



GNeuS Programme is proud to introduce you to its Fellows, selected within Call 2



Few words about you and your research project

Hi, I am **Sapam Ningthemba Singh**, currently working as a GNeuS post-doctoral fellow in the **Dr. Michael Schulz group, ANTARES, FRM II, Technical University of Munich**.

My research investigates the **defects in additively manufactured parts by employing neutron imaging**. It also investigates the defect nature, and evolution of internal defects present in the additively manufactured parts. The research further **deals with different post-processing methods like shot peening, heat treatment on the defects, their evolution, and effects on the mechanical properties of the additively manufactured parts**.

The research is in collaboration with Dr. Lengsdorf at **INPECA** as non-academic secondment partner and Prof. Wesmuth at **Karlsruhe Hochschule** as academic partner. At INPECA, sample preparation and post-processing will be carried out. At Hochschule Karlsruhe, optical microscopy, electron microscopy, and fractography will be carried out.

What is your background?

How have you heard about GNeuS?



I received my PhD from the **National Institute of Technology Silchar (NIT Silchar)**. The doctoral research was on the **laser shock peening of additively manufactured Ti6Al4V alloy**. The primary research focus included defect and, microstructural analysis, tensile and fatigue properties of the manufactured parts as well as the **effect of laser peening** on the additively manufactured parts. The research was conducted with collaboration and research assistance from **Meltio, Monotech 3D**, and other research partners. I attended the **MATTRAC II school** and knowledge of different neutron experiments and methods were gained during the school.

As my PhD research was about to be completed, I was looking for the next research endeavor, and I came to know about the GNeuS through Google and also from the EURAXESS portal.



Why did you apply specifically on GNeuS?

As I was completing my PhD research, I found the GNeuS advertisement and one of the project ideas about **additive manufacturing by Dr. Michael Schulz**, was very well suited to my research interest.

Being in MSCA, I really liked the GNeuS program, and the **secondment programs being offered during the project will help me further gain experience** in a wide range of scientific applications.

This will give me the opportunity to collaborate with industries and other academic institutions and help me become an **experienced researcher**.

What impacts do you expect from the GNeuS fellowship?



The research is expected to provide important understanding of the internal defects, their evolution, and **their impacts on the mechanical properties of the additively manufactured parts**.

As a part of the non-academic secondment, **the industrial experience will further be enhanced** at the INPECA GmbH by preparing the additively manufactured samples there along with post-processing of the samples.

Academic secondment at Hochschule Karlsruhe will provide the **opportunity to conduct research and gain further research skills outside of the neutron-based research**.

The opportunities provided by GNeuS like attending different schools, attending conferences, and improving soft skills will help me to establish myself as an experienced researcher.