



Welcome to  
**Autumn meeting 2017**

**23 November 2017, Robergssalen,  
Akademiska Sjukhuset, Uppsala**

Program	
09.30 – 10.00	<i>Coffee and registration</i>
10.00 – 10.05	<b>FMS 30 years – Welcome to FMS autumn meeting</b> <i>Cecilia Lundholm</i>
10.05 – 10.35	<b>Medical statistics – some experiences</b> <i>Adam Taube, Uppsala University</i>
10.35 – 12.20	<b>Healthy Birth, Growth and Development Knowledge Integration. A Gates Foundation initiative</b> <i>Jonas Häggström, Holy Diver Consulting and Niklas Johnsson</i>
12.20 – 13.30	<i>Lunch</i>
13.30 – 14.15	<b>An introduction to causal inference and the STRATOS–initiative</b> <i>Ingeborg Waernbaum, Umeå University and The Institute for Evaluation of Labour Market and Education Policy</i>
14.15 – 15.00	<b>A selection operator for summary association statistics reveals allelic heterogeneity of complex traits</b> <i>Zheng Ning, Karolinska Institutet</i>
15.00 – 15.20	<i>Coffee</i>
15.20 – 16.05	<b>Subgroup detection and confirmation in a phase 3 clinical development program</b> <i>David Svensson, AstraZeneca</i>
16.05 – 16.10	<b>Closing</b> <i>Cecilia Lundholm, FMS, Karolinska Institutet</i>

The meeting is free of charge, including coffee and lunch.

Registration via <https://goo.gl/forms/o4DuMpl43NAH7WbC3> no later than **November 16**.

Questions are referred to [fmsstyrelse@gmail.com](mailto:fmsstyrelse@gmail.com)

**FMS thanks the following partners for their support:**



## Abstracts

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**Title:** An introduction to causal inference and the STRATOS-initiative.

**Speaker:** Ingeborg Waernbaum, Umeå University and Institute for Evaluation of Labour Market and Education Policy (IFAU)

**Abstract:** The STRATOS collaboration (STRENGTHENING Analytical Thinking for Observational Studies) was initiated to help researchers working with biostatistical methods to handle the methodological complexity from the broad range of areas potentially involved when analysing data from observational studies. An overall objective is to provide accessible and accurate guidance for data analysts with different levels of statistical education and interests, taking into account the differences in their training and experience. The initiative was formally launched in August 2013, at the 34th annual meeting of the International the International Society for Clinical Biostatistics (ISCB). The STRATOS-initiative is organized in nine topic groups covering different areas relevant to analysis of observational data.

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**Title:** A selection operator for summary association statistics reveals allelic heterogeneity of complex traits

**Speaker:** Zheng Ning, Karolinska Institutet

**Abstract:** In recent years, as a secondary analysis in genome-wide association studies (GWAS), conditional and joint multi-variant analysis (GCTA-COJO) has been successful in discovering additional association signals within detected loci. This suggests that many loci mapped in GWAS harbour more than a single causal variant. We develop a penalized selection operator (SOJO) within each mapped locus, based on LASSO regression derived from summary association statistics. We show that SOJO achieves better variable selection accuracy and prediction performance. Our empirical results indicate that human height is not only a highly polygenic trait, but also has high allelic heterogeneity within its established hundreds of loci.

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**Title:** Subgroup detection and confirmation in a phase 3 clinical development program

**Speaker:** David Svensson, AstraZeneca

**Abstract:** The talk discusses the role of subgroup analysis in randomized clinical trials and gives an overview of its different flavours; in particular, two areas are highlighted: consistency of effect across pre-specified subgroups and novel biomarker subgroup detection. Some recently suggested methodology for these areas are presented, including shrinkage, and machine learning, and we look at some potential issues. Finally, a short case-study is presented, discussing how AstraZeneca recently relied on a novel, data-driven approach (SIDES) for determining a primary subgroup in a Phase III study.

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