



## Associate Researcher

### Position Summary:

An Associate Researcher is responsible for originations and creation of experimental plans and analyzing data within the Research & Development Department. Position will support projects within assigned area of discipline through innovative research.

### Essential Technical Responsibilities and Duties

- Work is directed by the group leader, director and VP of Research & Development.
- Routinely interact with other departments, with daily interactions in Plant Operations and Analytical to reach project and assignment completion.
- Research and test catalytic material for the conversion of biomass-derived compounds to value added products.
- Evaluate process configurations for the conversion of biomass derived carbohydrates to hydrocarbon fuels.
- Conduct catalyst lifetime testing, determine deactivation mechanism, and develop associated catalyst regeneration procedures.
- Broad understanding of pilot plant operations, including catalyst and condition testing, data collection and analysis, and operation troubleshooting .
- Prepare technical reports, summaries, protocols and quantitative analyses.
- Frequent presentations to the technical management
- May participate in scientific conferences and make contributions to publications and patents.
- Develop understanding of catalyst characterization techniques such as physisorption and chemisorption, spectroscopic characterization (e.g. infrared techniques), NMR, and elemental analysis.
- Understanding of catalytic systems applied to biomass-derived compounds or related materials.
- Proficiency with analyzing reaction kinetic data, including reaction kinetics modeling.
- Design and execute experimental plans.
- Prepare specifications for purchase of materials and equipment
- Prepare technical reports, summaries, protocols and quantitative analyses.
- May work independently or be involved in teams, which include participation from other departments.
- Work with Catalyst Group on synthesis and characterization of catalytic materials.
- Work with operations staff to ensure efficient and meaningful experiment execution. This will include periods of time directly operating pilot plants with new configurations and to troubleshoot existing operations.

### Minimum Education and Experience Requirements

**EDUCATION:** Bachelor of Science degree in Chemistry, Chemical Engineering or appropriate related field. **AND**

**EXPERIENCE:** Up to three years related experience or 1 year work experience in pilot plant operations. **AND**

### KNOWLEDGE/SKILLS:

Exhibits a keen understanding of chemical engineering fundamentals. Projects require familiarity with current scientific literature together with capability to select methods and techniques for obtaining solutions within broadly defined practices and procedures. Experience with catalyst synthesis and characterization, pilot plant operations, reaction kinetic testing and model development, catalyst lifetime testing, and analytical techniques (e.g. GC, HPLC, GCMS). Proficiency in Excel, Power Point, Word, and Outlook. Sharepoint experience preferred but not required. Aspen Plus or Unisim process simulation experience preferred.

### APPLICATION INSTRUCTIONS

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