

Finite Element Software Development Researcher

Cenaero, located in Gosselies (Belgium), is a private non-profit applied research center providing to companies involved in a technology innovation process numerical simulation methods and tools to invent and design more competitive products. Our ambition is to be internationally recognized as a technology leader in modeling and numerical simulation, to be a strategic partner of large global industries as well as a real support to regional companies including innovative SMEs.

Cenaero provides expertise and engineering services in multidisciplinary simulation, design, and optimization in the fields of both mechanics (including fluid, structure, thermal, and acoustics) and electro-magnetics, manufacturing of metallic and composite structures as well as in analysis of in-service behavior of complex systems and life prediction. It also provides software through its massively parallel multi-physics platform Argo, its manufacturing process simulation and crack propagation platform Morfeo and its design space exploration and optimization platform Minamo. Cenaero operates the Tier-1 Walloon supercomputing infrastructure, named Lucia, of a capacity close to 4 Pflops on a mixed CPU and GPU architecture.

To support the expanding research activities on Additive Manufacturing process modeling of metallic components, Cenaero is currently looking for a Finite Element Software Development Researcher (M/F). This permanent position is available immediately.

Position

The candidate will contribute to the development of Cenaero's finite element software Morfeo for manufacturing process modeling with a direct connection to industrial needs and applications. He/she will be part of the full development cycle from design and coding to testing and documentation following the development rules already in place.

Profile

Required qualifications

- PhD in engineering or demonstrated equivalent experience
- Advanced knowledge in multi-physics modeling and simulation for solid mechanics
- Proficiency in C++ object-oriented programming on Linux platform
- Experience in programming non linear finite element for structural applications
- Experience in collaborative programming for large and complex code
- Hands on experience with various software performance and debugging tools
- Good analytical and problem solving skills
- Good communication skills (oral and written)
- Team player and proactive attitude
- Fluent in English (French is a plus)

Additional qualifications

- Knowledge of manufacturing process modeling of metallic part
- Cross-platform experience (Linux/Windows)
- Strong Algebra and Calculus skills
- Experience in parallel programming with OpenMP & MPI
- Experience in GPGPU programming

Offer

Cenaero offers a position in growing and leading technological sectors, a direct relationship with their business actors and technical experts, a competitive salary package and a stimulating and dynamic work environment. The successful candidate will benefit from outstanding supercomputing capacity with a brand-new Tier-1 facility at regional level and the possibility to access one of the most powerful supercomputers in the world through the LUMI consortium, in which Belgium has a significant share.

Application procedure

Interested candidates should send a cover letter, quoting the reference number of the offer (BE-JO-2023-008) and a resume to rh_be-jo-2023-008@cenaero.be