



PhD Program between the Freie Universität Berlin (FUB) and the China Scholarship Council (CSC)

Open PhD position at FUB for CSC scholarship candidates 2018

Please note: the PhD position is only offered to Chinese PhD candidates for application in the framework of the FUB-CSC PhD Program.

<u>Department/Institute:</u>	FU Berlin, Institute of Pharmacy
<u>Subject area:</u>	Drug metabolism and bioanalysis
<u>Name of Supervisor:</u>	Prof. Dr. Maria Kristina Parr
<u>Number of open PhD positions:</u>	1
<u>Type of the PhD Study:</u>	Full-time
<u>Project title:</u>	Variation in long term metabolite excretion of metandienone due to UGT polymorphisms

PhD Project description:

As per list of the World Anti-Doping Agency (WADA) 2017 anabolic androgenic steroids (AAS) are prohibited in sports. In the last years one of the most frequently reported substances in adverse analytical findings was the exogenous AAS metandienone. Most of the laboratories currently rely on screening for the long-term metabolites epimetendiol (EMD), norepimetendiol (NorEMD), and the latest reported long-term metabolite 17 β -hydroxymethyl-17 α -methyl-18-norandrosta-1,4,13-trien-3-one (20 β OH-NorMD), following enzymatic cleavage of the glucuronides.

The pathways that lead to these metabolites are diverse and interindividual differences in enzyme activities may lead to impaired or altered urinary excretion. It is known that especially for the glucuronidating enzymes (UGT family) strong interindividual differences exist. Especially among different ethnic groups large differences in the frequency of polymorphic forms have been reported and have already been investigated for their influence on endogenous steroid excretions. Within this project the influence of different glucuronidating enzymes will be investigated with special focus on metandienone and its metabolites. In vivo experiments will focus on the urinary elimination of different metandienone metabolites and their elimination kinetics in correlation to the volunteers' enzymatic (UGT) pattern. The ethnicity will be used as covariable. To complement the results in vitro experiments will be conducted. Herein different phase-I metabolites of metandienone will be metabolized by different variants of UGTs to evaluate relative biotransformation activities.

Language requirements:

IELTS 6.5 or TOEFL 95 ibt.

Academic requirements:

MSc Degree in Pharmacy, Pharmaceutical Analysis, or related subjects
Experiences in bioanalytical techniques and mass spectrometric techniques as well as extended knowledge in drug metabolism highly recommended

Information of the professor or research group leader:

Prof. Parr was working as researcher for 14 years in the Anti-Doping Laboratory in Cologne, Germany, in different fields of research including method development, analysis of nutritional supplements and counterfeit drugs for doping substances (esp. anabolic steroids and stimulants), synthesis of steroidal reference substances and metabolites, investigations on metabolism, designer steroid identification and characterization.

In 2012 she got her habilitation (Venia Legendi in Pharmaceutical Chemistry) at the University of Bonn and in the same year she was appointed full professor for Pharmaceutical Analysis at Freie Universitaet Berlin. The main research focus of her group is mass spectrometric analysis hyphenated to different chromatographic separation techniques with the main focus of analyzing drugs, their metabolites and related compounds in biological material. With Maria Parr's long history in anti-doping research, primary focus of the group is on steroids and other performance enhancing and counterfeit drugs. Furthermore pharmaceutical quality management and analytical quality by design are important topics in Maria Parr's group.

She published more than 80 research papers in the field of pharmaceutical analysis and metabolism. Past and current research in Prof. Parr's group is strongly supported by research grants from the World Anti-Doping Agency and several young investigators out of her group were awarded for excellent scientific work.

The current project will be embedded in the research collaboration with the group of Prof. Matthias Bureik, School of Pharmaceutical Science and Technology, Tianjin University, China.

Please note: In a first step, the complete application must be submitted to the Beijing Office for evaluation by January 4th, 2018. Please do not contact the professor before. He/She will get in contact with you after having received the complete application via the Beijing Office in January.