

Lignin summer course at Lund University (3 credit points)

## *Biological valorization of lignin, setting the scene*

**August 16-18 2017 (week 33)**

*Place: Kemicentrum, Naturvetarevägen 12-18, Lund University*

*Program: cf. next page*

The departments of Chemistry and Chemical Engineering of Lund University cordially invite **PhD students and researchers from academia and industry** to this 3-day course covering all aspects of lignin research from the scientific, analytical and industrial points of view.

This is an outstanding opportunity to gain a global perspective about lignin in the lab and in the industry, and also to mingle with researchers in this field in a relaxed and cooperative environment. Join us!

Please register **before June 30** [here](#). Note that a participation fee of 1,000 SEK will be required after registration.

More information about the course will also be updated regularly on our webpage **[www.lignin.lu.se](http://www.lignin.lu.se)**

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## Course Program

August 16 <sup>th</sup>	Activity	Additional information
9.30-10.00	Registration/Coffee	
10.00	Course Introduction	
10.15-12.30	Lecture session 1	<b>Lignin – origin and uses –</b> <ol style="list-style-type: none"> <li>1. Lignin chemistry (G. Gellerstedt, KTH)</li> <li>2. Industrial perspectives for lignin (C.Hulteberg)</li> <li>3. The role of biorefineries, innovation and governance in the emerging bioeconomy (D. Koca)</li> </ol>
12.30-13.15	Lunch	
13.30-16.30	Lecture session 2 with coffee break	<b>Pretreatment of lignocellulosic materials</b> <ol style="list-style-type: none"> <li>1. Fractionation methods (O. Wallberg)</li> <li>2. Membrane for lignin fractionation (F. Lipnizki)</li> <li>3. Depolymerisation (P. Tunå)</li> </ol>
16.30-18.30	Introduction to project task & Group work	
19.00-	City excursion & dinner	

August 17 <sup>th</sup>	Activity	Additional information
8.30-11.15	Lecture session 3 with coffee break	<b>Bioconversion of lignin and microbial engineering</b> <ol style="list-style-type: none"> <li>1. Lignin modifying enzymes in processing of biomass (L. Jönsson, Umeå University)</li> <li>2. Bulk chemicals from lignin (M. Gorwa-Grauslund)</li> <li>3. From lignin to fine chemicals from depolymerised lignin (M. Carlquist)</li> </ol>
11.15-12.30	Group work	
12.30-13.30	Lunch	
13.30-16.00	Lecture session 4 with coffee break	<b>Chromatographic analysis of lignin-related compounds</b> <ol style="list-style-type: none"> <li>1. Principles of chromatographic separation and detection (M. Sandahl)</li> <li>2. Lignin applications – GC, LC and SFC (M. Sandahl)</li> <li>3. Quality of the analytical result – method validation (M. Sandahl)</li> </ol>
16.00-17.00	Poster session – with refreshments	
17.00-19.00	Group work & preparation of the presentation	
Evening	Free time	

August 18 <sup>th</sup>	Activity	Additional information
8.30-11.00	Lecture session 5	<b>Techno-economic and environmental perspectives</b> <ol style="list-style-type: none"> <li>1. Techno-economic perspectives (G. Zacchi)</li> <li>2. Integration study (O. Abdelaziz)</li> <li>3. LCA perspectives (P. Börjesson)</li> </ol>
11.00-11.30	Coffee	
11.30-12.15	Closing lecture	Lignin – a challenging molecule (H. Grundberg, Aditya Birla/Domsjö)
12.15-13.15	Lunch	
13.15-15.00	Project presentations	
15.00-	Wrap up & Visit of the laboratories	