VACANCY NOTICE

POSITIONS AVAILABLE AT BIOFOUNDRY, ICGEB, NEW DELHI

Department of Biotechnology (DBT), Govt of India, has funded a Biofoundry project at ICGEB to perform AI-ML-guided strain engineering of yeast and *E. coli*. The following positions are available for the project initially for one year, which may be extended further based on the performance and the project's tenure. These are temporary project positions whose durations are only up to the tenure of the DBT-funded project.

1. **Project Scientist II -(5 positions)**

    (i) Position area – Computational Biology (PI – Dr. Dinesh Gupta)

    Job description:

    - Develop and implement computational pipelines for high-throughput omics data (e.g., genomics, transcriptomics, metabolomics)
    - Build and optimize machine learning models to guide strain design and pathway optimization
    - Integrate multi-modal datasets into cohesive systems biology models
    - Collaborate with wet-lab scientists to close the DBTL loop and improve biofoundry workflows
    - Contribute to software tool/database development, and presentations

    Qualifications:

    - Essential:
        - PhD in Bioinformatics/Computational Biology/ Systems Biology, Computer Science, or related field. Strong programming skills (Python, R, or equivalent)
        - Experience with multi-omics analysis, metabolic modelling
        - Experience of using or developing ML/AI techniques
        - Experience of Structural Bioinformatics, molecular modelling and running MD simulations
        - Familiarity with synthetic biology concepts and genome engineering
        - Excellent communication and collaboration skills
        - Publications in the above mentioned experience areas
    - Desirable:
        - Experience of working in a biofoundry project or synthetic protein design, bioprocess optimization.
        - Experience of working in a HPC environment

    (ii) Position area – Systems Biology (PI – Dr. Shireesh Srivastava)

    Job description: The position involves computational design and analysis of metabolic pathways in *E. coli* and yeast using methods of metabolic systems biology such as Flux

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Balance Analysis, Computational Biology tools, and Integration of Omics data. The candidate will also be responsible for timely conduct of analyses and preparation of reports, maintenance of computers, software and databases related to the project, and participation in training activities conducted by the group.

Qualifications: Ph.D. in Biotechnology, Computational Biology, Chemical Engineering or related fields. Candidate must be well versed in Windows and Linux-based operating systems and have prior experience in computational analyses. Candidates with prior knowledge of MATLAB, Metabolic modelling and analysis, Metabolic databases, COBRA toolbox, Omics data analysis will be preferred.

(iii) Position area - Functional genomics (PI – Dr. Pavan Jutur)

Job description: This position involves a motivated functional genomics expert to design and execute experiments unraveling gene function within our biofoundry. The role heavily involves integrating and analysing multi-omics data to optimise strain engineering, collaborating with biologists and data scientists for accelerated R&D.

Qualifications: Ph.D. in Biotechnology, Life Sciences, or a related field with at least 3 years of experience is required. Mandatory experience handling microbial strains, with knowledge in omics biology.

(iv) Position area – Yeast engineering (PI -Dr. Naseem Gaur)

Job description: The candidate will be responsible for developing genetically engineered yeast strains as per the project requirements. This will involve synthetic biology and metabolic engineering approaches to build the customised engineered yeast strains as a chassis for biomanufacturing.

Qualifications: Ph.D. in Biotechnology or related field with 3 years of experience. Candidates with a strong molecular biology background, analytical skills, and critical thinking ability will be preferred.

(v) Position area – *E. coli* engineering (PI – Dr. Shams Yazdani)

Job description: The work will involve engineering the genome of *E. coli* for producing various fuels and chemicals. The metabolic pathway design, synthesis, assembly and integration in the genome with the help of various genetic/genome engineering tools will be the major part of the project. Protein engineering, wherever needed, will also be involved in the project.

Qualifications: Ph.D. in Biotechnology or related field with 3 years of experience. The candidate with strong molecular biology, synthetic biology, genome engineering, and metabolic engineering will be preferred.

Salary – Rs 67,000 per month + HRA

2. **Project Associate II (2 positions)**

   (i) Position area – Yeast Engineering (PI – Dr. Naseem Gaur)

   Job description: The candidate will be responsible for executing molecular biology and biochemical experiments related to the development of genetically engineered yeast strains and the bioprocess development of engineered yeast strains for product formation.

   Qualifications: M.Sc./M.Tech in Biotechnology or a related field with 2 years of experience

   (ii) Position area – *E. coli* Engineering (PI – Dr. Shams Yazdani)

   Job description: Design and construction of pathway genes in *E. coli*

   Qualifications: M.Sc./M.Tech in Biotechnology or related field with 2 years of experience

   Salary – Rs 35,000 per month + HRA

3. **Project Associate I (2 positions)**

   (i) Position area – Yeast Engineering (PI - Dr. Naseem Gaur)

   Job description: The candidate will be responsible for executing molecular biology and biochemical experiments related to the development of genetically engineered yeast strains and the bioprocess development of engineered yeast strains for product formation.

   Qualifications: M.Sc./M.Tech in Biotechnology or a related field

   (ii) Position area – *E. coli* Engineering (PI - Dr. Shams Yazdani)

   Job description: Construction and testing the engineered *E. coli* for product formation via various analytical techniques.

   Qualifications: M.Sc./M.Tech in Biotechnology or related field

   Salary – Rs 31,000 per month + HRA

4. **Project Manager (1 position) (PI – Dr. Ramesh Sonti)**

   Job description: Managing the Biofoundry project

   Qualifications: PhD in Science or ME/MTech with 5 years of experience

   Salary – Rs 1,25,000 per month (Consolidated)

5. **Administrative Assistant (1 position) (PI – Dr. Ramesh Sonti)**

   Job description: Administrative support to the Biofoundry project

Qualifications: BSc or BA in any discipline

Salary – Rs 18,000 per month + HRA

6. **Technical Manager (2 positions)**

   (i) Position area – Yeast Engineering (Dr. Naseem Gaur)

   Job description: Technical support to Scientific staff members

   Qualifications: BSc or 3yr Diploma in Engineering & Technology

   (ii) Position area – *E. coli* engineering (Dr. Shams Yazdani)

   Job description: Maintaining analytical equipments

   Qualifications: BSc or 3yr Diploma in Engineering & Technology

   Salary – Rs 20,000 per month + HRA

7. **Lab Assistant (1 position) (PI – Dr. Ramesh Sonti)**

   Job description: Lab inventory maintenance, glassware/plasticware cleaning, etc

   Qualifications: BSc in any field

   Salary – Rs 20,000 per month + HRA

Interested candidates should email their latest curriculum vitae and cover letter (Cover letter must mention pertinent skills) with a detailed description of relevant experience to icgeb.biofoundry@gmail.com with Subject "Application for <name of the position> <(name of the PI)> Position". Only short-listed candidates will be contacted for an interview.

Closing date for applications: 16th June 2025