

**Funding proposal to the LLC Board from the LLC Research Committee  
April 2009**

**Background**

The Lund Laser Centre (LLC) obtained a Linnaeus grant in June, 2006 at a level of 5 MSEK/y for 10 years. The university decided to contribute with additional 1 MSEK/y for the same time period. The LLC board appointed a Research Committee to propose research to be funded by the board. Based on the application text, and following a day of scientific presentations by LLC researchers, a program for the initial 18 months was proposed to and accepted by the LLC Board. In a follow up consideration by the committee the program was extended by the LLC board through the year 2010. Since one major item in the proposed Linnaeus program is the establishment of a professorship in Optical Quantum Electronics, and since this chair will not be filled until July 1 2009 at the earliest, an economical reserve has been accumulating within the program. In addition, the LLC also has a further reserve from accumulated and non-distributed funds relating to the Access to Large Scale Infrastructure Program. The rationale for this accumulation has been, that EC funding of this kind was the only source of income for the LLC running costs in the time pre Linnaeus, and that future EC funding could never be taken for granted. However, we are now at the start of a new funded 3-year period (LASERLAB-Europe-II) and risks are thus reduced. At its October meeting 2008, the LLC board decided to arrange an LLC Research and Strategy day for wide dissemination of research results within the LLC, and for generating new avenues of collaboration. The Research Committee was also charged with the task to propose strategic project support in view of the accumulated economical reserves of the LLC. Primarily this was seen as interim support in anticipation of a full scrutiny of the LLC Linnaeus grant research program beyond 2010. This would be the topic of an upcoming LLC Research and Strategy Day foreseen for the fall of 2010. This is also the time period for preparation of the VR mid-term evaluation of the Linnaeus program.

**LLC Research and Strategy Day, March 5, 2009**

The Research and Strategy Day was arranged as a full-day conference at Star Hotel, Lund. The attendance was about 50 researchers, and the full Research Committee with external and internal members participated. The program for the day is given as an enclosure.

The current membership of the LLC Research Committee is as follows:

***External members:***

Prof. Gunilla Jönson, Former Rector, LTH  
Prof. Joseph Nordgren, Uppsala University  
Prof. Ove Poulsen, Aarhus University

***Internal members:***

Marcus Aldén  
Stefan Andersson-Engels  
Hampus Nilsson  
Villy Sundström  
Sune Svanberg, chairperson  
Claes-Göran Wahlström

The committee met in a closed session after the end of the public presentations and the subsequent discussion period.

Available LLC funds, not distributed yet by Board decision, for the time period up till the end of 2010:

Linnaeus reserves:	2,600 kkr
LLC accumulated reserves (EC funds):	1,100 kkr
<b>Total LLC reserves:</b>	<b>3,700 kkr</b>

The projected Linnaeus reserves have as an assumption, that Volker Ebert, offered the LLC professorship, starts at the LLC July 1, 2009.

**Research Committee Deliberations and Proposal**

The committee found that the day had been extremely fruitful and a strong manifestation of a vigorous ongoing LLC research program. In particular, the external members expressed a strong satisfaction with the progress and wide scope of the research. It also noted that many projects were in a healthy state also economically and thus less dependent on directed LLC support, while very strongly contributing to the general LLC research surrounding. After committee discussions, where in particular the external members were articulated, it was decided that the most efficient and strategic use of LLC reserve funds presently would be to support two projects as detailed below.

1. While the ultra-high-intensity laser group has excellent equipment and many first-class research results jointly with visiting groups, involving e.g. particle acceleration, the manpower is clearly under-critical. The establishment of an LLC-supported “forskar-assistenttjänst” (assistant professorship) was recommended. There are good prospects that such a position could be filled with a qualified researcher. Such a position is a 4-year commitment, and funding would thus need to be reserved for two years beyond 2010. The committee suggests the LLC Board to make such a commitment.
2. The environmental monitoring and remote-sensing group at the LLC, instrumental for the development of many cross-disciplinary activities within LU, and for China and Third World Country research collaboration, is presently in an uncertain status in view of the upcoming retirement of the present group leader. Dr. Gabriel Somesfalean, alumnus from the group and since 4 years active as assistant/associate professor at top Chinese universities with a 30% LTH affiliation for China coordination and research in

environmental monitoring, is planned to return to Lund University with partial tasks as China coordinator at the International Unit of Lund University. A permanent position is considered for Somesfalean starting July 1, 2009, with the International unit as prime base. In order to secure a continuation of the LLC environmental research group activities and a further cross-disciplinary interaction with the biophotonics activity, the committee recommends to provide funds for a 50% research activity at the LLC for Somesfalean during a two year period.

Considering LKP and overhead costs for the two activities, the following costs will be incurred during the 2009-2010 time span (and transferred budgetarily onwards since appointments clearly are not from January 1, 2009):

Forskarassistenttjänst: 2 x 850 kkr (VR standard cost)	1,700 kkr
50% researcher's position: 2 x 450 kkr	900 kkr
<b>Total additional research funding proposed:</b>	<b>2,600 kkr</b>

The additional commitment proposed for funding by the LLC board would then still leave the Centre with a strategic reserve of about 1,100 kkr.

This proposal has been put forward by an unanimous committee, where each member has agreed to the text.

For the LLC Research Committee

Sune Svanberg  
Chairperson

## *Programme*

### **Lund Laser Centre Research and Strategy Day, March 5, 2009 Star Hotel, Glimmervägen 5, Lund**

Welcome to a day of science, interaction and inspiration! The LLC arranges this event for sharing of results and ideas, fostering of collaboration and furthering the goals and vision of the LLC and its Linnaeus programme. In shaping the LLC strategy, the Research Committee of the centre will also meet to discuss and consider recommendations to the LLC Board on the continuously evolving research programme. The goal of the day is to strengthen the LLC ambitions to serve as a base for continued excellence in the fields of lasers, spectroscopy and photonics - basic, applied and interdisciplinary.

08:45	Registration	
09:00	Opening and welcome, Presentation of External Research Committee Members	Claes-Göran Wahlström
09:05	The LLC and its Linnaeus Grant    Past - Present - Future	S. Svanberg
09:35	Astrophysical laser spectroscopy	H. Nilsson
09:50	Harmonics and attosecond physics	A. L'Huillier/ J. Mauritsson
10:15	High power laser - matter interactions	C.-G. Wahlström
10:30	Coffee break	
10:50	The MAX-lab related laser programme	S. Werin et al.
11:05	Time-resolved X-ray diffraction/spectroscopy	V. Sundström/ J. Larsson/ F. Oessler
11:30	Coherent multidimensional spectroscopy for electronic state dynamics	T. Pullerits
11:45	Lunch	

- 12:45 Interdisciplinary biomedical applications S. Andersson-Engels
- 13:05 Advanced diagnostics applications M. Aldén/  
E. Kristensson
- 13:25 Reflections and projections V. Ebert
- 13:45 Environmental spectroscopy – at home, in China and the 3<sup>rd</sup> world G. Somesfalean
- 14:00 General discussion:  
How to achieve the goals of the LLC Linnaeus programme and  
make the LLC as successful as possible
- 15:00 Coffee
- 15:20 Meeting of the LLC/Linnaeus Research Committee
- 17:00 Committee meeting ends