APPLIED SCIENTISTS OR TECHNICIAN (TVL-E10,100%) (M/W/D)

The Werner Siemens Chair for Synthetic Biotechnology at the Department of Chemistry at the Technical University of Munich in Garching seeks an Applied Scientists or Technician (Bioprocess Engineer, Chemical Engineer, Biotechnology, Biology, Biochemistry, Chemistry or related discipline) at Master level (Dipl. Ing. FH or Master FH) or an appropriate industrial qualification (CTA, BTA-IHK or equivalent). The position payment grade is grouped at TVL-E10 (100%). The position is available with initially a 3 years limited term contract.

The Technical University of Munich (TUM), is a gobally recongnized German excellence University focusing on natural sciences, engineering and medical sciences with 11 schools, departments and interdiciplinary research centers. TUM is home to 16 nobel laureates and 23 Leibniz Prize holders. The Chemistry Department is ranked top class in Germany and internationally.

The Werner Siemens Chair for Synthetic Biotechnology, lead by Prof. Dr. Thomas Brück is world leading in sustinable bioprocess and biocatalyst development with a focus on converting greenhouses gases and residueal biomass into value adding products for the chemical, food, and pharmaceutical industry. Prof. Brück is a member of the German national bioeconomy council and his research has been cited in the world climate report.

Projekt description: Valorisarion of fungal biomass to establish concepts for a circular bioeconomy

Biomass is predominantly used for feed and food products (~55% of global biomass available) followed by bioenergy. However, only 8% is currently used for bio-based materials despite offering an alternative to fossil-derived chemicals. To promote the development and commercialisation of bio-based materials, an abundance of feedstocks (i.e., sugar, starch, vegetable oil and ethanol) are required. However, this may lead to biodiversity and land use change as potentially more land would be needed to enable the replacement of fossil raw materials, estimated at an additional 2.8 billion tonnes (Bt) Dry Matter (DM) biomass per year, which competes with food and feed production. To achieve a sizeable and economically feasible bioeconomy, new technologies are therefore needed in order to diversify and deliver processes that can use available, underutilised and more sustainable biomass feedstocks to leave more land available for biodiversity protection and food production, whilst facilitating the substitution of fossil-based resources with bio-based ones.The Horizon Europe project VALUABLE will focus on the demonstration of a new biotechnology based platform that utilizes non-plant residual biomass as a raw material for the production of microbial oils and functionalized oligosaccharides for applications in the as chemical, cosmetics and materials sector. The international project encompasses 8 industrial and academic project partners from

Prof. Dr. Thomas Brück

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5 EU countries. The primary language of communication is English, while a good knowledge of German is benefical for daily working interactions in the group.

Responsibility and Tasks:

The main task is to conduct research and operate various analytical instruments. The tasks are focused on the technical and instrumental support of the scientific staff of the project to timely generate high fidelity data. A main focus is the development of biological (cell and enzyme) assays and their automatation using high throughput robotic screening platforms. Experience in laboratory robotics and automated screening platforms as well as advanced molecular analysis techniques such as Mass spectrometry, NGS Genome sequencing as well as the use of standard biochemical equipment such as FPLC, gel electrophoresis etc. are highly desired.

Your qualifications

- Expert technical knowledge in Fermentation science (parallel, automated stirred tank bioreactors) at laboratory (0.5-10L) and preferably demonstration scale (100-1000L)
- Deep technical expertise in biochemical assay design and analysis (Enzyme assay optimization, HPLC, FPLC, gel-electrophoresis, NGS (PacBio) Genome sequencing) is mandatory
- Deep knowledge in molecular biology and biochemical assay development using cellular and enzyme assays with a particular focus on hydrolase enzyme systems
- Expert knowledge in laboratory automation, such as programming and running automated microbial colony segregator, pipetting platforms (i.e. BioMek i7, Beckman Coulter), nanodroplet screening systems and other automated high throughput systems is highly advantageous.
- Advanced knowledge in bioinformatics for systems biology would be advantageous
- Being able to handle modern programming languages such as Python, R-, C++ is highly beneficial to enable automated analysis of complex biological data sets
- Data generation, analysis and reporting in cooperation with the scientific manager and scientist
- Assisting the scientific manager and scientist in preparing reports for EU-authorities as well as preparing scientific manuscripts is a key skill demanded by the project

Our offer:

The position will be paid in accordance with the Collective Agreement for the Civil Service of Bavaria (TVL-E10 see also : TV-L Entgelttabelle, Analysen und Berechnungen 2022-2023 (oeffentlichen-dienst.de), 100%, 3 years limited). Applications from disabled persons with essentially the same qualifications will be given preference. TUM strives to raise the proportion of women in its workforce and explicitly encourages applications from qualified women.

Your application:

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Please send your application email together with a CV and supporting documentation to Dr. Marion Ringel, Werner Siemens-Lehrstuhl für Synthetische Biotechnologie (WSSB), Department Chemie, Technische Universität München (TUM) Lichtenbergstraße 4, 85748, Garching bei. München until 16/09/2022.

Contact: marion.ringel@tum.de

Prof. Dr. Thomas Brück

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