

Job Title: Engineer, Research

Job ID : 1376

Closing Date : 04/24/2022

Job Category : Engineering

Location : Centre for Applied Research

Who We Are:

NOVA Chemicals develops and manufactures plastic resins and other petrochemical products that make everyday life safer, healthier and easier. Our employees take pride in our focus on safety and social responsibility by working together to ensure health, safety, security and environmental stewardship through our commitment to sustainability, ESG, and Responsible Care®. NOVA Chemicals, headquartered in Calgary, Alberta, Canada, is wholly-owned by Mubadala Investment Company of the Emirate of Abu Dhabi, United Arab Emirates.

NOVA Chemicals helps shape a world where products vital to our health and happiness are even better tomorrow than they are today. We are seeking talented and passionate people who enjoy working in a collaborative, innovative environment to join our dynamic team.

The Advanced Modelling team has an opportunity for a mechanical engineer with skills in Computational Fluid Dynamics (CFD) to help us investigate a diverse range of problems. The Advanced Modelling team is a collaborative group of accomplished engineers located at the NOVA Chemicals Centre for Applied Research in Calgary, AB. We provide mechanical and process engineering expertise to other research teams at our facility, to engineers from across NOVA Chemicals' petrochemicals and polyethylene manufacturing sites, and to TC Energy through an ongoing research contract. Our work ranges

- from short-term engineering support to long-term R&D programs,
- from analytical solutions to CFD simulations run on hundreds of cores,
- from non-Newtonian laminar flows to high-speed transonic gas flows,
- from steady flows to transient, oscillatory, and acoustic phenomena, and
- from single-phase flows to multiphase flows or flows with reaction/combustion.

You Will Use Your Expertise To:

Your primary responsibility will be simulating complex flows in industrial equipment to understand their physical behavior. You will use those modelling results and fundamental engineering analyses to evaluate or validate design alternatives, and to provide important recommendations to other teams.

Other responsibilities include:

- Identifying and suggesting improvements to modelling methods and industrial processes.
- Communicating with engineers from other teams and sites.
- Creating technical presentations and reports.
- Mentoring other team members.

What We Are Looking For:

- Mechanical, Chemical or equivalent engineering degree with an excellent academic record, minimum required experience: B.Sc. with 6+ years related experience, M.Sc. 3+ years related experience, or PhD. 0+ years related experience.
- Registration with the Association of Professional Engineers and Geoscientists of Alberta (APEGA), or equivalent regulatory body, is a requirement.
- Excellent understanding of mechanical engineering fundamentals with an emphasis on fluid mechanics, thermodynamics, heat and mass transfer, and numerical methods. NOTE: candidates will be tested on their fundamental understanding during the interview.
- Experience with CAD, meshing and solving complex CFD simulations using one or more of the following software ANSYS FLUENT, ANSYS CFX, STAR-CCM+, Rocky DEM, or custom codes.
- Extensive CFD experience solving industrial problems requiring in-depth knowledge of turbulent flows, compressible flows, multi-phase flows, reactive flows, fluidized beds, or flows with phase change will be considered an asset.
- Proficient in one or more scientific programming languages (e.g., Python, C/C++, Fortran, Julia, Matlab) will be considered an asset.
- The ability to work safely and effectively, both independently and as part of a team.
- Excellent oral and written communication skills.
- Well-developed critical thinking skills and an aptitude for thinking out of the box with a continuous drive to improve and a willingness to challenge the status quo.
- Experience initiating or leading projects, particularly R&D projects, will be considered an asset.
- Experience in petrochemical processes and pipeline industries will be considered an asset.

Please include a copy of your transcript, cover letter, resume and a list of your publications (all together as one document).

Additional Information:

- Relocation will be considered for this position.

- Compensation will be commensurate with education and experience.
- This role requires up to 10% travel.
- The successful candidate is required to provide proof of a valid driver's license.

Why NOVA Chemicals?

NOVA Chemicals' flexible benefit programs are designed to meet the diverse needs of our employees, because when it comes to benefits, everyone has different priorities. Our benefits offerings will vary based on your work location, and are an element of the "Total Rewards" package used to reward employees.

Check Us Out Online:

- Follow us on Twitter and Instagram for company news.
- Follow us on LinkedIn and Glassdoor for job updates.
- Read more on our Responsible Care® and sustainability initiatives like Project STOP.

All qualified applicants will receive consideration for employment without regard to age race, color, religion, sex, sexual orientation, gender identity, national origin, or disability.

Accommodations for job applicants with disabilities are available on request.

Please forward applications to:

Cristina Orta, P.Eng. | Team Leader | she/her

Advanced Modelling | NOVA Chemicals Corporation

Email: cristina.orta@novachem.com