Project Details

Project Title: Automated cartridge-based molecular assay for the screening and confirmation of Tuberculosis infection from saliva samples.

Project Summary:
Tuberculosis (TB) continues to pose a significant and urgent global health challenge, with a devastating toll of 1.6 million deaths reported in the year 2021 alone. The critical need to address this disease is further underscored by the imperative of early identification of TB cases. This early diagnosis is essential not only for the prompt initiation of treatment but also for effectively curtailing its transmission within communities. In the pursuit of tackling this pressing public health issue, we are excited to announce an exceptional opportunity for a Ph.D. candidate to join our research team. The primary focus of this doctoral project is the development of a cutting-edge molecular assay that promises rapid and accurate diagnosis of Tuberculosis.

Link to Project Details: https://journals.plos.org/globalpublichealth/article?id=10.1371/journal.pgph.0001754

Ph.D. Supervisors

<table>
<thead>
<tr>
<th>Role</th>
<th>Name of Faculty</th>
<th>Academic Unit in IITD/Institute/University</th>
<th>Email ID (Official)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor 1</td>
<td>Dr. Ravikrishnan Elangovan</td>
<td>Department of Biochemical Engg and Biotechnology</td>
<td><a href="mailto:elangovan@dbeb.iitd.ac.in">elangovan@dbeb.iitd.ac.in</a></td>
</tr>
<tr>
<td>Supervisor 2</td>
<td>Prof Vivekanandan Perumal</td>
<td>Kusuma School of Biological Science</td>
<td><a href="mailto:vperumal@bioschool.iitd.ernet.in">vperumal@bioschool.iitd.ernet.in</a></td>
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Project requirements (Student qualifications, experience required, etc)
*The candidate will be shortlisted based on common shortlisting criteria decided by ScRC (SIRe)*

M. Sc. In biology or M.Tech Biotechnology

If you are a driven and highly motivated individual with a passion for biotechnology, a keen interest in addressing global health challenges, and a commitment to making a meaningful impact, we encourage you to apply. This Ph.D. opportunity offers a unique platform for research, innovation, and the advancement of scientific knowledge with real-world implications in the battle against Tuberculosis.

The prospective candidate for this Ph.D. position should ideally possess a background in Biotechnology and demonstrate a strong track record in various aspects:

**Academics:** A solid academic foundation in Biotechnology or related fields is a prerequisite. The successful candidate should have excelled in coursework related to molecular biology, genetics, and biotechnological techniques.

**Research Experience:** We seek candidates who have actively engaged in research activities, preferably in areas relevant to molecular diagnostics, infectious diseases, or biotechnology-driven innovations. Previous research experience will be highly valued.

**Experience in Industry/Innovation:** While academic research is essential, candidates with exposure to the industry or innovation sector will have a distinct advantage. Practical experience in translating research into tangible solutions or products is desirable.

Source of fellowship/funding
(CSIR/UGC/DBT/ICMR/ICAR/NEET-PG/DST-INSPIRE/IRD/FITT Project details, if any)

Own Fellowship

Role of Faculty Members involved:
<table>
<thead>
<tr>
<th>Supervisor-1</th>
<th>Dr. Ravikrishnan Elangovan Lab: Dr. Ravi will be mentoring student in development of automated cartridge for respiratory viral detection.</th>
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<tbody>
<tr>
<td>Supervisor-2</td>
<td>Dr. Vivekanandan Perumal Lab: Dr Vivek will be mentoring student in development of PCR assay protocols and probes</td>
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