

## **Position Summary:**

At Plaxis, we design and offer software and services for geotechnical engineering. The Plaxis team is involved in applied research, product definition, software development, documentation and high-end services related to the PLAXIS software for applications in soils and rocks. Our Competence Centre Geo-engineering contributes directly and indirectly to the development of the advanced PLAXIS software products and the fulfilment of user's needs.

## **Your Day-to-Day:**

The Research Engineer will be responsible for the necessary applied (analytical and numerical) research, specification, implementation, documentation, verification and validation of PLAXIS features, related to the use of the software in various practical applications in geotechnical engineering, such as dams and dikes, tunnels, foundations, excavations and underground structures. Many of the activities of the Research Engineer will involve programming in Fortran, C, C++ or Python.

Performing geotechnical research projects may involve (but not limited to):

- Implementation, validation, verification, operationalisation of soil/rock constitutive models.
- Participation in the various steps of the development process of new features needed for geotechnical analysis and design: Specification, elaboration, testing and verification of new features from an engineering viewpoint.
- Elaboration of verification and validation examples / case studies in geotechnics using different analytical and numerical techniques, in combination with field- and lab test data.
- Programming (in Fortran, C, C++ or Python) couplings between PLAXIS and other (Bentley) civil engineering software products, to (automatically) generate and exchange models, results and other data, especially related to soil-structure interaction.
- Participation in internal evaluation processes (Sprint reviews) and other meetings on behalf of the Competence Centre Geo-Engineering.
- Documentation and presentation of research results in general; both internal documentation and external communication for users and at conferences.
- Geotechnical support to other departments within Bentley.

## **What You Bring To The Team:**

- PhD (or MSc with research experience) in Geotechnical Engineering, Hydraulic Engineering or Civil Engineering, with proven background in soil/rock mechanics and/or foundation engineering.
- Experience with the implementation of constitutive models and numerical methods.
- Clear research interest with a drive to apply this in the engineering practice.
- Experience with use of numerical methods (FEM, FDM) and constitutive models for soil/rock.
- Programming knowledge and experience in Fortran, C, C++ and/or Python.
- Proficient in English (written and verbal).
- Communicative, analytical and didactical skills.
- Able to work in teams as well as autonomously.
- Experience in geo-engineering, consulting and design is appreciated.

**We Offer:**

- Competitive salary and benefits.
- A challenging job in an informal and international environment.
- Stimulating innovative and knowledge-driven work environment.
- Being part of one of the most successful engineering software companies in the world.

**Company Profile:**

Plaxis is part of Bentley Systems, an international software company aiming at comprehensive software solutions for advancing the design, construction, and operations of infrastructure. Plaxis is specialised in geotechnics and focused on developing and supporting the PLAXIS finite element-based software applications for soil and rock analyses. Plaxis has a young international team and is based in a modern new office near the campus of Delft University of Technology.

The PLAXIS software is used all over the world by engineers faced with challenging infrastructural projects (for example foundations, deep excavations, tunnels, dikes and offshore constructions). In addition to the PLAXIS software, we offer our users educational services through workshops, courses and training and we offer them expert advice.

**About Bentley Systems:**

Bentley Systems is the leading global provider of software solutions to engineers, architects, geospatial professionals, constructors, and owner-operators for the design, construction, and operations of infrastructure. Bentley's MicroStation-based engineering and BIM applications, and its digital twin cloud services, advance the project delivery (ProjectWise) and the asset performance (AssetWise) of transportation and other public works, utilities, industrial and resources plants, and commercial and institutional facilities.

Bentley Systems employs more than 3,500 colleagues, generates annual revenues of \$700 million in 170 countries, and has invested more than \$1 billion in research, development, and acquisitions since 2012. From inception in 1984, the company has remained majority-owned by its five founding Bentley

brothers. Bentley shares transact by invitation on the NASDAQ Private Market; strategic partner Siemens AG has accumulated a non-voting minority stake. [www.bentley.com](http://www.bentley.com)