

Inaugural Symposium

Measurable Man

Organizing committee: Ulf Landegren (convener), Erik Ullerås, Kristofer Rubin

Man has long been the measure of all things – with heartbeat seconds for time; inches, feet and fathoms to measure distances; and Fahrenheit degrees defined by our body temperature. But the tables are turning, and we increasingly find ourselves digitized, pixelated and voxelated, and rolled out as strings of nucleotides or simply bits of abstracted information. In medicine, we are entering a phase of data-rich, personalized medicine where humans are being represented by large data sets that will permit modelling aspects of our future health. This tendency towards multiparametric measurement and digitization of people will not only permeate health care but also impinge on our everyday lives, with profound consequences for medicines and industries, as well as for how we view each other and what we see as a life worth living. The symposium *Measurable Man* will introduce a new research program by that same name at the Swedish Collegium for Advanced Study (SCAS), with the purpose to better understand what means for analysis of human health we are still missing and how to achieve these, but also to understand opportunities and risks of the rapidly emerging molecular measures of man.

Lectures by

LEROY HOOD, KÁRI STEFÁNSSON, and MATHIAS UHLÉN, among others

9-10 October, 2019

Please note that the symposium is divided into two parts:

9 October: a round-table discussion, which is a closed event and by invitation only.

10 October: public lectures (please see next page for the programme)

For more information, please visit:

www.swedishcollegium.se



Programme

Thursday, 10 October (Public lectures. No registration required.)

Venue: Uppsala Biomedical Centre, BMC B8 (the Svedberg Hall)

- 09:00 - 09:15 **CHRISTINA GARSTEN**, Swedish Collegium for Advanced Study (SCAS)
Introduction
- 09:15 - 10:00 **LEROY HOOD**, Institute for Systems Biology, Providence, St. Joseph Health
Big Data, Complexity, Wellness and Disease
- 10:00 - 10:45 **KÁRI STEFÁNSSON**, deCODE genetics, Reykjavik
The Genetics of Functions and Dysfunctions of the Brain
- 10:45 - 11:15 COFFEE/TEA BREAK
- 11:15 - 12:00 **MATHIAS UHLÉN**, Karolinska Institute and Royal Institute of Technology (KTH)
The Human Protein Atlas: Mapping the Building-blocks of Humans
- 12:00 - 13:00 LUNCH BREAK

Venue: Uppsala Biomedical Centre, BMC A1:107A

- 13:00 - 13:30 **OLLI KALLIONIEMI**, Karolinska Institute
Precision Systems Medicine
- 13:30 - 14:00 **TOVE FALL**, Uppsala University
A Gutsy Approach to Cardiovascular Disease
- 14:00 - 14:30 **RICKARD SANDBERG**, Karolinska Institute
Inference of RNA Isoforms and Transcriptional Dynamics from scRNA-seq
- 14:30 - 15:00 **MIA PHILLIPSON**, Uppsala University
Immune Cell-driven Tissue Healing
- 15:00 - 15:30 COFFEE/TEA BREAK
- 15:30 - 16:00 **STEFAN JAMES**, Uppsala University
Forming a Learning Health Care System of Evidence Generation - By Building and Linking Clinical Registries, Biobanks and Clinical Trials
- 16:00 - 16:30 **SARA MANGSBO**, Uppsala University
Cancer Immunotherapy Today and Tomorrow: Diagnostic Tools are Needed to Provide the Right Drug for the Right Patient
- 16:30 - 17:00 **MASOOD KAMALI-MOGHADDAM**, Uppsala University
Advanced Tools for Exosome Analysis
- 17:00 - 17:10 **ULF LANDEGREN**, Uppsala University
Rounding up



The Swedish Collegium for Advanced Study (SCAS) & the Natural Sciences Programme

The Swedish Collegium for Advanced Study (SCAS) aims to provide optimal research conditions for curiosity-driven research. The Collegium is a scholarly community where Fellows pursue research of their own choosing in a context of interdisciplinary dialogue and cooperation. Since its foundation in 1985, it strives to protect and nurture independent inquiry, collaborative and deep thinking, and to emphasize the importance of academic freedom worldwide. Governmental support and support from major research foundations allow the invited Fellows to freely decide on their study and to engage in focused research.

Chartered by the Government of Sweden as an institute for advanced study, SCAS is a national scientific institution. A core component of an institute for advanced study is a selective Fellowship programme, and the Collegium is open to applications from scholars across the range of the human and social sciences, as well as from the natural sciences.

SCAS interacts with a large number of scholarly institutions. Especially important is the collaboration with originally six, now ten, leading institutes for advanced study within the SIAS group (Some Institutes for Advanced Study), including e.g. Center for Advanced Study in the Behavioral Sciences, Stanford University; Institute for Advanced Study, Princeton; Radcliffe Institute for Advanced Study, Harvard University; and Wissenschaftskolleg zu Berlin. The Collegium is located in Linneanum, a historic building in the Botanic Garden in Uppsala, near the Carolina Rediviva Library and other scientific facilities at Uppsala University.

The expansion of the Collegium to include a Natural Sciences Programme aims at advancing cutting-edge research in the natural sciences, as well as at bridging the gap between these and the humanities and social sciences. This expansion has been made possible by support from the Erling-Persson Family Foundation and the Knut and Alice Wallenberg Foundation. The programme is focused on research that involves synthesis, data analysis and conceptual and theoretical work, and includes symposia and several stipends for distinguished scientists and scholars to visit SCAS for at least three months and up to an academic year. There are four thematic foci of the programme: Theoretical Biology; Human Brains and Societies; Measurable Man; and Exoplanets and Biological Activity on Other Worlds.

This symposium is the first one to be organized within the framework of the Measurable Man theme.