Open PhD position:  

**MOLECULAR ROLE OF BRUTON’S TYROSINE KINASE (BTK) IN THE NLRP3 INFLAMMASOME**  

**Section Innate Immunity (Alex Weber)**  
**Dept. of Immunology, Tübingen**

**Topic** | The NLRP3 inflammasome is a multi-protein complex driving inflammation upon exogenous and endogenous (sterile) insults during infection, tissue damage or cellular stress and its assembly has been considered a key process in initiating inflammation. We have identified the well-known signaling molecule Bruton’s Tyrosine Kinase (BTK) as an unexpected but prominent regulator of NLRP3 inflammasome activity in both mice and humans. The discovery of BTK as an NLRP3 regulator offers the unique opportunity to target the NLRP3 inflammasome at the level of a well-known pharmacological target, BTK, via efficacious and well-tolerated FDA-approved inhibitors, e.g. ibrutinib (PCI-32765). For doing so, the mechanistic molecular and the cellular role of BTK in inflammasome activation needs to be more comprehensively studied, which is the goal of this present project. Our vision is to elucidate the molecular workings of the BTK-NLRP3 inflammasome to a level that will allow for safely harnessing the considerable translational potential of BTK as a targetable NLRP3 regulator.


**Methods and skills to learn** | Standard immunology techniques (PBMC preparation, cell culture assays of cell lines and primary human and mouse immune cells, ELISA, flow cytometry), standard molecular biology (mutagenesis, PCR, restriction digests, sub-cloning), standard protein biochemistry (SDS-PAGE, immunoblot, immunoprecipitation, chromatography), reporter signaling assays, data analysis, scientific writing and presentation.

**The team** | In order to execute this project and complement our laboratory team we hope to recruit additional excellent and enthusiastic researchers, including one PhD student. You would be part of a dynamic research group with a solid track record, and located in an excellent scientific environment, the Department of Immunology located on the campus of the University of Tübingen, one of Germany’s Excellence Universities. In our well-funded laboratory you would find a friendly, well-connected and international (English-speaking) environment, and a firm commitment to good supervision and professional development.

**Further information** | Please visit our website following the QR code. Position to start spring 2019, Duration: 3 years, Remuneration: DFG-funded German TV-L E13 65% position. Application open NOW ➔ apply ASAP!

**Your profile** | Masters degree (or equivalent) in biological sciences or medicine, some research experience in molecular/cellular biology, microbiology/virology, protein biochemistry and/or immunology; high motivation to work independently and as part of a team; good command of the English language (written and spoken); both German and international applications encouraged and international applicants will be supported to attend German courses but German skills are not required to apply successfully.

**Your application** | Please apply electronically to alexander.weber@uni-tuebingen.de with all of the following: Cover/motivation letter (max 1 A4), CV, transcripts and certificate of MSc and BSc degree, support letter from at least 1 previous supervisor. Applications will be reviewed on an ongoing basis and interviews scheduled accordingly.