

Summer School on Sustainable Plastics at Lund University

Preliminary schedule

Date	Time	Lecture by	Topic
7 Aug	09.30-10.00	Rajni Hatti Kaul	Introduction to summer school, STEPS programme, history of plastics
	10.15-12.00	Leif Nilsson	The Swedish plastic industry, different plastic processing methods
	13.15-15.00	Peter Andersson	Current plastic recycling systems
8 Aug	10.15-11.00	Baozhong Zhang	Different polymer types and properties
	11.15-12.00	Lennart Johansson,	Plastic additives
	13.15-14.00	Leif Nilsson	Plastic packaging, challenges
9 Aug	10.15-11.00	Lars J Nilsson	Plastic industry and climate change
	11.15-12.00	Tommy Cedervall	Microplastics
			<i>GROUP DISCUSSION</i>
10 Aug	10.15-11.00	Rajni Hatti Kaul	Biobased and biodegradable plastics
	11.15-12.00	Baozhong Zhang	Design of plastics for recycling <i>EXERCISE</i>
14 Aug	10.15-11.00	Pål Börjesson	Biomass availability
	11.15-12.00	Cristiano Varrone	EU Horizon2020 project UPLIFT
	14.15-15.00	Mikael Hannus	Forestry biomass value addition
15 Aug	10.15-11.00	Mats Galbe	Technologies for producing biobased plastics – biomass pretreatment
	11.15-12.00	Christian Hulteberg	Chemical technologies for producing polymer building blocks from biomass and carbon dioxide
	13.15-14.15		<i>STUDY VISIT TO THE LABORATORIES</i>
	14.15-15.00	Rajni Hatti Kaul	Biotechnology for producing polymer building blocks from biomass and carbon dioxide
16 Aug	10.15-11.00	Melker Axelsson	New recycling technologies – chemical recycling
	11.15-12.00	Mohamed Ismail	New recycling technologies – enzymatic recycling
	13.15-14.00	Pål Börjesson	Life cycle analysis
	14.15-15.00	Linnea Granström	High quality mechanical recycling
17 Aug	13.15-14.00	Tobias Nielsen	Policies, EU and Sweden, Global Plastics treaty
	14.15-15.00	Maria Gustafsson	Standards for biobased plastics
18 Aug	10.15	Nick Wierckx	Microbial upcycling of (poly)amides
			<i>PRESENTATIONS BY PARTICIPANTS</i>
			LUNCH

TBC: To be confirmed

Coffee will be available for those joining in person.

Speakers

Peter Andersson. Managing Director of General Plastics Scandinavia GPS. PA has grown up within packaging and recycling industry.

Melker Axelsson. Research Engineer at Quantafuel

Pål Börjesson. Professor in Energy & Environmental Studies, Faculty of Engineering (LTH), Lund University. Life cycle analysis expert.

Tommy Cedervall. Head of Division Biochemistry and Structural Biology, Lund University. TC is principal investigator at Nanolund – Center for Nanoscience.

Mats Galbe. Senior Lecturer in Chemical Engineering, LTH, Lund University. MG has long experience. He has long experience in biofuels and biorefinery technologies.

Linnea Granström. Climate & Environmental Strategist at Swedish Plastic Recycling. Linnea has a background in environmental engineering, focusing on system analysis for sustainable development. She has previously worked as a sustainability consultant at 2050 Consulting, with expertise in climate impact calculations, reporting and target setting, covering a wide range of sectors.

Maria Gustafsson. Project manager at Swedish Institute of Standards, a voluntary organization that lead and advise experts from different sectors in development of standards.

Mikael Hannus. Global Technology Scout at Stora Enso with a role to find future technologies.

Rajni Hatti Kaul. Professor in Biotechnology, LTH, Lund University. Director, International Master Programme in Biotechnology, LTH, and Mistra funded research programme STEPS (Sustainable Plastics and Plastic Pathways). Research expertise in developing biotechnology and green chemistry routes for biobased chemicals and materials, and enzymatic recycling of plastics.

Christian Hulteberg. Professor in Chemical Engineering, LTH, Lund University. The aim of his research in technology development to enable transition from fossil to renewable feedstock in the chemical and petrochemical industry. CH is also a serial entrepreneur.

Mohamed Ismail. Postdoc in Biotechnology, LTH, Lund University. Expertise in biocatalysis and protein engineering.

Lennart Johansson. Industry manager of SPIF (Svensk Plastindustriförening). LJ has worked as Senior Scientist at ABB Corporate Research on degradation and stabilization of polymers. He has also experience in extrusion and injection molding from Orica. LJ has a broad international experience as a lecturer and consultant in Europe and Asia and runs his own company Polymer Support.

Tobias Nielsen. Expert at European Environment Agency, Copenhagen. Previously postdoctoral researcher within STEPS programme at Department of Political Science, Lund University.

Leif Nilsson. Rentus AB. Several decades of experience in the plastic industry. Former Chairman of the Board, Arla Plast. Currently Board member of STEPS research programme, and also for companies like Bioextrax and Cyclicor.

Lars J. Nilsson. Head of Department of Technology and Society and Professor in Environmental & Energy Systems Studies, Faculty of Engineering, Lund University. LNJ's research encompasses the field of energy systems analysis, and energy and climate policy analysis. His current research focus is decarbonization of the energy intensive basic materials industry and associated policy strategies. LNJ is one of four Swedish researchers who are the main authors for a chapter in the latest IPCC report.

Cristiano Varrone. Associate Professor at the Department of Chemistry and Bioscience, Aalborg University, Denmark. Coordinator of the EU Horizon2020 research project UPLIFT (sUustainable Plastics for the Food and dring packaging industry).

Nick Wierckx. Professor at Forschungszentrum Jülich, Germany, leading a group of microbial catalysis.

Baozhang Zhang. Senior Lecturer in Polymer Technology, Center for Analysis and Synthesis, LTH, Lund University. Management group member of STEPS. Research on design, synthesis and characterization of biobased plastics.