The professional profile of PhD-holders

Soham Dhali

Researcher in Physics

soham.iisermohali@gmail.com

Core business

PHASE 1 **Skill development**

Throughout my 1st year of PhD journey, I have set clear research and career objectives while regularly reviewing them with my supervisor. I have expanded my technical expertise by learning advanced simulation methods like Molecular dynamics simulations, scientific programming (e.g., Python, C++), and data analysis, and complemented these with transferable skills in scientific writing and presenting posters at international conferences. I actively seek feedback from supervisors and colleagues to improve my work and professional development. By participating in international scientific events, I have strengthened my professional network and gained experience working in an international research environment, preparing me for diverse career opportunities.

PHASE 2 **Evaluation**

I developed critical evaluation skills by systematically reviewing scientific literature and assessing its relevance, methodology, and contribution to my research topic. I regularly benchmarked my own results against published studies and discussed them with my supervisor and peers to ensure scientific rigor and added value. I actively presented my work in group meetings and conferences, where I received constructive feedback and used it to refine my analyses. Additionally, I participated in peer discussions and informal reviews of colleagues' work, which strengthened my ability to provide balanced, evidence-based feedback and to critically appraise research in my field.

PHASE 1 **Information management**

I regularly conducted systematic literature reviews to understand the state of the art in my research field, using bibliographic databases such as arXiv and Google Scholar. I developed efficient strategies to identify relevant and high-quality scientific sources and learned to critically assess their reliability, methodology, and relevance. When needed, I sought guidance from experienced colleagues and supervisors to improve my information management and ensure robustness in my research workflow.

PHASE 1 **Expertise and methods**

I developed a strong understanding of the fundamental concepts and recent advances in my research field, and I positioned my work within an international scientific context through conferences. I mastered relevant computational and theoretical methods, including simulation techniques and data analysis tools, and applied them appropriately to address specific research problems in glassy physics. I regularly formulated research questions and hypotheses based on literature and observations, and I evaluated alternative approaches when needed. I defended my results in group meetings and conferences, supporting my conclusions with clear evidence. I also improved my ability to present complex ideas in a structured, concise, and scientifically rigorous manner.

Personal and relational qualities

PHASE 1 **Communication**

I developed strong communication skills by presenting my research clearly to both specialist and

non-specialist audiences at group meetings and international conferences. I adapted my communication style depending on the audience and purpose, ensuring clarity and precision. I regularly used tools such as slides and scientific writing to effectively present my work. I also contributed to knowledge sharing within my research group through discussions and presentations, and improved my ability to communicate in English in academic contexts.

PHASE 1 Collaboration

I developed collaborative skills by working closely with my supervisors and group members. I contributed to joint discussions and research projects, sharing ideas and results constructively. I also expanded my professional network through conferences, which helped me exchange knowledge and improve my research.

PHASE 1 Analysis, synthesis and critical thinking

I developed strong analytical and critical thinking skills by evaluating both my own results and those of others in the literature. I learned to synthesize complex information into clear key ideas and to prioritize relevant information according to research objectives.

PHASE 1 Open-mindedness and creativity

PHASE 1 Commitment

I maintained strong motivation driven by curiosity for my research topic and the goal of producing meaningful scientific results. Moreover, I stayed committed even when facing technical challenges or setbacks by systematically troubleshooting problems and seeking feedback when needed.

PHASE 1 Integrity

I adhered strictly to scientific and institutional ethical standards in conducting and reporting research. I ensured integrity in data processing by accurately recording, analyzing, and presenting results without manipulation. I respected intellectual property by properly citing all sources and acknowledging contributions from collaborators.