



The German Federal Institute for Risk Assessment (BfR) is the national institute which prepares expert reports and opinions on questions of food, feed and chemical safety and consumer health protection in Germany on the basis of internationally recognised scientific assessment criteria. It advises the Federal Government and other institutions and interest groups in these areas. The BfR conducts its own research on topics that are closely linked to its assessment tasks. It is an institution with legal capacity within the portfolio of the Federal Ministry of Food and Agriculture (BMEL).

At BfR's Department for Food Safety within the National Reference Laboratory for Animal Protein in Feed there is an opening for a

## Master Thesis

(also scalable to Bachelor Thesis, research training)

on the topic:

### Validation of a quantitative method to determine poultry **myosin** in feed using nanoUHPLC-high resolution mass spectrometry

As a consequence of the BSE crisis in the 1990s, feed ingredients from animal origin are strictly regulated in the European Union. According to the Commission Regulation (EU) 999/2001, processed animal protein from poultry may not be fed to any farmed animal whereas other poultry material may be fed to certain species. However, an official mass spectrometric method is not available.

The aim of this thesis is to validate a mass spectrometry-based method for poultry **myosin** quantification in feed in agreement with US-FDA criteria.

#### Tasks:

- preparation of feed mixes from an established collection
- sample preparation including homogenization, enzymatic cleavage in suspension, manual or automated magnetic bead-based immunoaffinity enrichment
- data acquisition on a nanoUHPLC-ESI-high resolution mass spectrometer
- method validation regarding several parameters, e.g. sensitivity reproducibility, accuracy, specificity, robustness towards different changes from the standard protocol (e.g. experimenter, storage, freeze-thaw cycles)
- time permitting, the method may be transferred to a UHPLC-ESI-low resolution mass spectrometer

## Requirements:

- background in (bio-)chemistry or another related field (e.g. biology, toxicology, biotechnology, pharmacy)
- theoretical knowledge on mass spectrometry is a prerequisite, hands-on experience in instrumental analysis and/or protein (bio-)chemical analysis is a plus
- very good written and spoken English language skills
- flexible, engaged, and self-organised way of working

We offer an excellently equipped laboratory environment, a cooperative research environment in an interdisciplinary and international team and comprehensive supervision.

## Application process:

More detailed information is available from Dr. Uta M. Herfurth (Tel. +49 30 18412-25105). If you are interested, please apply via E-Mail to ([uta.herfurth@bfr.bund.de](mailto:uta.herfurth@bfr.bund.de)) using the subject **“application thesis: poultry method validation”**. Please enclose your CV, a short letter of motivation, certificates / transcripts of records, and your desired time frame.

You will find more information on our homepage: [www.bfr.bund.de/de/stellenanzeigen](http://www.bfr.bund.de/de/stellenanzeigen)

*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.*

