



The BfR independently prepares expert opinions and statements on issues of food, feed and chemical safety and consumer health protection in Germany on the basis of internationally recognised scientific evaluation criteria. It advises the Federal Government and other institutions and interest groups in these areas. The BfR thus makes an important contribution to the protection of human health. You can find information on the remit of the Division here on our homepage.

The following position is available at the Unit Safety of Food Contact Materials of the Federal Institute for Risk Assessment (BfR) from 02.03.2026:

Master Thesis

Overarching Research Theme:

“Advancing an *in vitro* test battery for improved genotoxicity assessment of substances migrating from food contact materials”

Institution of



Federal Ministry
of Agriculture, Food
and Regional Identity

Project Description:

Food contact materials (FCM) play an essential role in global food supply chain by ensuring food safety and reducing food waste. However, various substances can migrate from FCMs into food and may pose potential health risks. As a first step in addressing these risks, usually genotoxicity testing is performed. The corresponding risk assessment can be challenging due to difficulties in the identification and quantification of all migrating substances, particularly non-intentionally added substances (NIAS) such as impurities or reaction and degradation products. Often reference standards for these substances are not available or the substances cannot be fully identified.

A promising approach may be the direct testing of migrates or extracts from FCMs. However, current genotoxicity testing strategy focuses on individual substances and may fall short addressing the numerous substances that could migrate from FCMs, especially NIAS. Therefore, there is a need to adapt and optimize sample preparation as well as genotoxicity testing methods for the assessment of complex mixtures such as migrates or extracts from FCMs.

This project aims to assess the genotoxicity of migrates and extracts from FCMs, optimize in vitro test methods for the analysis of complex mixtures and study the matrix effects as well as the compatibility of food simulants with in vitro genotoxicity testing. In addition, the project aims to improve the understanding of combined effects of genotoxins within complex FCM matrix.

The project includes the following focus areas, which can be addressed separately by different students:

- Establishment and optimization of in vitro genotoxicity tests for the assessment of substances in migrates or extracts of food contact materials
- Evaluating the compatibility of food simulants defined in the regulation with in vitro genotoxicity testing
- Understanding the mixture effects of coexisting substances in complex FCM migrate matrix

Your profile

- Completed Bachelor's degree in life sciences (biology, biochemistry, biotechnology, molecular life sciences, food chemistry or a comparable field) and currently enrolled in a Master's programme in a similar field
- Basic knowledge in cell biology
- Very good Knowledge of written and spoken English
- Flexible, motivated and self-organized working style
- Experience with cell culture or other relevant methods to the project is advantageous but not mandatory

We offer a modern, well-equipped laboratory, collaborative research work in an interdisciplinary environment and comprehensive support directly within the team.

Application process

Have we piqued your interest and would you like to delve deeper into the fascinating world of food contact materials?

Then please apply by e-mail (Eyluel.bankoglu@bfr.bund.de) with the subject line **Application for thesis: Genotoxicity Assessment of FCM Migrates**. Please attach a short letter of motivation, CV, certificates and transcripts and contact details of at least one reference.

Please address any questions about the area of responsibility to:

PD Dr. Bankoglu: T +49 30 18412-78204
E-Mail: Eyluel.bankoglu@bfr.bund.de

You will find more information on our homepage:
bfr.bund.de/de/en/working_at_the_bfr



The BfR welcomes applications from people of all nationalities.



The BfR is an innovative scientific institute offering family-friendly working conditions, for which it was awarded the "audit berufundfamilie®" (work and family) certificate. The BfR guarantees equal career opportunities for women and men. In the case of equal suitability, severely disabled applicants will be given preferential consideration and are only required to have a minimum level of physical suitability.

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Protecting Health**

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