Applied Bioinformatics in Microbial Ecology and related fields

Ref. ZAP-2018-55

At the Science, Engineering & Technology Group, Faculty of Engineering Technology, there is a full-time academic position at theDepartment of Microbial and Molecular Systems (M2S).
The main working place of the candidate will be the Laboratory of Process Microbial Ecology and Bioinspirational Management (PME&BIM) at the Group T Leuven Campus. PME&BIM is embedded within the Technology Cluster of Bioengineering Technology (CBeT), Department of Microbial and Molecular Systems (M2S), KU Leuven. PME&BIM is internationally recognized for its research in the field of applied microbiology and microbial ecology. PME&BIM studies the role and ecology of microbial communities and members thereof in diverse natural and man-made environments or processes to better understand and manage these processes. More particularly, PME&BIM aims to gain more insights in the modulatory role of microbes in these habitats by the use of state-of-the-art molecular microbiological methods, and focuses both on pathogenic and beneficial microbes. Study domains include agricultural production and crop protection, food and beverage production, and biofilm management.

Duties

Research

You are expected to develop an application-driven interdisciplinary, integrated research program on applied bioinformatics and biostatistics. That programme should enable research labs, core facilities and biotech companies to employ cutting-edge data analysis tools and methods to address the most challenging questions in our rapidly developing research field, typically generating huge (and often complex) sets of biological data. Further, you are expected to work in concertation with the (wet lab) (bio)chemistry, (micro)biology and (bio)process technology experts active at the Campus, within CBeT, and, where appropriate, the Department at large. You are particularly expected to offer or develop a complementary expertise with the more fundamentally oriented M2S bioinformaticians. Additionally, you will develop a scientific output that adheres to the highest international standards.

You will:

- be responsible for identifying, evaluating, and benchmarking new computational tools and methodologies that will meet the scientific needs of local research groups at the Campus, CBeT members, and M2S in general;
- develop automated pipelines for large scale data analyses in support of basic science and translational research, from raw data acquisition from instruments, through primary and secondary analyses, and to data visualization, secure data dissemination, and long-term data storage
- be responsible for designing and carrying out bioinformatics and biostatistical analyses of next generation sequencing (NGS) datasets from a variety of platforms, including Illumina, Roche and PacBio;
- validate bioinformatics predictions using state-of-the-art molecular tools in wet-lab experiments;
- set up collaborative projects with relevant experts at the Campus, within CBeT, the Department, and KU Leuven at large; advising them on experimental design, data handling and analysis practices for a variety of experimental approaches, including metagenomics, phenomics, genomics, epigenomics, RNA-seq, and ribosomal profiling;
- educate lab, department and faculty members as well as industry in contemporary bioinformatics methods and best practices via small group training and one-on-one consulting; and
- acquire competitive research funds, mentor PhD students according to internationally accepted standards, and publish at a high scientific level.

Teaching

The Faculty of Engineering Technology makes use of a multi-campus model for the fulfillment of its mission. You will take on teaching responsibilities in the existing programs of the Faculty (= Bachelor and Master of Engineering Technology), e.g. in the field of bioinformatics, statistics, gene technology, and bio(process)technology.
Additionally, you are expected to contribute to the pedagogic project of the Faculty through the supervision of master theses and as promoter of PhD students. The candidate is expected to commit to the KU Leuven concept of education and to achieve a high quality in activating and research-based teaching. To this end, the candidate will make use of the facilities for educational professionalization offered by the Faculty and the University.

Service

You are prepared to provide scientific, societal and internal services. Cooperation with and services to companies are important. In addition, an enthusiastic commitment is expected in the various committees and working groups of the Campus, the Department of Microbial and Molecular Systems and the Faculty of Engineering Technology.

Profile

- You should hold a PhD or doctoral degree in engineering technology, bio-engineering, engineering, or any other field that prepares
equally well for the research program and the assigned teaching responsibilities.
- You should have direct experience in programming and high-throughput analysis of biological data.
- You are expected to have a very good research record as reflected by international peer-reviewed journal publications, and very good teaching and training skills.

- Programming language such as PERL or Python is required for this position. Experience with statistic analytic tools, such as R, SAS, SPLUS, and MatLab, is also required. Familiarity with major biological databases, such as NCBI, ENSEMBL, KEGG is highly desirable.
- A real interest in biology is essential. Molecular biology background is a strong plus.
- The ability to communicate with, and relate well to diverse students, while maintaining discretion, diplomacy and confidentiality is a preferred competence.
- Proficiency in English is required. The official administrative language used at KU Leuven is Dutch. If the selected candidate does not speak Dutch (or does not speak it well) at the start of employment, KU Leuven will provide language training to enable the candidate to take part in administrative meetings. Before teaching courses in Dutch or English, you will be given the opportunity to learn Dutch or English, respectively, to the required standard.

Offer

We are offering full-time employment in an intellectually challenging environment. KU Leuven is a research-intensive, internationally oriented university that carries out both fundamental and applied scientific research. The alma mater of acclaimed scholars such as Erasmus, Andreas Vesalius and Georges Lemaître, KU Leuven has a rich scientific tradition and history. Its internationally renowned research and educational programmes cause it to consistently rank among the best 50 universities worldwide. It is highly inter- and multi-disciplinarily focused and strives for international excellence. In this regard, it actively works together with research partners in Belgium and abroad. It provides its students with an academic education that is based on high-quality scientific research. For education, the profile of the different engineering curricula is attuned to the socio-economic needs. You will work in Louvain, a historical, dynamic and lively city located in the center of Belgium, about twenty minutes by train from Brussels, the capital of the European Union, and less than two hours from Paris, London and Amsterdam by train.
Depending on your record and qualifications, you will be appointed to or tenured in one of the grades of the senior academic staff: assistant professor, associate professor, professor or full professor. In principle, junior researchers are appointed as assistant professor on the tenure track for a period of 5 years; after this period and a positive evaluation, they are permanently appointed (or tenured) as an associate professor.

Interested?

For more information on the contents of the job, please contact:
-Prof. dr. ir. Dirk De Vos, head of the M2S Department, tel.: +32 16 32 16 39, mail: dirk.devos@kuleuven.be
-Prof. dr. ir. Koen Eneman, head of the Group T Leuven Campus, tel.: +32 16 30 10 65, mail: koen.eneman@kuleuven.be
If you have problems submitting your application online, please contact solliciteren@kuleuven.be
Please add to your application the following items (more information can be found on the jobsite of KU Leuven):
- a biosketch (the instructions for drafting the biosketch are mentioned on the on-line jobsite and on top of the template to be used);
- a file about your five most important publications or realisations;
- an extensive CV (including a full list of publications);
- a research statement demonstrating your vision regarding your future research and also synergies and complementarities with ongoing research on the campus and in the departement taking into account cooperation with direct colleagues (no more than 4 pages);
- a teaching statement outlining your vision of academic education (no more than 2 pages).

KU Leuven is committed to creating a diverse environment and is therefore an equal opportunity employer. It explicitly encourages candidates from groups that are currently underrepresented at the university to submit their applications.
You can apply for this job no later than February 28, 2019 via the online application tool :
http://www.kuleuven.be/eapplyingforjobs/54649637
KU Leuven seeks to foster an environment where all talents can flourish, regardless of gender, age, cultural background, nationality or impairments. If you have any questions relating to accessibility or support, please contact us at diversiteit.HR@kuleuven.be.