భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
కంది – ౫౦౨ ౨౮౪, సంగారెడ్డి, తెలంగాణ, భారత దేశం
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
कंदी – ५०२ २८४, संगारेड्डी, तेलंगाना, भारत
Indian Institute of Technology Hyderabad
Kandi – 502 284, Sangareddy, Telangana, INDIA

# Advertisement for four fully-funded postdoctoral positions (rolling adverstisement)

Applications are invited from strongly motivated candidates with excellent academic credentials for Postdoctoral (Research Associate) positions in a multi-departmental DRDO-sponsored research project. IIT Hyderabad is aiming to create a multi-disciplinary team of students and post-docs to work in the broad area of melt-spinning of polymeric jets/fibers. Candidates looking to work in a collaborative environment in a multidisciplinary area should find this project appealing.

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| **Title of the Project** | Modelling and establishment of various process parameters for PCS fibers and modelling of PCS-SiC conversion process |
| **Project PIs** | Dr. Harish N Dixit (MAE), Dr. Satyavrata Samavedi (CHE), Dr. Balaji Iyer (CHE), Dr. Lakshmana dora Chandrala (MAE), Dr. Alan Jacob (CHE), Dr. Mahesh Ganesan (CHE), Dr. Prakhar Gupta (MAE) |
| **Departments** | Mechanical and Aerospace Engineering, and Chemical Engineering |
| **Post** | Research Associate or Postdoctoral Fellow |
| **Fellowship** | Rs. 58,000/- per month + 24% HRA |
| **Posts** | 4 |
| **Tenure** | Initially for a period of one year, and extendable for an additional two years based on performance |

**Application Process:**

- Eligible applicants should apply by filling their details in this Google Form.
- No email applications will be accepted.
- If you have any questions before filling the form, send an email to melt.spin@mae.iith.ac.in

**Selection:**

- This is a rolling advertisement; the PIs will evaluate and shortlist the applications received every 15 days until suitable candidates are selected.
- Candidates will be shortlisted based on their academic record/achievements and only shortlisted candidates will be intimated via email for an online interview with the selection committee.
- Joining will be immediate after selection.
- Please note that merely meeting the minimum criteria does not guarantee a call for an interview. The position will be left vacant if no suitable candidate is found.

| Description of the positions: |
|---|
| **Postdoc Positions - 1,2:** Conduct melt-spinning experiments with *in situ* visualization and rheological characterization<br><br>We are looking to hire two RAs for the above task who will work collaboratively in developing a melt-spinning setup, conduct melt spinning experiments and make rheological measurements. The data generated in this role will be used by other RAs and PIs for developing melt rheology models and CFD validation.<br><br>**Minimum Qualifications:** Candidate should have a PhD in Chemical Engineering/Mechanical Engineering/Applied Mechanics/Physics/Polymer engineering and allied areas. Candidates who have submitted their thesis and are awaiting defense can also apply.<br><br>**Expertise in one or more of the following skill set is expected:** Experience with building experimental setups, familiarity with experimental flow visualization such as back-lit imaging, shadowgraphy, real-time visualization of flow, polymer rheology, polymer characterization (DSC, TGA, etc.).<br><br>**Desirable:** Experience with fabrication, experience with image processing, familiarity with fiber spinning technologies, knowledge of CAD. |
| **Postdoc Position - 3:** Develop molecular constitutive relations for polymer melt rheology<br><br>We are looking to hire one RA for this task who will work collaboratively in developing molecular constitutive models and conduct simulations of curing/pyrolysis. The RA will work closely with the rheology team and melt-spinning team and provide the theoretical support for the project.<br><br>**Minimum Qualifications:** Candidate should have a PhD in Chemical / Mechanical Engineering / Applied Mechanics / Physics and allied areas. Candidates who have submitted their thesis and are awaiting defense can also apply.<br><br>**Expertise in one or more of the following skill set is expected:** Experience with multiscale and multiphysics simulation, experience with handling parallelized C and Python codes.<br><br>**Desirable:** Candidates with a proven track record of developing their own C and Python codes are particularly encouraged to apply. An understanding of the theoretical underpinnings of rheology, DSC and GPC. |

**Postdoc Position - 4:** Conduct CFD simulations and develop 1D theoretical models

We are looking to hire one RA for this task who will work collaboratively in developing CFD and 1D models of single and multi-nozzle fiber spinning, and actively collaborate with the rheology team and melt-spinning team to validate and improve the model.

**Minimum Qualifications:** Candidate should have a PhD in Chemical Engineering/Mechanical Engineering/Applied Mechanics/Physics. Candidates who have submitted their thesis and are awaiting defense can also apply.

**Expertise in one or more of the following skill set is expected:** Experience with developing CFD codes, preferably multiphase codes, experience in running opensource CFD codes such as OpenFOAM or Basilisk.

**Desirable:** Strong foundations in fluid mechanics and knowledge of two-phase flow simulations, Matlab and/or Python.