

Chemical Systems Modelling researcher Chercheur modélisation des systèmes chimiques

VERI (Who we are)

Veolia Research and Innovation (VERI) is Veolia corporate research entity with projects in the water, waste and energy domains. Thinking that smart ideas can have their part in climate change mitigation and resource preservation for this planet, we provide innovative solutions to these key challenges.

At VERI, the **Modelling & Information Technologies Department** is a nodal centre when it comes to renewing our business with smart and digital initiatives. Acting as a catalyst in constant connection with our business units, the department put its mission on the fast delivery of high value and user-oriented services. Scope of actions ranges from bringing performance jumps to our core processes for water or waste treatment, enabling operation excellence by better planning or decisions, fostering new digital services to extend our traditional activities and business models.

The context (What you will contribute to)

As a researcher in chemical systems modelling in the **Modelling and Simulation lab**, you join multidisciplinary project teams collaborating with material scientists, process scientists, modeling engineers, project managers, experts in chemistry to lead advanced process studies, develop new knowledge on complex chemical systems or sustain the development of expert tools for process design for better recycling of valuable materials. You help to make circular economy a reality, with a strong focus on how advanced chemical knowledge can help to solve some of these key challenges.

The Job (What you will do)

As part of your missions as a researcher, you:

- Develop fundamental understanding of chemical systems of interest in our key activities and clients (municipal waste and wastewater treatment; mining, nuclear, food and beverage industries; ...) and design, discover, adapt chemical and process models for reactor or full process line
- Benchmark tools and methods from other industries and help to renew our engineering practices, by cross pollinating in-house expert groups, setting targets, leading proof of concept actions and demonstrating value.
- Initiate, develop and maintain chemical process engineering model libraries for Veolia key activities (waste recycling, industrial water, ...)
- Set up, instantiate and run simulations cases, analyse results with the project team, write studies report, present findings to various audience (intern and extern)
- Support scale-up actions from lab to industrial scales; participate in industrialization groups

- Create and maintain an excellent and efficient working relationship with other teams in VERI and Technical and Performance Directions and Business Units
- (Last but not least) develop an expert knowledge in mineral chemistry for saline solutions and precipitations related phenomenon, be part and grow a network of academic and private partners to bring refreshing ideas and collaborative projects to the group, become an internal referee on related topics, ensuring an active survey of innovations and new practices, participating in international expert groups and conferences

Depending on taste, ability and experience, you will progressively:

- Empower other VERI, Technical Direction and BU specialists to use simulation tools more broadly via technical support, teaching of tools; lead the group wide deployments and transfer of methods and tools.
- Become a technical leader for the development of innovative processes; ensure that project targets can be met in terms of budget, quality and timing and that the scientific challenges to be faced are realistic yet ambitious and that we are wisely exploring the alternatives paths; help to define technological roadmap for Veolia needs.

Expected Profile (Who we are looking for)

We hire people who are smart and determined, and we favor ability over experience

Competencies

You are a young doctor in chemical science, chemical systems engineering or geochemistry. You have a strong knowledge in everything relating to pH, activity corrections, precipitation processes. You have strong appetite for numerical simulation and model development and you have demonstrated capability to be efficient in some of these as part of your PhD work. You can script and will definitely continue to. Familiarity, if not yet expertise in the use of tools such as Chess, Phreeqc or equivalent will be clear advantage. Previous experience in process engineering skills, including transport phenomena, unit operations and/or reaction engineering could be nice but the decisive criteria will be on your potential and desire to address complex problems on chemical systems.

You have a clear and efficient communication style, orally as well as written. Fluency in English is required (writing technical reports and participation in technical or business meetings in an international context).

Attitude

You deeply think that models and engineering tools can be decisive for smarter engineering practices and you are willing to contribute to this vision. And of course, you know that going back and forth from theory to simulations without looking at the data and the experiments is worthless. You are not shy to try and attempt to find the right balance between scientific rigor and genuine exploration. Your entrepreneurial spirit could drive you to innovate in areas outside the job spec. You are flexible and pragmatic enough to adapt to market needs and projects evolutions. Your open mind will make it easy for you to integrate smoothly and contribute efficiently to multidisciplinary project teams. You are self-driven and team player as you think that great ideas comes where personal intuition meets group emulation.

Does it sound familiar to you?

These are very good news: we are looking for someone like you.

INTITULE DU POSTE : Chercheur modélisation des systèmes chimiques

SITE : Maisons-Laffitte

CATEGORIE : Cadre

RATTACHEMENT HIERARCHIQUE : Pôle Mécanique des Fluides et Modélisation des Systèmes

Contact : pascal.boisson@veolia.com ; référence JOB_MOD_012 ; joindre cv et lettre de motivation