



Position

Product specialist

Company profile

AVGI BVBA is a Belgian company that started as a spin-off of Ghent University, and whose main focus is on research aimed at the development of software for modelling petrochemical processes, and particularly steam cracking of hydrocarbons. Being this the most energy demanding process of the petrochemical industry, it is essential for designers, producers and operators to count on simulation tools that allow them to optimize the process, as this helps them to reduce emissions and improve their economics. The flagship product of AVGI is COILSIM1D, a software developed over several decades specifically to simulate steam cracking reactors. In recent years, also significant work has been conducted in order to develop modules to allow integral simulations of steam cracking furnaces, that explicitly account for the Transfer Line Exchanger (TLE), as well as radiant and convection sections. Additionally, AVGI can assist its clients with short term projects, techno-economic studies, software integration in process simulators and RTO applications.

Job description

As product specialist, you will actively participate in the continuous development of COILSIM1D. This implies being involved in own in-company initiatives, as well as collaborations with big, medium and small enterprises in the framework of local and European research programs, such as H2020. The development work is divided into three main and complementary axes: (i) Developing and enhancing the mathematical models (reactor, furnace, ...) acting in the background of the program; (ii) Selectively enlarging and adjusting the kinetic model that represents the complex chemistry of the steam cracking process; and (iii) Writing efficient computer codes to translate the advanced chemical and mathematical knowledge of (i) and (ii) into routines that enable to implement all these improvements into COILSIM1D.

Additionally, you will often work in projects specifically related to our clients, to help them solve technical challenges linked to COILSIM1D, such as coupling it to their in-house plant simulation and optimization tools (both on- and off-line), fine-tuning of their simulation strategies, interpretation of results, etc.

Given the R&D vocation of AVGI, and thanks to our close link with the academic world, you will also be sporadically involved in the preparation of scientific papers and presentations.

Skills & qualifications

- PhD (preferable) or Masters' degree in Chemical Engineering, with orientation towards modelling, simulation, process control and statistical analysis. Experience with detailed microkinetic modeling is a plus.
- Excellent programming skills. Particular focus is on Java, VB, C++, Fortran and Matlab.
- Knowledge about the petrochemical industry in general, and of olefin production in particular. Direct working experience in this field is certainly a plus.
- Experience working with Aspen Plus, HYSYS, gPROMS and other unit operations software tools is indispensable.
- Experience setting up models aimed at implementation for RTO applications
- Excellent oral and written communication and presentation skills.

- Highly fluent in English (TOEFL score of 95 or higher). Knowledge of Dutch/French/German is an asset.
- The candidate should be analytical minded, result oriented, creative, motivated, hardworking, and a good team player, who is enjoyable to work with.

Our offer

AVGI gives you the unique opportunity to work in a very dynamic, yet familiar environment that thrives for world-class excellence and growth, where your technical and innovative thinking will be continuously challenged internally and by our global client base. You will be able to take part in a variety of projects of our own, and in collaboration with various other large players of the petrochemical industry, in the framework of local and European research and development initiatives. On top of this we offer a competitive compensation package, that includes a variety of benefits.

How to apply

Please send a 1-page motivation letter explaining why you are interested in joining our team, together with your resume to andres.munoz@avgi.be and kevin.vangeem@avgi.be