

PhD project – Method development for screening and monitoring approaches for the xanthan producing activity in *Xanthomonas campestris* pv. *campestris* B100

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Background

The γ -proteobacterium *Xanthomonas campestris* pv. *campestris* (Xcc) B100 synthesises the exopolysaccharide (EPS) xanthan. Xanthan is used in huge amounts in the food and cosmetic industry as well as for technical applications. Since xanthan cannot be re-metabolized by *Xanthomonas*, the cells have to make a principal decision to invest energy and metabolites in cell growth or in the production of xanthan. In our previous work, we established the genome sequence of Xcc B100 (Vorhölter et al. 2008, Alkhateeb et al. 2017), a model strain for xanthan production. In addition, extensive research was carried out on the transcriptome and metabolome level (Alkhateeb et al., 2016, 2017; Schatschneider et al., 2014, 2011; Frese et al., 2014).

Aims of the project:

The goal of the PhD project is the development of novel monitoring approaches for the identification of mutants with enhanced exopolysaccharide production of bacteria of Xcc B100. In order to reach this goal a tool box should be established based on reporter systems, omics-analysis and analytical methods like contact angle measurements. The overall goal is to analyse single cells or single colonies of Xcc B100 regarding their ability to produce xanthan.

Requirements:

Applicants must have excellent academic results and a Master`s degree with a background in life sciences, molecular biology or biophysics. Besides creativity, a strong ability for problem solving through analytical thinking combined with an enthusiasm for scientific research is highly desirable. Additionally, we expect good communication skills and the ability for teamwork. The successful applicant will join an enthusiastic and collaborative group where a multidisciplinary approach is pursued.

What we offer

The Centre for Biotechnology (CeBiTec) at Bielefeld University offers an infrastructure, which comprises **state-of-the-art instrumentation** as well as **bioinformatics** plus long standing experience in **wet lab** techniques and **mathematical modelling**.

Closing Date for Applications: 15th of August 2019

Expected Date for interviews: September 2019

Are you interested? Then send us your application including cover letter, CV and certificates preferably by email (PDF) at stipendium-biotech@ceBiTec.Uni-Bielefeld.de.

1. Write a letter of application. Include further information about your qualification and your motivation to participate in this program. Give a brief outline of your scientific interests.
2. Include a CV.
3. Include a resume and any relevant certificates.
4. Include certified English or German translations of all official documents that are not in English or German.
5. Include copies of your publications and theses (optional).

References:

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