



MESI-STRAT

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



Newsletter No 1 – June 2019

MESI-STRAT started more than a year ago, and thus, it is time to share the events and progress of our first year with the community. The past months were very busy and successful. Naturally, it was a year of many firsts: the clinical trials have started and the first patients were recruited, our first patient day took place, postdoctoral scientists and PhD students have started their work, and first results have been published. The MESI-STRAT consortium proved also to be a prime example of European mobility: our project coordinator Prof. Dr. Kathrin Thedieck and her team joined the Institute of Biochemistry at Innsbruck University in Austria, while they remain also affiliated with the Universities of Groningen (The Netherlands) and Oldenburg (Germany). A truly European effort! In this frame, the coordination of MESI-STRAT moved to Innsbruck University, while the University Medical Center Groningen remains a partner with Prof. Dr. Barbara Bakker as the new, main PI at UMCG. Last but not least, our partner Dr. Sushma Nagaraja Grellscheid joined the University of Bergen in Norway as an Associate Professor. Congratulations!

First MESI-STRAT Annual Meeting

March 2019 brought along our first annual meeting, kindly hosted by our partner Heidelberg Institute for Theoretical Studies (HITS). The meeting took place at Studio Villa Bosch in Heidelberg, Germany. For two days, all MESI-STRAT partners and our international advisory board met to present and discuss the results and next steps for all work packages. We also updated and further developed our action plan for the next year, which details the steps to be taken by experimentalists, modelers, data scientists and clinicians, to conduct our study in smooth interaction. Fruitful workshops with the international advisory board members enabled the integration of their expertise and resources into ongoing MESI-STRAT activities.

A highlight was the talk and discussion with Life Science Alliance executive editor Dr. Andrea Leibfried about current and future developments in open access publishing. A workshop on FAIR data management, chaired by Dr. Olga Krebs and Dr. Wolfgang Mueller from HITS, completed our sessions on open access and open data. These efforts form part of MESI-STRAT activities towards the implementation of the [EC Open Research Data Pilot](#).



The MESI-STRAT consortium and international advisory board at the Annual Meeting 2019, hosted by our partner Heidelberg Institute for Theoretical Studies (HITS) at the Studio Villa Bosch in Heidelberg, Germany. Picture: Marc Wiegelmann.



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

First MESI-STRAT Patient Day

On Saturday, June 15 2019, MESI-STRAT co-coordinator PATH Biobank invited breast cancer patients to MESI-STRAT's first patient day at the St.-Johannes-Hospital in Dortmund, Germany. The participants received information about MESI-STRAT's key research questions, scientific approaches, and clinical studies. Furthermore, MESI-STRAT received input from the participating patients through a questionnaire specifically developed for this patient day. The event in Dortmund is not to remain the only of its kind. The next MESI-STRAT patient day is already scheduled for September 2019 at the Sana Klinikum Offenbach, Germany, to seek the exchange with patients, relatives, and the interested public.

First joint MESI-STRAT publication

Five MESI-STRAT partners have released our first joint open access research publication. Collaborators from Innsbruck University (Austria), the University Medical Center Groningen (The Netherlands), the German Cancer Research Center in Heidelberg, the Charité University Medicine Berlin (Germany), and the Arctic University of Norway in Tromsø (Norway) have taken a systems modeling approach to tackle the stress response of human breast cancer cells. The team has identified the activity of the key oncogene phosphoinositide-3-kinase (PI3K) as a predictive feature of the cellular response to p38 inhibitors, which are currently in clinical trials. As the dissemination of research output and its integration into the scientific discourse is of utmost concern to MESI-STRAT and the EC, it is part of our grant agreement to publish all re-

sults open access. Thus, you may access the publication free of charge here: [Heberle and Razquin Navas et al. 2018 \(PMID 30923191\)](#).

MESI-STRAT meets EpiPredict

The Innovative Training Network (ITN) [EpiPredict](#) forms part of the programme of Marie Skłodowska-Curie Actions (MSCA) in Horizon2020. Coordinated by Dr. Pernelle Verschure and Prof. Dr. Hans Westerhoff (Synthetic biology and nuclear organization, University of Amsterdam, The Netherlands), the EpiPredict mission is to train a multidisciplinary cohort of young researchers, who investigate the epigenetics of estrogen receptor positive breast cancer (ER+BC).

To explore the strong synergies between our two consortia in taking systems approaches toward the epigenetics and metabolism of ER+BC, EpiPredict is on the MESI-STRAT international advisory board and attends all annual meetings. To further foster interactions, EpiPredict invited MESI-STRAT to the Conference on "[Systems Epigenetics: Towards Precision Cancer Medicine](#)", which took place November 27 – 30 2018 in Amsterdam, The Netherlands. In her talk "Exploring the links between metabolism and epigenetics in breast cancer – MESI-STRAT and EpiPredict", Kathrin Thedieck presented the MESI-STRAT project and introduced the crosstalk between epigenetics and metabolism. The conference was an excellent forum to foster pan-European and world-wide exchange on breast cancer and strengthened the ties between our two consortia.

Visit www.mesi-strat.eu to learn more about our consortium!



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