Kemiska institutionen
Lunds universitet

KILU Newsletter week 50, 2014-12-11

KILU Newsletter is the Department of Chemistry's internal newsletter.

Talking Heads
Dear all!
This will be our last communication as heads of KILU. It has been an interesting three years that have passed by very quickly. On the positive side, we are happy to say that KILU's finances, at least when it comes to research, have been quite strong. Researchers at KILU have succeeded in securing several highly prestigious external grants. However, while the support from the Science faculty has remained more or less constant, we have unfortunately experienced a decrease in the faculty financing from LTH to KILU-LTH.
It has been very satisfying to experience that all our undergraduate programs, at both faculties, received the grade 'Hög kvalitet' in the evaluation by Högskoleverket (now UKÄ) except for one, our OMM Master program, which received the highest grade (incidentally the only chemistry program in Sweden that was awarded this grade). The number of students applying for the engineering programs in chemistry and biotechnology has remained reasonably high, and the enrollment in our bachelor program in chemistry has increased, albeit from a low level.
We would like to take this opportunity to thank the administrative staff at KILU/KC. Without their efforts, the task of leading such a large and complex organization as KILU would have been very difficult indeed.
We would also like to take the opportunity to welcome the incoming head and deputy head of KILU. We are convinced that Sven Lidin and Viveka Alfredsson will do an excellent job in leading our department. There will no doubt be challenges. We can see an increased dependence on external grants for research activities, something which has repercussions on the way we deal with our internal organization. Undergraduate education still suffers from inadequate financing, and further measures need to be taken to improve this situation.
Finally, we would like to wish you all a very happy holiday and may you all "live long and prosper"!
/Olle Söderman and Jan-Olle Malm

At the Department of Chemistry
Nobel lectures in Lund, 15 and 17 of December
Next week the Nobel Prize laureates in Chemistry 2014 will visit Lund and give a lecture at Lund University.
Stefan W. Hell, "Optical Microscopy: the Resolution Revolution"
December 15, at 15:15, Fernströmsalen, BMC
For more than one hundred years researchers believed that it would never be possible to see things smaller than about 0.2 micrometer using an optical microscope. Stefan W. Hell was the first one to significantly transcend this limit when he developed the principles of Stimulated Emission Depletion (STED) during his time at University of Turku in Finland (1993-96). This made it possible to see structures on nanometer scales and allowed, for instance, more detailed images of the contents of cells on a molecular level.
William E. Moerner, "Single Molecules, Super-Resolution Microscopy and Molecular Dynamics in Solution"
December 17, at 15:15, Kemicentrum, Lecture hall A
Even before Hell’s development of STED, William E. Moerner had succeeded in doing spectroscopy of single molecules. Previously only ensembles of molecules had been studied in condensed phases and hence mostly averaged properties were studied. A few years later when Moerner studied a special derivative of the Green Fluorescent Protein (GFP), a protein whose discovery also has yielded a Nobel Prize, he succeeded in controlling the emission from single fluorescent proteins. Later Eric Betzig could use this discovery and by layering several images of single molecules on top of each other, full images with a resolution at a molecular level could be generated.
More information at Kemiska Föreningen i Lund's website (http://www.kilu.lu.se/kemiskaforeningen/aktiviteter/activities-in-english/)

News
Researchers behind new methods to create materials consisting of virus-like structures
The design and production of future materials would enormously benefit if we were capable of self-assembling nanostructures with the precision and reliability found in biological self-assembly, and considerable efforts are thus made to better understand these processes.
Currently there seems to exist a consensus that a successful model for the formation of biological nanostructure such as microtubules or tubular viruses through self-assembly requires a monomer geometry that already has a preferred curvature explicitly built in. In a recent article in Nature Communications researchers from the Division of Physical Chemistry at Lund University now challenge this view. They have shown that simple ellipsoidal colloids can form well-defined tubular structures in the presence of an alternating electric field.
These findings demonstrate the existence of a new and simpler path to fabricate regular tubular virus-like structures for e.g. pharmaceuticals, molecular electronics and photonics.

Great interest for research on long-sightedness caused by age

In the latest issue of the KILU Newsletter we wrote about researchers from the Division of Physical Chemistry who published an article about the molecular origins for presbyopia, long-sightedness caused by age . The researchers showed that presbyopia may be due to proteins in the lens that are converted from a liquid solution to solid, glassy state.

The last weeks the news has been spread widely in media. Read more here:

Read the paper here (http://www.pnas.org/content/early/2014/11/07/1406990111)

Sara Snogerup new member of Kungl. Ingenjörsakademien

Sara Snogerup Linse, professor at the Department of Chemistry has been elected new member of the Kungl. Ingenjörsvetenskapsakademien, IVA. Read more about it at IVA’s website (http://www.iva.se/nyheter/anders-sundstrom-sara-snogerup-linke-och-fem-andra-invelda-i-iva/)

Chemists awarded by Kungliga Fysiografiska Sällskapet i Lund

Researchers from the Department of Chemistry, have been acknowledged for their research on the fermentation processes respectively the studies of nano-wires structure and growth.

At the gathering of Kungliga fysiografiska sällskapet i Lund on December 2, Bärbel Hahn-Hägerdal and Martin Ek received prizes for their distinguished and innovative research.

Bärbel Hahn-Hägerdal, Professor Emerita of Applied Microbiology, was awarded Engeströmska medaljen for her great efforts in fermentation processes of cellulose compounds. The medal was awarded for outstanding work in applied science regarding Skåne's agriculture and its subsidiary industries.

Martin Ek, PhD in Chemistry was awarded the Fabian Gyllenberg Prize in Chemistry (80.000 SEK) for his innovative electron microscopic studies of nano-wire structure and growth.

Read more at the Department of Chemistry’s website (http://www.kilu.lu.se/nyheter-kilu/visa/article/chemister-i-lund-prisas-av-kgl-fysiografiska-sael/)

Financial report

Budget 2015

The budget for 2015 for the Department of Chemistry is now submitted to the Faculty of Science and the Faculty of Engineering. The budgeted financial result for the Department of Chemistry as a whole, including the board of joint services at Kemicentrum (husstyrelsen), is -20,3 MSEK, which is 5,4 MSEK lower than the result forecasted for the year 2014. Education is budgeted at a zero result and both the level of income as well as the level of costs have decreased. Research is budgeted at a deficit of -20,6 MSEK due to the fact that the income has decreased more (-20,6 MSEK) than the costs (14,6 MSEK). For Research the government grants are 11,4 MSEK lower compared to the latest forecast for 2014, whereas the external grants are 6,7 MSEK lower, when accruals for grants paid retroactively are considered. The remaining decrease in income is a result of lower income from external research assignments as well as university internal income. It should be noted that the budget 2015 only includes external financing that has already been approved, whereas historically researchers also get new grant approvals during the year as they submit their applications continuously. This means that there is potential for the Department of Chemistry to deliver results, that are not fully as negative as the budget for the coming year. As the budget is based on known and approved income, there is also a correlation with costs, meaning that additional resources are included in the budget for 2015 in the cases where financing exists. This results in a reduction of costs with 14,6 MSEK for Research, which is mainly caused by lower costs for personnel as well as lower costs for consumables.

Due to the negative financial results as per latest forecast, i.e. P3 2014, and as per budget 2015, the equity (myndighetskapital) of the Department of Chemistry as a whole, including the board of joint services at Kemicentrum (husstyrelsen), is expected to decrease from 100,4 MSEK at the end of 2013 to 65,2 MSEK at the end of 2015.

If you have any questions contact Karolina Isaksson, Head of Finance at the Department of Chemistry.

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<th>KLU TOT (SEK)</th>
<th>Budget 2015</th>
<th>Prognos 3 2014</th>
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<td>-14,906</td>
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Research Funding News from Research Services (Forskningsservice)


To subscribe contact Sophie.Hyden_Picasso@fl.lu.se

Sidansvarig: Cecilia von Arnold | 2014-12-11
CALENDAR

2014-12-11
Docentföreläsning av Daniel Strand
Entropy – what makes the world go round, Kemicentrum, sal B kl 15.15 [läs mer]

2014-12-12
Defence of thesis in Biochemistry
Cecilia Månsson, Kemicentrum, Lecture Hall B at 9.15 [läs mer]

2014-12-15
Lecture by Nobel Prize laureate in Chemistry 2014
Stefan W. Hell, "Optical Microscopy: the Resolution Revolution", Fernströmsalen, BMC, 15.15 [läs mer]

2014-12-17
Lecture by Nobel Prize laureate in Chemistry 2014

2014-12-17
Seminar Day: Organic Chemistry / Medicinal Chemistry
Kemicentrum, lecture hall G, 14.15-17.15 [läs mer]

2014-12-18
Defence of Thesis in Organic Chemistry
Anna Siegbahn, Kemicentrum, lecture hall B at 09.30 [läs mer]

2014-12-19
Defence of thesis in Biochemistry
Risto Cukalevski, Kemicentrum, lecture hall B at 13.00 [läs mer]

2015-01-23
Physical Chemistry Seminar
Friday 23 January at 14:15 in Kemicentrum, Lecture hall F. [läs mer]