1. **200 word essay on your scientific biography and work history:**

After my bachelor's degree, I worked as a software engineer in Hyderabad in India. I practiced the programming languages C, C++, SQL and Python. I retrieved test data using SQL, and designed, created and executed test cases. As a student of the Biomedical Engineering M.Sc. programme at RWTH Aachen University in Germany, I did several voluntary internships to improve my molecular biology lab skills. Firstly, I learned immunochemical staining methods. Secondly, I helped to build a biosensor for the rapid determination of adalimumab, a mono­clonal antibody approved against rheumatoid arthritis. I immobilize the antibody on the bio­sensor and tested its performance. Thirdly, I started first homology modelling experiments on the P2X3 receptor in the Pharmacology department, where I also learned basic DNA cloning techniques using a P2X3 receptor plasmid. In preparation for my master thesis, I recently built a homology model of the P2X1 receptor using MODELLER software combined with SCWRL for side-chain modelling. I inserted the hydrogen atoms into the structure using the PDB2PQR web server, minimized the structure using GROMACS, and analyzed the homology model using Pymol tools and MDAnalysis. I have made several predictions that are in progress to be tested experimentally.

1. **Describe your research interests? 41 words**

My work in the department of pharmacology has awakened my enthusiasm for between structure-function relationships of ion channels, as they are now addressable by computer-assisted analysis of high-resolution structures. I see great potential for the development of new therapeutics.

**My work in department of pharmacology has awakened my enthusiasm for computational approaches to predict structure-function relationships and I see great potential for development of new therapeutics.**

My research interest is to implement computational approaches MD simulation and Docking to solve the experimental questions in my future research

1. **Describe how this course will benefit your own research? 35 words**

My research will definitely benefit from reviewing and expanding the skills I have acquired so far. The goal is to interpret the existing data at a level that will enable an excellent publication.

1. **Describe how this course will benefit the research of your group?30-35 words**

All our group's projects will benefit greatly from better insights into the power of computational interpretation of our biochemical data. There is a need to implement these capabilities now.

1. **List any relevant molecular modeling software tools and resources you currently use?**

Modeller, SCWRL4, GROMACS, MDAnalysis, Jupyter notebook, Ubuntu and Pymol.