Antimicrobial resistance (AMR) is a growing concern in the prevention and treatment of skin-related infections despite the extensive progress in medical and pharmaceutical research. In the post-COVID-19 pandemic, there has been a noticeable rise in contact dermatitis, bacterial and fungal infections, and acne among Bangladeshi people. Although numerous myths are prevalent as causes behind this, what is the main reason, and are there any scientific explanations? These questions often hit me, and strongly shaped my academic interests and long-term career goals, motivating me to apply in European Master of Science in Skin Health and Care under the Erasmus Mundus Joint Master Program. My academic achievements, undergraduate research experience, formal training in *in silico* research, leadership qualities, and dedication to serving society all demonstrate that I am ready to engage in advanced graduate research and can contribute effectively to the field of Skin Health and Care.

My name is Shahida Begum. I have completed my Bachelor's degree in Biotechnology & Genetic Engineering from Sylhet Agricultural University (SAU), Bangladesh. My undergraduate life equipped me with knowledge on interdisciplinary studies such as Microbiology, Molecular Biology, Cell Biology, Immunology, Biochemistry, Pharmaceutical Biotechnology, Animal Biotechnology, and Plant Science, which provided me with an understanding of host-pathogen interactions and immune response, metabolic pathways, and the biosynthesis of bioactive compounds. They are at the center of skin barrier activity, inflammatory activity, and microbial colonization, and are key elements following COVID-19 skin health studies.

I successfully completed my thesis focusing on the evaluation of antioxidant and antibacterial activities of extracts derived from five indigenous Bangladeshi vegetable plants against four clinically significant bacteria (*Staphylococcus aureus*, *Salmonella spp.*, *Escherichia coli*, *Bacillus cereus*). This project was inspired by the global increase in AMR, which enables pathogenic microorganisms to be resistant to antibiotics and immune responses. I performed all the tasks associated with the experimental design, data collection, and result interpretation independently, which reinforced my analytical thinking and scientific communication skills.

To complement my experimental efficiency, I took an online course on Computer-Aided Drug Design (CADD), which introduced me to the methods of molecular docking, structure-activity relationship, and virtual screening. Utilizing this lesson, I also worked on *in silico* analysis of plant and marine metabolites, finding novel drugs for treating coxiellosis in cattle.

As a result of this training, learning how to identify antimicrobial agents that can restore a balance of the skin microbiome without fostering resistance. This competency is also consistent with the focus of EMOTION on incorporating *in silico* tools in the pipeline of skin-health innovations.

My ultimate goal is drug development to combat the growing skin diseases, especially against bacterial infections. EMOTION's is my preferred program due to its well-organized courses, such as Anatomy and Physiology of Skin & Appendages, Pathological Mechanisms of Skin Disorders, Medicinal Chemistry & Pharmacology of Dermatological Drugs, Dermatology, Natural Products & Sustainability in R&D, and Clinical trials, which will assist me in ameliorating my in-depth knowledge in the field of skin health. Moreover, this program provides workshops and internship opportunities, which are significant for building collaborative and networking skills to achieve long-term career objectives.

As Bangladesh is a developing country, I believe using raw materials from diverse natural sources (plants, algae, and so on) to discover drugs for skin disorders is a more sustainable approach. According to the survey, the majority of pharmaceutical production costs in Bangladesh are attributable to raw material procurement. In the long-run, using my graduate-level research experience, I aim to contribute to emerging cost-effective and accessible therapeutics for the pharmaceutical industry in my motherland. In order to reinforce the clinical relevance of this training further, I am especially attracted to the specialized mobility pathway of the programme in clinical development.

For the third-semester mobility, I am particularly interested in the clinical development track at the Université de Namur (Belgium). This pathway will allow me to deepen my understanding of clinical trial design, safety, and efficacy assessment for dermatological products by taking Clinical Trials, Quality Assurance, Biomarkers & Surrogate Markers in Clinical Dermatology Trials, and so on. These expertise are essential to translate laboratory research into the real-world therapeutic and cosmeceutical applications. In addition, through this mobility track, I will attain hands-on drug development proficiency by solving a case study of clinical trials in the tutored work.

To recapitulate, my academic foundation, undergraduate project work experience, course in Computer-Aided Drug Design, and leadership achievements qualify me as a potent candidate

for the graduate study and globally relevant initiatives at the European Master of Science in Skin Health and Care under the Erasmus Mundus Joint Master Program.