countries and beyond, especially those from ANSO members and COMSATS member countries



- Education background: Self-motivated young scientists/engineers having Ph.D. degree with more than 2 years of working experience in the field of biotechnology, particularly industrial biotechnology, microbiology, molecular biology, synthetic biology, bioinformatics, metabolic engineering, bio-catalytic engineering, fermentation engineering, bioprocess engineering, etc.
- Age limit: Generally, not more than 40 years (not more than 45 years with senior title)
- Language requirements: Proficiency in English

## 7. Application Documents

- Recommendation letters from the Principal Investigator and the head of International Cooperation Department of the candidates' organizations.
- A cover letter, stating the reasons for applying for the training, cooperation plans or request for potential collaborator through this training course, etc.
- Application form (attached)
- Brief introduction (template attached)
- C.V. in which selected publications must be mentioned
- Recent 2-inch full-faced and bareheaded electronic photo (preferably 3.5 x 4.5 cm)
- E-copy of the passport and previous Chinese visa, if available

## 8. Key Dates

- Deadline for Application: **November 10, 2022** (submission of the above-mentioned application documents through e-mail to [ccib@tib.cas.cn](mailto:ccib@tib.cas.cn))
- Notice of Acceptance: by November 20, 2022 over email



## 9. Organizers

- Tianjin Institute of Industrial Biotechnology (TIB), Chinese Academy of Sciences (CAS)
- Alliance of International Science Organizations (ANSO)
- Commission on Science and Technology for Sustainable Development in the South (COMSATS)

## 10. Supporters

- Department of International Cooperation, Ministry of Science and Technology, PRC
- CAS-TWAS Center of Excellence for Biotechnology
- Innovation Cooperation Center (Bangkok), CAS
- Tianjin Biotechnology Innovation and Development Co., Ltd

## 11. Contact Information

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