

San José State University Research Foundation

Position: Post-Doctoral Research Associate:
Molecular Dynamics

DEPARTMENT: Chemical and Materials Engineering

**IMMEDIATE
SUPERVISOR:** Project Director

POSTING DATE: June 28, 2022

POSITION START DATE: September 1, 2022

SALARY: \$28.84 per hour

EXEMPT STATUS: Hourly, Full-Time, Benefited, 12-month position with possibility of reappointment upon grant renewal.

GENERAL NATURE OF POSITION

Dr. Keles' research group at San José State University is looking for a creative, enthusiastic, and independent post-doctoral research associate up to 3.5 years. The post-doctoral research associate will coordinate and provide weekly updates on molecular dynamics simulation set up of thermosetting nanocomposites containing quantum dots, synthesis simulations, mechanical testing simulations, and related analyses of molecular structural changes. The post-doctoral researcher will also write manuscripts, travel for presentations, and disseminate open-source MD scripts.

ESSENTIAL DUTIES & RESPONSIBILITIES

1. Set up and perform MD simulations to reveal the molecular scale changes in quantum dot nanocomposites under mechanical loads.
2. Write and submit manuscripts.
3. Present at national and international conferences.
4. Work with MS students and provide simulation feedback to guide experimental research.

INTERPERSONAL CONTACTS

The post-doctoral research associate: molecular dynamics is part of the department of chemical and materials engineering at SJSU and the candidate will interact regularly with other engineers and collaborators.

SUPERVISORY RESPONSIBILITIES

None.

QUALIFICATIONS

Education and Experience

- PhD degree in materials, mechanical, aerospace, polymer engineering, or a related field.
- Molecular dynamics (MD) shown as published papers related to reactive force fields, thermoset curing, MD mechanical testing, and analyses is preferred.
- Other preferred experiences include nanocomposites, fracture mechanics and AI/ML concepts.

Knowledge, Skills, Abilities Required

- Preferred expertise in LAMMPS and ReaxFF.

Complexity of Duties

- N/A

Physical Requirements

- N/A

NOTE: This position description intends to describe the general nature and level of work being performed by people assigned to this job. It is not intended to include all duties and responsibilities. The order in which duties and responsibilities are listed is not significant.

BENEFITS

The San José State University Research Foundation (SJSURF) provides excellent benefits package to benefited employees. **The comprehensive benefit package includes:**

- a) Nine company subsidized CalPERS health insurance plans to choose from (employee contributions differ according to plan and level of coverage).
- b) Employer paid dental and vision for both employee and eligible dependents.
- c) Life, AD&D, LTD with supplemental coverage opportunities.
- d) 14 paid federal & state holidays.
- e) Retirement Plan: 403 (b) employee contribution plan component and a 403 (b) employer contribution component, which vests immediately.
- f) Vacation hour accruals and separate sick hour accumulations.
- g) Employee discounts.

Please visit the [Benefits & Compensation page](#) on the SJSU Research Foundation website for more detailed information.

COVID-19 VACCINATION POLICY

As required by the CSU Vaccination Policy, all new hires must be fully vaccinated against COVID-19 starting on September 30, 2021. Fully vaccinated means it has been 14 days after the second dose of the Pfizer or Moderna vaccine has been given, or it has been 14 days after the one dose of the J&J vaccine has been given. Additionally all employees are required to have booster shots and provide proof to SJSU by 02/28/2022 or after the six months from the final dose of the original vaccination, whichever is later. Proof of being fully vaccinated does not need to be disclosed until a job offer has been made, and proof must be submitted after the acceptance of the job offer. New hires may request a reasonable accommodation of the COVID-19 vaccination requirement based on medical or religious reasons. New hires must submit their request for an accommodation form

after they accept the job offer, and before their scheduled start date. The reasonable accommodation provided to the employee, if any, will depend on the employee's job and the applicable facts, but it may include weekly COVID-19 testing. New hires who do not submit, before their scheduled start date, proof of being fully vaccinated or a request for reasonable accommodation will have their job offer revoked.

APPLICATION PROCEDURE

To apply for this position, an applicant must submit a formal application for employment, as well as a resume, and a cover letter. The formal employment application is located on the SJSURF website on the [Forms page](#). **All candidates must submit their application materials to foundation-jobs@sjsu.edu. Please add **PD MD** to the subject line of the email.**

A background check (including a criminal records check) must be completed satisfactorily before any candidate can be offered a position with the SJSURF. Failure to satisfactorily complete the background check may affect the application status of applicants or continued employment of current SJSURF employees who apply for the position.

REASONABLE ACCOMODATION

The San José State University Research Foundation (SJSURF) is committed to providing access, equal opportunity, and reasonable accommodation for individuals with physical or mental disabilities in the employment, recruitment, examination, hiring and interviewing processes. If you are a job seeker with a physical or mental disability and require a reasonable accommodation to search, apply, or interview for a job opening or otherwise need a reasonable accommodation during the application and hiring process, please contact us at foundation-jobs@sjsu.edu. In the email message, please indicate your full name, phone number and the type of assistance required. You must not reveal the underlying medical reason for your needed reasonable accommodation or otherwise disclose confidential medical information.

ABOUT THE SJSU RESEARCH FOUNDATION

SJSURF employment is separate and distinct from San José State University or state of California employment. SJSURF employees are not employees of SJSU or of the state of California.

SJSURF is a non-profit auxiliary of San José State University. SJSURF is totally self-supported. The majority of the organization's funding comes from the federal government, and other public and private entities. With annual revenues totaling over \$65 million, programs managed through SJSURF cover a rich diversity of applied research, public services, and educational related activities.

SJSURF is an equal opportunity employer and does not discriminate on the basis of race, color, creed, gender, religion, marital status, registered domestic partner status, age, national origin, ancestry, physical or mental disability, medical condition, sex, genetic information, sexual orientation, military and veteran status or any other consideration made unlawful by federal, state, or local laws. It also prohibits unlawful discrimination based on the perception that anyone has any of those characteristics, or is associated with a person who has or is perceived as having any of those characteristics.