



# MESI-STRAT

Systems Medicine of Metabolic-Signaling networks -  
A New Concept for Breast Cancer Patient Stratification



## Newsletter No 2 – November 2019

*MESI-STRAT has made good progress and has completed its first official reporting period in June. Thus, it is time to recap our achievements so far and to look ahead. In our recent Executive Board Meeting we laid the foundation for a successful next phase.*

*With this newsletter, MESI-STRAT launches a survey addressed to cancer patients, their relatives and all citizens to tailor our research to the needs and concerns of patients.*

*With this issue, we also initiate a series written by the PostDocs and PhD students working in MESI-STRAT. Suraj Sharma who works with Ines Heiland at the University of Tromsø – The Arctic University of Norway – makes the start and presents himself, his motivation, and his work.*

### MESI-STRAT Online survey

MESI-STRAT does cutting-edge research. Thus, it is key for the consortium that its results are relevant for clinical application and tailored to the needs and concerns of patients. Therefore, we have developed a survey about their knowledge and interest in clinical research. The questions target (breast) cancer patients, their relatives, and the general public alike, and we invite all citizens to participate.

If you are a physician or scientist working in the field please do not answer it. But we would appreciate if you help us distribute our survey. The questions can be answered in English or German, below you find links and QR codes to access the survey.

[Survey English](#)



[Survey German](#)



### MESI-STRAT Executive Board Meeting

In early October the MESI-STRAT executive board met in the far North of Europe. The executive board consists of all work package leaders, the strategic board, as well as the chairpersons of the dissemination/exploitation and the gender committees. The main role of the executive board in MESI-STRAT is to oversee the operational work of the consortium and to identify deviations from the project plan. The meeting was kindly hosted by our partner the University of Tromsø (UiT) and took place at the beautiful Sommarøy Island, just outside of Tromsø, Norway.

For two days, we evaluated the progress so far and made preparations for important deliverables and milestones due in 2020. Our strategy and action plan was further developed to coordinate the detailed steps to be taken by experimentalists, modelers, data scientists, and clinicians. It will enable smooth interaction of all partners and the timely achievement of our goals.



*The MESI-STRAT executive board during its meeting in Norway, hosted by our partner University of Tromsø (UiT). We had fruitful discussions to further develop our strategy plan.*

*From left to right: Sushma Grellscheid (UiB), Wolfgang Müller (HITS), Ines Heiland (UiT), Karl-Heinz Kellner (NIN), Kathrin Thedieck (UIBK), Olga Krebs (HITS), Pamela Riemer (CHAB), Juliane Nees (UKL-HD), and Petra Engele (UIBK). Alexander Heberle (UIBK), Christiane Opitz (DKFZ), Tamara Prentzell (DKFZ), Sarah Schott (UKL-HD), Daryl Shanley (UNEW), and Ciaran Welsh (UNEW) participated by video conference.*



The MESI-STRAT project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 754688.

A special highlight were Northern lights above our hotel after dinner. The heavens smiled at MESI-STRAT.

### ET-Termination Trial successfully started!

MESI-STRAT's main aim is to develop marker panels in blood and urine of patients with estrogen receptor-positive breast cancer. Such markers shall, for instance, serve to guide the therapy duration and predict the benefit of a prolonged endocrine therapy (ET). Some of our studies rely on samples already stored in biobanks, such as the PATH Biobank for breast cancer. In addition, PATH Biobank leads the MESI-STRAT ET-termination trial, in which we collect new blood serum and urine samples. Within this trial, patients in their last year of endocrine therapy who have previously donated samples to PATH are invited to visit the breast cancer centres in Offenbach, Kassel and Dortmund and donate additional blood serum and urine samples before and after stopping the therapy. These samples allow us to survey their metabolite profiles upon cessation of the therapy, and develop marker panels predictive of the risk of relapse.

In August 2019, the first woman visited the Sana Clinic in Offenbach, Germany and donated samples. MESI-STRAT thanks her and Prof. Jackisch and his team for the excellent cooperation. With the first visit of this patient MESI-STRAT reached an important milestone for the ET termination trial. Currently, the ET termination trial will also start in Dortmund and Kassel.

#### Dr. Suraj Sharma, Ph. D.

Postdoctoral Researcher, University of Tromsø,  
The Arctic University of Norway

"What do you want to do in life?" is one of the simplest articulations that one encounters. "I want to become a Scientist", I answered, when asked for the first time,

at age 11. At that stage, it was just a word I was fascinated with. Over the years, my fascination grew several folds and found its roots in biological sciences. Since my childhood, I have seen my father maintain his kitchen garden with utmost care and I believe my fascination for life sciences began from his interest. The interdisciplinary concepts of problem solving has always been my prime inquisition.



*Dr. Suraj Sharma, Ph. D.; Postdoctoral Researcher at  
UiT The Arctic University of Norway*

I grew up in India and have studied engineering. For my doctoral research I moved to Germany, where the prime focus of my research was mathematical modelling of the biosynthesis of glucosinolates, a health-related natural product. In due course, I learned about NAD, a co-factor that is central to metabolism in living organisms. The reduced NAD concentrations caused by imbalances in the biosynthesis and consumption is observed in various chronic diseases including cancer. To develop treatment for these diseases, it is crucial to understand the dynamics of NAD and its impact on the NAD dependent pathways. In MESI-STRAT, I develop mathematical models of NAD metabolism to derive new methods for breast cancer patient classification and clinical decision-making.

Visit [www.mesi-strat.eu](http://www.mesi-strat.eu) to learn more about our consortium  
and follow us on twitter [@MesiStrat](https://twitter.com/MesiStrat) for the latest news of our project!



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