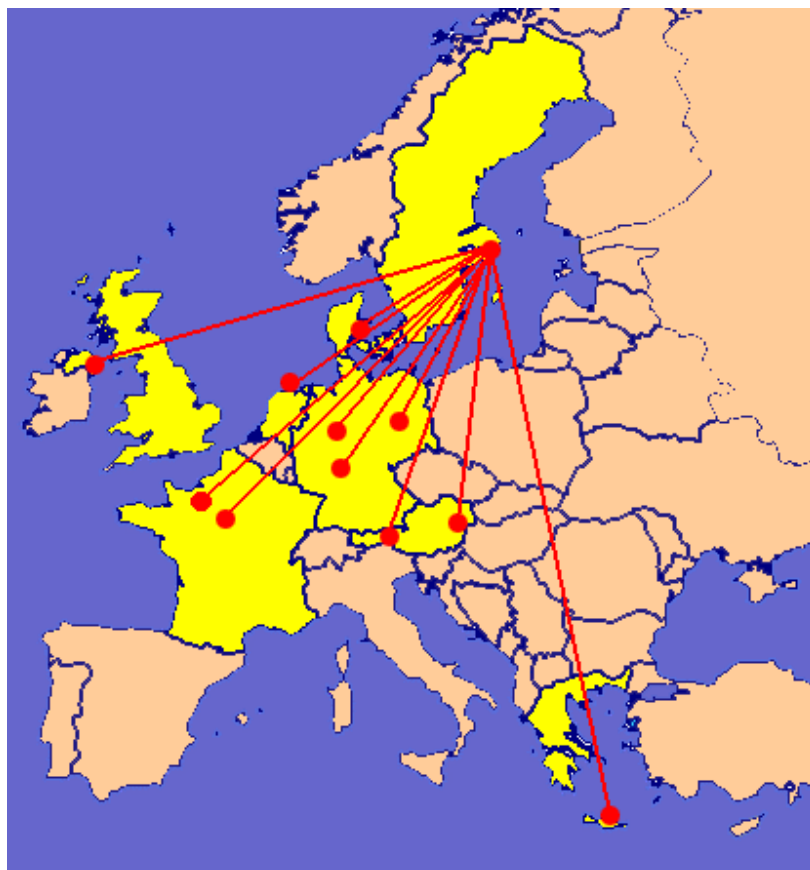




LEIF – Report 15
(European network HPRI-CT-1999-40012)
Low Energy Ion Beam Facilities



Final LEIF-network meeting

5th December - 9th December 2003

MSL / SU

Stockholm - Sweden

**Report on the
Final meeting
of the
Infrastructure co-operation network LEIF

'Low Energy Ion beam Facilities'
HPRI-CT-1999-40012**

Content :

- I Organisers comments and general remarks
- II AGENDA of the NMB Meeting
- III Minutes of the NMB Meeting
- IV Future Activities
- V Programme of the meeting
- VI List of participants

I) Organisers comments and general remarks

This report summarises activities and discussions during the Final Meeting of the European network LEIF. The conference was organised by Stockholm University and was held at the Manne Siegbahn Laboratory (MSL), Stockholm, Sweden, December 5-9, 2003.

The LEIF-meeting was opened on Saturday morning with a LEIF network management board (NMB) meeting. Here, recent activities and future actions were discussed. In particular, we focused on the financial aspects of the present network, on the continuation of the LEIF newsletter and web site, on future extended and smaller collaborations with European perspectives and related possibilities for applications to the 6th framework programme (FP6). On Saturday afternoon an open discussion on such future activities was organized.

On Sunday, the user projects were presented through 12 oral presentations and a poster session, arranged at the ion storage and cooler ring CRYRING at MSL. There were about 25 posters showing various research and development results and as this session was organised in the CRYRING lab itself it was also possible to give small spontaneous guided tours to various experimental and technical installations of interest. On Monday the 8th the participants attended public presentations by the 2003 Nobel laureates in physics and chemistry, which was followed up with a guided tour of the Nobel museum in the evening led by professor Anders Barany.

On Tuesday, December 9, invited experts from neighbouring fields, reported on recent progress and future perspectives of their research. There were five such presentations dealing with the manipulation of fullerenes, molecular dynamics with relevance to astrophysics, auroral light, magnetic semiconductors and projects using the ice of the south pole to detect neutrinos. This contact with scientists from nearby fields is recognised as an important tool to open our domain to other fields of science and to inspire new types of cross-disciplinary studies.

Finally, we would like to thank all colleagues for making this meeting a successful and enjoyable one.

II) AGENDA – NMB meeting – Stockholm 6.12.2003

- General Information
(NewLEIF, NanoSurf)
- Budget and final balance
- LEIF-projects
 - Information
 - Quality and management
 - Remote control
 - Detectors
 - Ion sources
 - Beam diagnostics and deceleration
- Timing for final report
- Future perspectives
 - Web-site
 - Newsletter
 - New demands at EU-level
- Miscellaneous

III) Minutes of the NMB-meeting (5.12.03-Stockholm, Sweden)

Begin of the session: 9:00

List of present members :

H. Lebius	(CIRIL, CEA)	B.A. Huber	(CIRIL, CEA)
N. Stolterfoht	(HMI)	E. Salzborn	(JLU)
R. Morgenstern	(KVI)	Ö. Skeppstedt	(MSL)
H. Cederquist	(SU)	R.W. McCullough	(QUB)
S. Tomita	(UAA)	HP. Winter	(TUW)
B. Siegmann	(UBI)	U. Werner	(UBI)
T.J.M. Zouros	(FRT)		

The groups of ERI (Paris) and LFU (Innsbruck) have been excused.

The co-ordinator informed the board on the status of the project NewLEIF, which has not been retained by the European Commission. The evaluator's comments have been discussed and possible reasons of the non-funding (e.g. large demanded budget-small community) have been outlined. The board was surprised that quality aspects and the idea of a distributed facility have been criticised although these ideas have been promoted by the European Commission.

The RTN-project "NanoSurf" which has been submitted on the 19th of December has been presented.

The analysis of the budget of the individual groups showed that the money available in the fourth year has been spent. Small adjustments can be made in the attribution of the last money transfer in 2004. In particular, 4 groups (TUW, UBI, LFU, FRT) agreed to contribute to the financing of invited speakers for the Belfast meeting with a sum of 1000 Euro.

The six LEIF-projects and final actions have been discussed:

- End of January 2004 the 6th LEIF-Newsletter will be published. In that issue we encourage mainly contributions, which document collaborations between different groups. Examples are: (QUB-JLU / sources), (UAA, MSL, CEA / biomolecules or C60), (HMI, QUB / nanocapillaries), The contributions should be sent to T. Zouros before the 23rd of January 04.
- The publications of all groups in the year 2003 (published and accepted) should be sent to the co-ordinator by 23rd of January.
- For updating the LEIF-Website the following contributions are expected:
Ion beam intensities: CEA, HMI ?
Emittance meter: QUB (+ Foto?)
Conetrap: (MSL)
- Within the project LP2, a new list of developments will be established.

- Within the project LP3, a practical demonstration concerning the remote controlling of an ion source will be organised. Thus, the ion source in Vienna will be controlled and optimised by the group in Giessen. A similar experiment has been proposed between Aarhus and MSL.
- A final inventory of detectors will be made by the Bielefeld group.

The discussion of the future perspectives has been postponed to the public afternoon session.

End of the session: 11h50

IV) Future activities

In the afternoon session different possibilities for continuing the developed LEIF-activities in the future have been discussed together with all participants. As a starting point the proposal NewLEIF and the received evaluation have been analysed, concluding that some of the raised points of criticism (for example: small community, but large financial demand) have to be accepted whereas others (problems of a distributed large scale facility) are less evident. Concerning future activities, the following issues have been discussed:

- in order to keep the LEIF-community close together the developed tools for communication (WEBSITE and Newsletter) will be continued.
- 7 out of 12 LEIF partners are included in the proposition to create a Research Training Network (RTN: Nanosurf) with the aim to apply low energy ion beams to the nanostructuring of insulator surfaces and thin films.
- 7 out of 12 LEIF partners and in addition several user groups participate in the COST action P9, which is funded by the ESF and which aims to study the radiation damage of biomolecular systems.
- The project concerning the construction of the new infrastructure DESIREE at Stockholm has been described and a possible participation of other LEIF partners has been evoked, which might lead to a proposal within the 6th framework programme (in charge H. Cederquist).
- The activity linked to the development of multicoincidence detectors, which has been set up in the NewLEIF proposal and which included several external users, should be continued in the future and funding might be obtained as an integrated action (in charge U. Werner).
- The creation of a distributed large scale LEIF-infrastructure, providing transnational access, shall be re-studied for a possible future application within PCRDT 6 (in charge B. Huber).

V) Programme of the Final LEIF Meeting

Friday 5 December	Arrival of participants
16.30 – 19.00	Discussion of future scientific activities (chair B. Huber)
Saturday 6 December	Arrival of participants to the MSL, Frescativägen 24, close to the Subway stop 'Universitetet'
09.00 – 11.55	NMB-meeting – discussion of projects and the final report (Coffee 10.15 – 10.45)
11.55 – 12.00	Gathering at MSL for transport to Foresta
12:30 - 14:00	Lunch at Foresta
14.00 – 16.00	Visit to Millesgården (art and sculpture museum partly outdoors). Comments on NewLEIF proposal Comments on the research training network Nanosurf Comments on Future EU programmes The status of the DESIREE project (H.T. Schmidt, SU) (Coffee 15.45 – 16.45)
19:00 - 00:30	Individual (non-scientific) activities in town
Sunday 7 December	
09.00 – 12.00	LEIF user day
09.00 – 09.30	Hannspeter Winter , TU Vienna, Comparing kinetic electron emission from metal- and insulator surfaces
09.30 – 09.50	Zoran Pesic , HMI, Germany Energy deposition and release by highly charged ion impact on SiO ₂ .
09.50 – 10.10	Bärbel Siegman , Bielefeld, Germany Coulomb fragmentation of molecules by HCl
10.15 – 10.45	Coffee
10.45 – 11.15	Bruno Manil , Caen, France

	Fragmentation of clusters of fullerenes
11.15 – 11.35	Sten Broendsted Nielsen , Aarhus, Denmark Photophysics of protoporphyrin Ions in vacuo: Triplet state lifetimes and quantum yields.
11.35 – 12.00	Bo Liu , Aarhus, Denmark Biomolecular ions in accelerators and storage rings
12:00 - 13:00	Lunch at the Faculty Club
13.00 - 15.00	LEIF user day continued
13.00 – 13.30	Reinhard Morgenstern , KVI Groningen, the Netherlands Fragmentation of biologically relevant molecules by highly charged ions and by laser fields.
13.30 – 14.00	Mike Fogle , SU, Sweden DR of Astrophysical relevance.
14.00 – 14.20	Anneli Ehlerding , SU, Sweden Dissociative recombination of hydrocarbon atoms
14.20 – 14.40	Coffee
14.40 - 15.10	Robert Mc Cullough , QUB, Belfast Recent work at QUB on Molecular Dissociation and laser desorption of DNA.
15.10.– 15.30	Stojan Madzunkov , SU, Sweden Characteristic photon emission in slow ion-atom Collisions
15.30 – 16.00	Wolf Geppard , SU, Sweden Molecular astrophysics (preliminary)
16:00 – 19:00	Poster session and guiding of the CRYRING lab LEIF Pub
19:00 - 21:00	Dinner at the Faculty Club

Monday 8 December – ‘the Nobel day’!

09.00 – 15.00 Nobel lectures in physics and chemistry

17.00 – 19.00 Visit to the Nobel Museum

Tuesday 9 December –related and new fields

09.00 – 09.30 **Eleanor Campbell**, Gothenburg, Sweden
Manipulation of fullerenes

09.30 – 10.00 **Mats Larsson**, Stockholm University, Sweden
Destruction of astrophysical molecules – neutral
reaction product branching ratios

10.00 – 10.30 **Göran Marklund**, KTH, Sweden
Rhythm of the Auroral Dance

10.30 – 11.00 Coffee

11.00 – 11.30 **Börje Johansson**, KTH, Uppsala University, Sweden
Magnetic Semiconductors - Theory

11.30 – 12.00 **Per-Olof Hulth**, SU, Sweden
AMANDA and Icecube

12.00 –12:30 LEIF closing remarks and Outlook: Bernd Huber

13:00 –14:00 Optional lunch

Departure

VI) List of participants

Participants LEIF-meeting 6-9 December 2003					
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