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Applications are invited for the position of **Junior Research Fellow** on a research project sponsored by the Science and Engineering Research Board (SERB). The background and details of the project are given below:

General Background

Our research group works on the development and characterization of advanced energetic nanomaterials for next-generation propulsion and energy-conversion applications. We work on problems of practical importance, but the focus is placed on fundamental sciences. We do high-fidelity modelling and simulations that span a wide range of scales, from atomistic to meso- and macro scales. Almost all theoretical studies are done in companion with experimental studies or in the context of experimental data to ensure the validity of the developed model.

Brief Description of Project

We are working on a sponsored research project with the goal of developing an accurate heat transfer model for metal nanoparticles and develop a predictive model of oxidation of metal nanoparticles. The project will involve atomistic-scale simulations (such as molecular dynamics simulations) to study heat transport between metal nanoparticles and ambient gases in the free-molecular regime at molecular scales. Results obtained from MD simulations will be used as inputs for the development of meso/macro-scale models of ignition and combustion metal nanoparticles.

Who Should Apply?

We are looking for **sincere, self-motivated, intelligent, and hardworking** individuals to join our group. A B.E./B.Tech. degree (with NET/GATE score) or M.Tech degree in Mechanical Engineering or allied branches is required. A **strong interest in and understanding of fundamental sciences** is required. **Familiarity with computer programming, molecular dynamics simulations, and LAMMPS package is highly preferred.** We are looking for a holistic application with strong fundamentals, good communication skills, and professional work ethics. Application must be submitted by **May 12, 2019**.

Details of position

Salary will be Rs. 31,000 per month. The appointment period is 5 months.

Where to apply?

You can apply online by clicking the following URL:

<https://forms.gle/H3PJ3uYVuUN7e2yD9>

If the URL does not work, please copy-paste it to your web browser. Please make sure that you answer all the questions completely.