



The role of the Royal Swedish Academy of Agriculture and Forestry is to promote agriculture and forestry and related activities for the benefit of society, with the support of science and practical experience. The Academy was founded in 1811 at the initiative of Karl XIV Johan and started its work on 28 January 1813.

Seminar

Smart biomass for future materials

Time	Friday 20 th April, 2018 at 12.30 PM (lunch and registration at 11.30 AM) and ends 16 PM.
Venue	The Royal Swedish Academy of Agriculture and Forestry, Drottninggatan 95 B, Stockholm.
Registration	Register via this link . Last day for registration is 14 th April, 2018.
Fee and cancellation	The fee is SEK 250. Cancellation must be made in writing to gun.askero@ksla.se no later than 17 th April, 2018. Otherwise, you will be charged SEK 500.
Webb	The seminar will be broadcasted at www.ksla.se
Questions	Registration: Gun Askerö, gun.askero@ksla.se , + 46 8 54 54 77 12 Content: Birgitta Naumburg, birgitta.naumburg@ksla.se , +46 8 54 54 77 07

If you are interested in new discoveries and new ideas for future materials and their production, come and listen to scientists with new ideas about how to shape biomass to new bio-materials. The ideas are worth spreading.

In the same format as TED-talks, KSLA will arrange a range of presentations of on-going research on the development of future smart materials. A number of ideas and discoveries that have implications for agriculture, forestry and the society as a whole will be presented in short, informative and hope-fully inspiring talks. Within the time-frame of a few hours you will get several possibilities to discover things that you have not known earlier and get new perspectives of how biomass can be tailored to become important components in materials in our future society.

The background is that new recyclable materials are urgently needed. Alternatives to fossil based materials are searched for intensively all over the world and it is in focus in the discussion about a bio-based economy.

Today we typically refer bio- based materials to modern materials that have undergone more extensive processing. Such materials fall under the broader category of bio-based products. It includes materials, chemicals and energy derived from renewable biological resources. Most bio-based materials are biodegradable. We often think about examples such as engineered wood, cellulose, casein, cotton, poly-lactic acid, starch, oils, etc. However, there are other possibilities, the biomass itself can be altered and designed de novo to produce valuable products: we can “grow” new raw-materials tailor-made for specific end-products, we can also produce valuable materials by mimicking nature. At this meeting at KSLA, researchers mainly from SLU will present their bio-based research initiatives. You are most welcome to participate at the meeting and take part in a glimpse of the future of material research.

Välkomna!

Eva Pettersson
Akademiens sekreterare och VD



Programme

Smart biomass for future materials

Friday 20 April 2018

Moderator Jan-Erik Hällgren, Professor.em. Chair of Marcus Wallenberg Prize Committee, KSLA

11.30 **Lunch and registration**

12.30 **Welcome**

Eva Pettersson, General Secretary and Managing Director, KSLA
Jan-Erik Hällgren, Professor.em, SLU, Chair of Marcus Wallenberg Prize Committee, KSLA

12.40 **Beating nature – the worlds strongest bio-material ever”**

Daniel Söderberg, Director of Treeseearch, KTH Royal Institute of Technology, Stockholm

Spinning artificial spider silk

Anna Rising, Professor, SLU, Uppsala

Genetic engineering of wood for biomaterials

Rishi Bahlerao, Professor, Umeå Plant Science Center, SLU, Umeå

Starch barriers for food packaging

Kristine Koch, Associate Professor, SLU, Uppsala

Hybrid materials with mineral nanoparticles

Vadim Kessler Professor, SLU, Uppsala

High added value from industrial agro-by-products

Ramune Kuktaite, Associate Professor, SLU, Alnarp

14.10 **Coffee**

14.45 **Fuel pellets from energy grass – the full story**

Mikael Thyrel, Lecturer, SLU, Umeå

Smart protein nanomaterials with genetically encoded functionality

Mats Sandgren, Professor, SLU, Uppsala

Anaerobic digestion – the bio-refinery of the future

Anna Schnürer, External Collaboration Specialist, SLU, Uppsala

Unravelling the nanoworld of biomaterials and its implications

Geoffrey Daniel, Professor, SLU, Uppsala

Short dialogue with the speakers

16.00 **End of session**