While sitting in my office and reflecting about the work achieved in the past year, I occasionally look out of my window and see snowflakes falling down slowly and silently and finally coating the green meadows with a white cover. It reminds me of all the work performed in the year 2003 at the Laboratory for Neutron Scattering (LNS, a joint venture between the PSI Villigen and the ETH Zurich) which added just a thin sheet to the present knowledge in science and technology. But doing so over longer periods, piling up thin sheets year by year, results after some time in a compact layer with the signature of the LNS. In order to be able to assess these achievements, one has to be aware of the four principal tasks which the LNS has to fulfil in support of its mission:

(1) Research at the cutting edge in several fields of condensed matter science and technology;
(2) Operation, further development and extension of the instrumentation at SINQ;
(3) Scientific and technical assistance to external users at SINQ;
(4) Education of students.

Since the regular start of SINQ for user operation in the year 1998, the LNS has seen the tasks (2) and (3) with the highest priority. We have been working continuously to optimise as well as to enhance the performance of the instruments for neutron scattering experiments at SINQ. All these improvements have been pushed by the instrument responsibles in co-operation with our technical sections which have to be congratulated for their excellent achievements. Now we can see with some legitimate pride that the joined efforts have come to fruition: The number of external user groups which choose SINQ to carry out collaborative research projects, has been steadily growing in the past, with almost 600 individual visitors from all over the world and more than 300 experiments performed at the SINQ instruments in the year 2002 as well as in the year 2003. The SINQ call I/04 with a record number of new proposals confirms the unbroken interest of the international user community in integrating experiments at SINQ into their research programmes.

In view of the success of our operations at SINQ we started to focus our attention in the past year specifically on the task (1). In early 2003 all the LNS scientists defined their medium-term research perspectives with coherent plans to achieve the stated goals, which were presented and discussed at an internal workshop in Klosters from 23-26 March 2003 (see PSI-Proceedings No. 03-03: "LNS Research Themes 2003 and Beyond"). In order to enforce collaborations as well as to work above a certain critical mass, the individual research projects were grouped together in the following research themes for each of which a co-ordinator (name given in parenthesis) has been assigned:

- Quantum spin systems (A. Furrer)
- CMR manganates and cobaltates (V. Pomjakushin)
- Intermetallic compounds with d- and f-elements (B. Roessli)
- Multilayers (J. Stahn)
- High-temperature superconductors (J. Mesot)
- Large scale objects (T. Gutberlet)
- Materials science (J. Schefer)
- Materials synthesis (K. Conder)
- Computing (H. Heer)

The majority of the work performed across these themes is summarized in the present report. Instead of picking up particular highlights I refer to the list of highly rated journals in which most of the research has been published. Nevertheless, I would like to mention also the increasing connection to other experimental facilities (besides SINQ) of PSI, the good integration of the external user community as well as the competent involvement of the young generation of scientists in our research programme; the latter demonstrates that we take the task (4) seriously into consideration.

In the coming years we will not "rest on our laurels", since "a standstill means a step backwards", but we will work on several measures in order to maintain an internationally competitive standard of our research programme:

- In the past the provision of high-quality single crystals relied exclusively on the supply by collaborating partner institutes. The recently installed optical floating zone furnace will now enable the in-house growth of oxide single crystals which is essential for carrying out systematic studies on well characterised samples.
- The commissioning of a new 15 Tesla magnet in spring 2004 - a joint venture with several collaborating partners - will be a significant step towards neutron scattering experiments at high magnetic fields which so far had to be performed abroad.
- In the framework of a co-operation with the Université P. & M. Curie (Paris) novel pressure cells up to 150 kbar have been successfully tested, which enhance the maximum achievable pressure for neutron scattering experiments at SINQ by an order of magnitude.
- The implementation of novel concepts for neutron guides has the potential to increase the neutron flux at the sample position by several factors.
- Finally, there is still a significant potential to enhance the primary neutron flux of SINQ by increasing the proton current of presently 1.9 mA towards 3 mA, by reducing the thickness of the target E, and by optimising the Pb "Cannelloni" target as well as the cold D_2 source.

With this optimistic view I express my thanks to all people inside and outside the LNS for the engaged and constructive co-operation and support which we experienced in 2003.

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