

## **Reactor Research and Development Intern @ Monolith, San Carlos, CA, United States**

**Location:** San Carlos, CA

**Position:** Reactor Research and Development Internship

**Experience:** Student (College)

### **Description**

Monolith, headquartered in Lincoln, NE, is excited to announce its search for a Reactor Research and Development Intern.

At Monolith we apply scientific principles, engineering practices and a lot of hard work to solve real problems that have a global impact. We use sophisticated analysis methods, advanced manufacturing techniques, and often even our hands to build first of its kind technologies. We do not compromise on safety, quality, or performance. If you want to solve tough problems, build real things, and have a big impact then you should join us.

### **Your Role:**

R&D development of GEN 2 core reactor technology requires experimental and computational efforts to understand the effects of increasing reactor pressure on carbon black quality, hydrogen and carbon black yield and methane conversion. Without such efforts, the development of GEN2 technology will rely on extrapolation of Monolith reactor data from atmospheric pressure to 10 barg, which introduces a high level of design uncertainty and introduces unacceptable risk into the deployment roadmap. This position will support chemical mechanism development and validation

### **You Will:**

- Focus on accurately capturing chemical kinetics applicable across a wide range of temperatures, pressures, gas compositions, and apply these models using our suite of in-house tools and codes. These models will increase understanding of the GEN2 process space and aid in design requirements relating but not limited to reactor size, energy requirements, feedstock throughput, and recipe formulation. Data across many reactor size scales (MPT to OC1) will be utilized for validation.
- Support development of chemical kinetic schemes that are of value to CoreTech including validation, able to iterate and improve on the scheme and document appropriately
- Create and use computational scripting tools to perform this work and have experience with both prior to beginning
- Learn the value and use of theoretical and modeling tools industry and the unique distinction between academia and industry where modeling methods are simplified and/or tuned to meet the needs and pace in an industry-environment
- Perform other duties as needed

### **You Are:**

- Committed to our values

- Safety matters most
- Solve the impossible, embrace reality
- People make the difference
- Think like a team
- Decisions drive results
- Generosity of spirit
- Enjoy the ride

**You Have:**

- Completed at least 4 semesters of their 3-5 years in an accredited Mechanical, Chemical or Material Engineering program at PhD level
- Python experience
- Chemical kinetics mastery
- Strong foundations in physical chemistry and/or chemical engineering
- An equivalent combination of education and experience to successfully perform the job duties and responsibilities

**Work Environment:**

The majority of the tasks involved with this position are performed in an open office environment.

**Application process**

You can apply for this position [here](#).