



# INDIAN INSTITUTE OF TECHNOLOGY GANDHINAGAR

Research & Development Office

## **ADVERTISEMENT NO. SPON/10455/Advt0289 DATED 04.08.2026**

Applications are invited for a temporary position of **Project Engineer (Modeling & Simulation)** at IIT Gandhinagar.

The details are as below:

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| Name of PI                          | Prof. Nihar Ranjan Mohapatra                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Department | Electrical Engineering |
| Project title                       | Silicon and Advanced Semiconductor Manufacturing Research and Training Hub (SAMARTH)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                        |
| Designation                         | Project Engineer (Modeling & Simulation)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |                        |
| Number of positions                 | One                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |                        |
| Application Link                    | <a href="http://recruitment.iitgn.ac.in/projectstaff/">http://recruitment.iitgn.ac.in/projectstaff/</a><br><br>Applicants must submit the following documents as part of their application:<br><br><b>1. Curriculum Vitae (CV)</b><br><br>The CV should clearly include: <ul style="list-style-type: none"><li>• Educational qualifications, including degrees, institutions, year of graduation and CGPA/grades.</li><li>• Details of relevant academic, research and industry projects.</li><li>• Technical expertise and tool experience.</li><li>• Professional experience, including internships or full-time employment (if applicable).</li><li>• Publications, patents, open-source contributions, technical reports, or other notable academic/professional achievements (if applicable).</li><li>• Awards, scholarships, certifications, and other accomplishments relevant to the position.</li></ul> <b>2. Statement of Purpose (SOP) (1–2 pages)</b><br><br>The Statement of Purpose should address the following: <ul style="list-style-type: none"><li>• Your motivation for applying for this position.</li><li>• Your prior experience and expertise relevant to the role.</li><li>• How your technical skills, research experience, and career aspirations align with the objectives of the SAMARTH program at IIT Gandhinagar, and how you envision contributing to its research and workforce development activities.</li></ul><br>Your long-term career goals and how this position will help you achieve them. |            |                        |
| Last date of application submission | 23 <sup>rd</sup> August 2026                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                        |
| Consolidated Monthly Remuneration   | ₹60,000/- to ₹1,25,000/- per month (based on the qualification)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                        |
| Duration of appointment             | One year, extendable based on satisfactory performance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |                        |

-Merely meeting the minimum eligibility criteria will not guarantee the shortlisting and/or appointment. A higher cutoff level may be used. The Institute reserves all rights, not to call an applicant for a selection test or not to fill up a position through this round of selection process without assigning any reason.



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| Eligibility Norms <sup>1</sup> | <input checked="" type="checkbox"/> Institute norms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/> Funding Agency norms |
| Age Limit                      | As per requirement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                               |
| Required Qualification*        | <p>Ph.D. or equivalent in the appropriate branch with a very good academic record throughout.</p> <p><b>OR</b></p> <p>M.Tech./M.S. or equivalent qualification in an appropriate discipline with a minimum of 02 years of post-qualification experience in Teaching/Research/Industrial/Design in an organization/Industry of repute.</p> <p>The percentage/grade points with respect to the academic qualifications will be a minimum of 60% or equivalent grade from Graduation onwards and 55% or equivalent grade in class 10<sup>th</sup> and 12<sup>th</sup>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                               |
| Key Responsibilities           | <ul style="list-style-type: none"><li>• Conduct research and development in semiconductor process and device simulation with emphasis on advanced CMOS technologies, memory devices, power devices and emerging semiconductor materials.</li><li>• Develop TCAD process and device simulation flows for semiconductor fabrication processes, including lithography, deposition, etching, oxidation, diffusion, implantation and annealing.</li><li>• Perform electrical characterization and simulation of semiconductor devices to evaluate performance, variability, reliability and process sensitivities.</li><li>• Develop and implement physics-based, compact and data-driven models for semiconductor process and device optimization.</li><li>• Work on computational lithography, plasma/process modeling and multiscale process–device–circuit co-optimization, as appropriate to project requirements.</li><li>• Develop simulation methodologies using machine learning and artificial intelligence to accelerate semiconductor process and device design.</li><li>• Collaborate with faculty, researchers and industry partners to execute sponsored research and technology development projects.</li><li>• Assist in establishing and maintaining simulation workflows, software infrastructure, and research databases within SAMARTH.</li><li>• Mentor research scholars and students working on semiconductor simulation and modeling projects.</li><li>• Support proposal preparation, industry collaborations, and technology transfer activities under the SAMARTH program.</li></ul> |                                               |

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| Preferred Skills | <ul style="list-style-type: none"><li>• Hands-on experience with TCAD simulation tools such as Synopsys, Silvaco or equivalent semiconductor simulation platforms.</li><li>• Experience in one or more of the following areas: Semiconductor process simulation, Device simulation and modeling, Computational lithography (OPC, SMO, ILT), Plasma and feature-scale process simulation, Process integration and variability analysis</li><li>• Programming proficiency in Python, MATLAB, C/C++, or similar scientific computing languages.</li><li>• Familiarity with machine learning, data analytics, and AI techniques for semiconductor process and device optimization.</li><li>• Strong analytical, problem-solving and numerical modeling skills.</li><li>• Experience working in multidisciplinary research teams and collaborating with industry partners.</li><li>• Excellent technical writing and presentation skills, with the ability to prepare research publications, technical reports, and project documentation.</li><li>• A strong motivation to contribute to India's semiconductor ecosystem through advanced research, technology development, and innovation.</li></ul> |
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**For Query, Please Contact**  
**Prof. Nihar Ranjan Mohapatra**  
**nihar@iitgn.ac.in**

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