Research Scientist: Molecular Dynamics

(Actual position will be determined based on qualifications)

UST Corporation, a biotech company, headquartered in Greater Boston with a branch in San Diego, **is looking for an outstanding computational biophysicist to join our R&D team in Boston. He/she will lead the company's efforts at molecular modeling and simulation of biomolecular systems. A successful candidate should have at least four years hands-on experience on computational structural dynamics of proteins and their complexes using different molecular simulation techniques. This position is a unique opportunity to work on the development of a very advanced DNA sequencing system.**

Specific Requirements

Desired Skills:

- **Strong background in biophysics, biochemistry and computational simulation as well as statistics, thermodynamics, quantum mechanics (QM) and hybrid QM/molecular mechanics (MM)**
- **Extensive knowledge of DNA and protein structures, including X-ray and NMR techniques**
- **Hands-on experience on molecular dynamics simulation with expertise in commonly used MD force fields, and coarse-grained elastic network models for sampling molecular intrinsic motions**
- **Hands-on experience on one or more common software package, such as MAPS, Abalone, Ascalaph Designer, LAMMPS, HyperChem, Discovery Studio, Culgi, COSMOS.**
- **Hands-on programming and scripting experience with C/C++/C#, Java, Python, etc.**
- **Strong analytical and quantitative skills, able to analyze experimental data using statistical and machine learning methods and compare with numerical simulation data**
- **Cloud Computing experience with AWS, GCP and Azure a plus**

Duties and Responsibilities:

- **Perform numerical modeling and simulation of biopolymers using a commercially available MD simulation software package, interacting with external experts and internal software group for the design, development and improvement of simulation code**
- **Work with experimentalists and product manager for the optimization of product and process designs, providing the simulation data for the development of products**
- **Work with software group for data acquisition and analysis software development**
- **Help scientists and engineers troubleshooting and resolving complex problems using numerical methods, improving their experiment design and output**
- **Other work/project assignments as required**

Qualifications:

- **Advanced degree in biophysics or computational physics/chemistry or related scientific discipline; PhD desired.**
- **Minimum 4 years of substantial experience in molecular dynamics (MD) and Monte Carlo (MC) simulation of biomolecules, preferably proteins and**

their complexes, familiar with common molecular dynamics simulation software packages

- **Excellent oral and written communication skills and a productive team player.**

Interested candidates please submit your updated resume with a cover letter as well as a list of at least three references to info@ustcorporation.com