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# Saskatchewan Structural Sciences Centre (SSSC)

## Director's Response to the External Reviewers' Report

### External Review Team

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## Introduction

The Saskatchewan Structural Sciences Centre (SSSC) seeks to be a well-run, central, multi-user, major-instrumentation, core-facility for structural sciences with the objective of stimulating research in priority and pre-eminent areas of pure and applied research and development at the University of Saskatchewan and beyond. The Centre is open to all University of Saskatchewan researchers on an equal basis and provides service to a broad-based research community in the general areas of material science, molecular characterization, biotechnology, and structural biology. During 2010-11, there were ca. 155 active users (mostly graduate students, PDF, and technicians) from 51 Research Groups from across campus and 12 External client groups. Since 2002, more than 350 publications and 7 patent applications have resulted that included data obtained at the SSSC. Thus, the Centre is of crucial importance to many researchers in the basic sciences, but also serves as the foundation organization for multidisciplinary collaborations ranging from medicine to synchrotron science to agriculture and biotechnologies.

The SSSC is currently financed through a 'fixed' grant from the University (currently \$255K/y) and from revenues generated from user fees (ca. \$175K in 2010-11). In recent years, income from fees has been sufficient to offset all non-salary operating costs. However, the steady growth of salary/benefits costs due to University-negotiated increases compared to the 'fixed' grant has created a significant structural deficit (and accumulated debt) that threatens the existence of the SSSC. A sustainable SSSC requires stable funding to cover the salary costs of necessary professional staff.

In 2011, as part of a larger process involving review of Centres, the SSSC underwent an External Review under the auspices of the Vice-President Research (VPR). The Review team consisted of Drs. Thomas Ellis (Canadian Light Source), Michael Freund (University of Manitoba), and Josef Zwanziger (Dalhousie University). The SSSC submitted an extensive Self-Study (**SS**) document describing its history, organization/management, users/usage, financial performance, SWOT analysis, and future direction together with appendices detailing space allocation, instrumentation, fee structure, the 2010-11 annual report and other documentation. An on-site review was conducted June 20-21, 2011, where the review team toured the facility and had meetings with Senior University Leaders, the SSSC Director, Manager and Staff, and several Users. The External Reviewers' Report (**RR**) was forwarded to the Director on Sept 2, 2011. Subsequently, the report was forwarded to a large group of SSSC users (ca. 35 PI's) who were asked to provide comments and respond the Reviewers' recommendations. In addition, there was an open meeting of SSSC users (Oct 8, 2011) to discuss the External Review/Report/recommendations. The Response detailed below represents the interpretation and view of the Director in consultation with the Manager and Users. Although the SSSC Users have been broadly consulted on the various issues and their comments have informed this Response, there has been no attempt to seek the Users' 'approval' of this document; without question, some aspects would not represent the views of some Users.

I apologize in advance for the length of this document; however, for a variety of reasons not detailed here, a thorough response seemed warranted.

## Response to the Report

Overall, the Report’s major recommendations are commensurate with what the SSSC has been advocating. In several instances, the Report lacks sufficient specificity to clarify the intent and some conclusions appear to be decidedly unbalanced and informed by the views of a small minority of users.

The following detailed response is divided in three sections. First, we comment on the Reviewers’ response to the six specific questions posed in the Self-Study (**SS**) document. Second, we respond to the specific recommendations in the Reviewers’ Report (**RR**). Finally, we propose an action plan for future development of the Centre.

### I. SSSC Questions Presented to the Reviewers

The SSSC Self-Study requested that the Review Team address six specific questions as part of the review process (**SS**: pages 3-4). Below we comment on the Reviewers’ response to those questions:

#### ***1. Is the value added by the SSSC Concept Worth the Support Provided?***

The Reviewers’ Report unequivocally confirms the value of the SSSC. Many of the recommendations concern suggested improvements in the operation of the SSSC. Importantly, the Report recommends base-budget support for SSSC staff as a crucial component for sustainability. Obviously, we agree with those conclusions (see **SS**: page 23).

#### ***2. Is the Scope of SSSC Services Appropriate for the Researchers Served?***

This question was not specifically addressed in the report.

The Report notes (**RR**: page 2, line 14):

*“Critical large scale issues include maintenance and expansion of the instrumentation suite, engagement with various disciplines across campus not currently using the Centre .....”*

With respect to infrastructure, the Reviewers suggest (**RR**: page 4, line 10):

*“The acquisition of new infrastructure and upgrades must be driven by users and the Director with the help and encouragement of the Management Board. CFI, RTI and provincial initiatives must be aggressively pursued by users and coordinated by the Director and the Manager. The Management Board must play a key role in designing mechanisms to encourage the placement of new infrastructure in the SSSC.”*

We completely agree with these comments (see **SS**: page 24). Obviously, new infrastructure/upgrades must be driven by and justified by the needs of users. At

least three CFI EOI’s based on upgrades and expansion of the SSSC have been approved and now are being developed into full applications for submission in April, 2012 and three NSERC-RTI’s were submitted in Oct, 2011. We believe that “mechanisms to encourage the placement of new infrastructure in the SSSC” goes beyond the mandate of the SSSC Management Board. When deciding how operate and manage major equipment and where to locate it, the key issue is funding. Internal funding for such initiatives is often decided at the VPR level. We agree with the Reviewers that SSSC provides valuable economies of scale, that is (RR; page 2, line 25):

*“ ..... originates from the enhancement in research productivity and training, cost-containment through centralized management and support, and increased life-time of costly infrastructure.”*

We believe that this conclusion, if endorsed by the VPR, provides the rationale to maximally leverage support for major equipment installations by funding central core-facilities (like the SSSC) where ever possible.

With respect to the “... Researchers Served” aspect of this question, the Report states (RR: page 2, line 10):

*“Finally, the Centre has not carefully identified the clients it can best serve and those it cannot (due either to available equipment and/or client expectations) and clearly communicated this to the university user-base.”*

We do not understand the intent here. The SSSC is open to *all* University of Saskatchewan researchers on an equal basis. We do not identify ‘favored’ clients and ‘exclude’ others. Obviously, the SSSC cannot assist all possible researchers with all possible experiments. In our view, the capabilities of the SSSC are clearly explained to potential clients and it is the client’s decision to proceed or not. Nonetheless, misunderstandings can occur even with an ‘optimal’ communications strategy. Of course, we do agree that additional effort is warranted to develop more effective communications with our Users (see sections III.4-7). Perhaps the Reviewers’ comment here is referring to health science researchers (RR: page 4, line 13):

*“SSSC is working very well for the colleges of Science, Engineering and Agriculture (where training and independent student operation are priorities), but not as well for Health Science (where there is more emphasis on a need for operators and high level data analysis and interpretation).”*

We believe the latter parenthetical comment would be more accurate if it read: “where there is need for operators to conduct experiments and additional infrastructure and staffing to perform high level data analysis and interpretation”. In numerous instances over the years, researchers (particularly from the health sciences) have expressed a need for certain experiments but do not have the capacity (or sometimes, even the interest) to be trained to conduct the experiments or perform (where necessary) high level data analysis and interpretation. When the SSSC has the necessary infrastructure and expertise, we have been able to help the researcher with their needs (e.g., with EPR experiments); however, when one or both of these

components is missing, the researcher can become frustrated (e.g., protein sequencing by MS). Obviously, it will always be impossible for a limited number of staff to have expertise in all possible experiments that might be performed with the available infrastructure. To increase capacity in this regard, we propose to develop a ‘rent-an-expert’ program (see section III.7).

### **3. Are SSSC Staffing Levels Appropriate for the Services Provided?**

This question was not specifically addressed in the report.

The Report unequivocally supports the SSSC’s long-time request to have Staff positions base-budgeted:

**RR**, page 4, line 1: *“The fact that SSSC staff positions are not base funded by the University has severely complicated the operation of the Centre, has strained the relationship among users and has been a significant impediment to the location of recent equipment acquisitions in the SSSC. The Review Committee strongly recommends that the staff positions be base funded as positions in the Centre ..... ”*

Because .....

**RR**, page 2, line 29: *“The SSSC provides clear value to the research mission of the University in two primary ways, both of which depend intimately on the staff. First, the staff provide expert maintenance and support of the instrumentation ... Secondly, the staff provide expert knowledge in guiding the users not only in the use of the experiments they had originally planned, but, crucially, in educating them on the relevance and use of equipment that they were not aware of.”*

Obviously, we agree with those conclusions (see **SS**: page 23). The Reviewers do not specify precisely how this recommendation might be achieved and are clearly unfamiliar with the nuances of existing University of Saskatchewan internal financial protocols that might be exploited for that purpose. Nonetheless, the recommended direction is very clear and its implementation is crucial to the sustainability of the SSSC.

The Report has a number of additional comments on Staff related issues:

**RR**, page 4, line 6: *“The Review Committee also recommends that a detailed assessment of the role of each staff member should play, and that care be taken to avoid permanent staff members spanning between the SSSC and individual research programs (a circumstance currently occurring in a few cases).”*

We find this comment unclear. Of course, we agree that the role of each Staff member should be regularly assessed and modified, as necessary, to maximize value. Indeed, one of the greatest benefits of having professional staff is their ability to adapt to changing infrastructure and changes needs of researchers. The current roles of Staff are detailed in **SS**: pages 14-15. On rare occasions staff have been assigned to work within an individual research program but that time was been billed on a cost

recovery basis. Otherwise, Staff have worked quite regularly with individual researchers to help with publications, often earning co-authorship. In the interest of promoting greater usage, especially by non-expert users, in 2007 we adopted a policy of not charging internal UofS researchers for Staff time (SS: page 4, line 5; page 12, line 14). That approach was justified because the Staff salaries are not generated from User Fees. All users have access to Staff on this basis – are the Reviewers now discouraging this practice?

**RR**, page 5, line 32: “..... it is imperative that the Manager is aware of developments and potential conflicts and help the staff develop the skills to work as effectively as possible in this dynamic environment.”

We believe the Manager has amply demonstrated full awareness of such developments. There is a limit to what the Manger can 'teach' to staff in this regard - this issue is more about directing staff to the appropriate resources, if available, where they may develop improved technical and/or interpersonal skills.

#### **4. How Appropriate Are the User Fees?**

This question was not specifically addressed in the report; however, the Report includes a number of comments on fee-related issues:

**RR**, page 2, line 14: “Critical large scale issues include ..... adequate mechanisms for cost recovery and financial stability.”

**RR**, page 3, line 27: “billing and rates associated with infrastructure in the SSSC have evolved over time but require significant improvement.”

“the practice of prepaying for instrument use has been implemented, it does not offer any significant benefit to the operation of the SSSC”

“Some of the current fee structures are unnecessarily complex ... .. sliding scales ... are a useful mechanism to optimize us ... must be careful to avoid subsidizing researchers who are naturally heavy users ..... ensure that the user fees remain competitive with other institutions.”

“Billing should be quarterly and should reflect usage and cost of the instrument.....a base funded half-time administrative assistant be hired to facilitate billing and accounting”

We interpret these comments to suggest that:

- current fee levels are reasonable, and must remain comparable to other institutions
- the current fee structure should be simplified
- the current practice of prepaying for use should be discontinued
- the current sliding fee scales can be useful if excessive subsidies are avoided
- hiring an Admin Assistant would facilitate our billing and accounting practices

Our fee proposal is detailed in section III.3

### **5. How to Deal with the 600 MHz NMR Operating Deficit?**

This issue is described in detail in **SS**: pages 4&18 under *600 MHz NMR*. To summarize, this is the only instrument that has a substantial discrepancy between its annual non-salary *operating costs* (ca. \$45,000-\$50,000) and the revenues generated from its use (\$5-16k/y; 2007-11 ave=\$10K/y). Because our operating revenues come from users fees and because redirecting such revenues to subsidize certain instruments is not part of our mandate, we have consistently taken the position that it is up to the users, not the SSSC, to secure any required subsidies. Clearly, the Reviewers’ agree with this conclusion. They state (**RR**: page 3, line 36):

*“If instruments are running large deficits under these conditions and no additional funding mechanisms can be found to subsidize them, the Management Board must make a decision about phasing out infrastructure that is not carrying its weight on a continuing basis. This phase-out would not necessarily imply shutting down the instrument in question, but rather moving from SSSC control to the direct control and responsibility of the unit or researcher using it.”*

We obviously agree with the above recommendation (**SS**: pages 4&18 under *600 MHz NMR*). However, we would stress that the latter option (i.e., devolving control and responsibility to a unit or individual) is not desirable as it would likely increase operating costs (loss of economies of scale) and reduce access to other researchers.

In both 2010 and 2011, recommendations were made to the Management Board that funds be solicited from some combination of the Molecular Design Group (MDG), Dept of Biochemistry, College of Medicine, VPR, Provost, etc. to subsidize the operation of the 600 MHz NMR and, if unsuccessful, to discontinue underwriting the maintenance of the cryoprobe (ca. \$35K/y). Removing the structural deficit associated with the operation of this instrument is crucial for the SSSC to achieve a balanced budget based on the principle of recovering 100% of non-salary operating costs from User Fees.

### **6. How to Allocate Income Generated from External Users?**

This question was not addressed in the report. Our proposal is detailed in section III.2.

## **II. Reviewers’ Recommendations**

We endorse virtually all of the major recommendations in the report. However, several of the recommendations are rather general. The challenges associated with implementation of initiatives based on those recommendations will obviously depend on the details.

### ***Enhance the Research Performance***

#### **1. Seek to expand user base in areas of greatest growth potential**

Of course we agree with this principle. However, we believe it highly unlikely that potential *major* users are now on campus who are somehow unaware of the

availability of SSSC instrumentation. Conversely, numerous UofS researchers are probably unaware of how the use SSSC instrumentation could benefit their research programs. As a centrally-funded core-facility, it is the SSSC’s responsibility to connect with those researchers. Undoubtedly, we have made substantial efforts in this regard; however, this effort can be improved.

## **2. Carry out coordinated outreach activities**

The report has considerable focus on this issue. While we strongly agree with the principles, we also believe that outreach activities have a cost and, at least in principle, those costs must be offset by the new revenue generated. A modest proposal to better coordinate and improve our efforts in this area that could be implemented with existing staff is presented in sections III.4-7.

## **3. Aggressively pursue opportunities for major instrumentation acquisitions**

Of course we agree with this principle. As noted in section I.2, new infrastructure/upgrades must be driven by and justified by users. The SSSC’s role is to facilitate and assist that effort. At least three CFI EOI’s based on upgrades and expansion of the SSSC have been approved and now are being developed into full applications for submission in April, 2012 and three NSERC-RTI’s were submitted in Oct, 2011.

## **4. Implement weekly staff meetings**

We do not agree with this recommendation and believe that the Reviewers have failed to adequately justify this approach. During the establishment of the SSSC, such weekly meetings were commonplace. More recently, such frequent formal meetings have been abandoned because the daily interactions between the Manager and three Staff members are thought sufficient to achieve effective communication.

## ***Enhance the Financial Performance***

### **5. Simplify fee structure**

Agreed; our proposal is detailed in section III.3.

### **6. Ensure that staff time is accurately accounted**

We agree, but current protocols already carefully account for Staff time. It is unclear what additional measures are envisaged by the Reviewers and for what purpose.

### **7. Fund staff salaries through university base budgets**

We agree and believe this approach is essential for sustainability.

## ***Enhance the Centre Performance***

### **8. Restructure the Centre management to consist of: an Advisory Board; a Management Board; the Director, Manager, and Staff to handle day-to-day operations.**

We disagree with many (but not all) aspects of this recommendation. The proposed changes would result in an overly bureaucratic governance structure that would blur



the distinctions between administrative oversight of the investment, management of the assets, and User-driven priorities.

The Reviewers state (RR: page 5, line 9): "...that a more representative, transparent and active management structure is essential to the survival and growth of the SSSC...". We enthusiastically agree with that conclusion. The proposed Advisory Board would have responsibilities similar to the current Management Board; however, we agree that 'Advisory' Board would be a welcome change in the designation of the current 'Management' Board as it would more accurately reflect the role of that body. This would be especially useful if Staff salaries were base-budgeted; in that case, the role of this Board could be more clearly focused on *"the long term planning and vision of the SSSC <and> in encouraging and providing incentives for new infrastructure to be <located in> the SSSC and promoting SSSC within the University and in the region."* The membership on this Board is crucial. Although the idea of have the VPR chair a board of Deans would be welcome, it is much more likely (and commensurate with current practice at the UofS) that those roles would be delegated to the Associate VPR (AVPR) and Associate Deans (Research). Nonetheless, a Board consisting of the AVPR, three or four Associate Deans, a representative from an external unit (e.g., NRC, CLS, VIDO, etc.), and two User Representatives (elected by the Users) would be capable of functioning very effectively in this key 'advisory' role. As Director has already proposed to the Chair, it is important that Board membership include senior leaders from those Colleges where the majority of users are located.

The proposed 'Management Board' is redundant and unnecessary. Because *"incentives for bringing infrastructure into <a centralized facility like> the SSSC"* are based on funding usually controlled at the VPR or Dean levels, this proposed role can be better executed at the 'Advisory Board'. Moreover, because submitting grant applications for major infrastructure must be driven by and justified by the users, management bodies can support but not orchestrate an environment *"where users are encouraged and motivated to write grants for multiuser infrastructure"*. We definitely agree that if successful grants for new major instrumentation located within the SSSC are not forthcoming, *"the role and impact of the SSSC will decline in the coming years"*.

It seems that the Reviewers have failed to appreciate that the SSSC was envisaged, proposed, and designed to be a User-driven facility. That is, the Users were clearly seen as partners in the 'management' of the SSSC. Indeed, the original intent was to have a 'Management' Board (similar to the proposed 'Advisory' Board) that would oversee the development of the Centre with the advice of the *Users Group*. The Users Group would consist of *"representatives from among the major users, a research student, the Manager and Director, and have responsibilities for ensuring the safe, efficient and fair use of the Center facilities, including providing advice on user fees, instrument upgrades, new instrument acquisition, and other aspects of equipment and personnel development."* Unfortunately, during the establishment and development of the SSSC, the Users became estranged from management and subsequently have, with few exceptions, not self-organized (see SS: page 10). Consequently, User input into the management of the Centre has been mainly informal and irregular and most often driven by conflict resolution or avoidance. I strongly believe that the *"more representative, transparent and active management structure is essential to the survival*

*and growth of the SSSC*" recommended by the Reviewers would be most effectively achieved by resurrecting the originally envisaged *Users Group*. Such a group advising on the management and development of the SSSC will be much more effective at achieving the desired outcomes than the proposed 'Management Board' consisting of a mix of researchers, external representatives, and Associate Deans.

Our proposal for an improved governance structure is detailed in sections III.8-10.

### **9. Implement thorough annual reporting of productivity and costs**

We agree, but the Annual Report submitted to the Management Board already provides a thorough accounting of the Centre's revenues, costs, developments and productivity. Although the Reviewers do not specify which additional data are envisaged, we suspect the perceived deficiencies concern 'productivity' data.

**RR**, page 4, line 31: "*The growth of the SSSC can only occur if the success of the facility is well documented ..... this will require much more active information gathering on the productivity and impact of the research programs supported by the SSSC ..... It is essential that the SSSC keep track of not only the papers that have significant data obtained from SSSC infrastructure, but also a broader picture on the productivity of the groups that find SSSC essential to their programs. includ<ing> publications, presentations, funding and HQP productivity*"

We completely agree with the desirability of collecting more accurate data on the 'productivity' of our users. However, the difficulty of having >50 PI's from numerous disciplines provide this data in a timely fashion for a 'report' should not be underestimated.

## **III. Proposed Action Plan**

The existence of the SSSC requires coordinated University support to provide salary and benefits to necessary professional personnel. The External Review Team clearly agreed with that assessment and recommended base-budget funding for SSSC Staff. If the University also agrees with that conclusion, then the following 'action plan' can address the sustainability issues. If stable core-funding is not forthcoming, then the SSSC is not sustainable and an orderly exit plan for transferring responsibilities for operation of existing instrumentation to individual colleges, departments, or researchers will be required.

### ***Improve Financial Performance***

If Staff salaries are base-budgeted, then a sustainable balanced operating budget is a very realistic goal for the SSSC. The first priority will be to eliminate the current budget deficit and generate a contingency fund. Over the past four years, revenue generated from fees has met non-salary operating costs. However, a significant structural deficit remains with the 600 MHz NMR.

1. *Eliminate the structural deficit for the 600 MHz NMR*

There is no realistic way to generate the annual operating costs for this instrument with User fees. As previously proposed, the Users (with the support of the SSSC) should approach some combination of the Molecular Design Group (MDG), Dept of Biochemistry, College of Medicine, VPR, Provost, etc. to subsidize the operation of the 600 MHz NMR - specifically to fund the required annual maintenance costs of the cryoprobe (ca. \$30,000/y). If that request is unsuccessful, the SSSC should cease to underwrite that operating cost. In due course, the cryoprobe would become unusable and only the micro-volume probe would be available. Users should be encouraged to apply for funding from external sources to purchase a 'regular' probe for use on the 600 MHz instrument.

2. *Segregate the salary component of fees charged to external clients*

Currently, all income from external users (academic and commercial) has been combined with that from internal users to offset operating costs. We believe that it would be appropriate and desirable to separate the *salary component* of the income generated from external users (currently >\$25K/y) to:

- hire a part-time Admin Assistant to help with billing and accounting (\$8-10K/y estimated)
- generate a contingency fund to be used to support improvements (software upgrades, minor hardware upgrades, computers, etc.) and staff training.

3. *Simplify the fee structure and billing procedures*

-Maintain the current three rate schedules:

Category 1: internal researchers (no overhead on supporting grant)

Category 2: external researchers and internal research contracts (i.e. overhead on supporting grant) (1.5 x Category 1 rate + \$50/h for staff time)

Category 3: Commercial; generally on a contract basis negotiated case-by-case but charged at rates that reflect the real costs (salary, operating, infrastructure, depreciation, etc.) of the service.

-Bill quarterly (Mar 31, Jun 30, Sept 30, Dec 31).

-Eliminate the practice of prepaying for services. Continue the use of a sliding scale to recognize the importance of major users to the success of the SSSC and the principle that, as with most goods and services, high volume clients pay less per unit than casual clients. For example with Category 1 users, in each quarter the accumulated fees above a certain threshold (say \$500) would be charged at a discounted rate (say 75%)

-Have a single hourly or unit rate for each instrument or service based on the principle of recovery of non-salary operating costs for that instrument. Funds for major repairs should generally not be generated from user fees but from grant applications or from contingency funds. Considering the elimination of some previous discounts entailed in this proposal, establishing these new 'single' rates at appropriate levels will require a careful review and simulation using past data. Thereafter, rates should be reviewed regularly to ensure fairness and an advance warning of at least a one-quarter should be given for any proposed increases.

### ***Improved Interactions with Users***

#### *4. Continue the SSSC Discovery Series*

These offerings can be improved if potential clients could express their interest in advance (on line via the web-site) allowing training units to be offered in direct response to demand.

#### *5. News Letters*

Generate three 'news letters' per year (Jan, May, Sept) describing recent SSSC activities organized around the instrument suites. These letters should feature 'what can do for you' items (e.g., new or important experiments conducted and publications that feature SSSC experiments). Each Staff member will be responsible for generating Content associated with the various instruments will be generated by the responsible Staff member with the Manager (or Managing Director, see section III.9) coordinating this activity. These new letters should be sent electronically to all user PI's with hard copies sent to Heads of science departments, Associate Deans-Research for science-based colleges, and to the VPR.

#### *6. Direct Communication with Users*

Invariably, users and PI's complain about not being informed about changes in the status of instrumentation. Although major changes are typically posted on the web-site, users typically do not check the web site for this purpose. This source of frustration is very easily addressed. For each instrument, it will be simple to generate an email list of all recent users of that instrument. Using these mail lists, relevant users can then be easily notified directly when significant changes in the availability or capability of any instrument occur. PI's should also be included on these notifications.

#### *7. Develop a Rent-an-Expert Program*

It seems likely that there are numerous researchers on campus who are unaware of how the use SSSC instrumentation could benefit their research programs. Effectively connecting with those potential users presents a significant challenge. First, an effective communications strategy is necessary to get them in the door. Secondly, often these researchers are uncertain about the potential experiments and do not

have the capacity/interest to be trained to conduct the experiments or perform any necessary high-level data analysis and interpretation. When the SSSC Staff have both the necessary expertise and time, we have been able to help the researcher with their needs. When either of those components is missing, the researcher easily becomes frustrated. Obviously, the expertise and time of a limited number of staff is limited. However, there is a tremendous breadth and depth of expertise among our users. If we can connect potential users that have limited capacity/expertise with interested users that have the necessary capacity/expertise, a win-win situation would result. To facilitate making such connections, we propose to develop a rent-an-expert program.

The first requirement will be to create a list of interested Users with expertise in the use of specific instruments/experimental techniques. This list can then facilitate connecting novice potential users with experience users. A significant challenge will involve achieving agreement on the specific terms governing such 'collaborations'. While those terms must be negotiated by the individuals involved, we might facilitate that process by providing a template specifying the major issues (i.e., who pays?, how much?, how to share IP? authorship? etc.). If successful, such a program would greatly improve on the SSSC's capacity and surely would lead to some new and productive 'real' collaborations.

### ***Improved Governance***

#### *8. Reconfigure the existing 'Management Board' to an 'Advisory Board'*

With SSSC Staff salaries being base-budgeted and the SSSC with a sustainable balanced budget, the role of this Board can be more clearly focused on the long-term planning, development, and promotion of the SSSC. The membership on this Board is crucial. It should have the VPR (or AVPR) as Chair and include as members the Deans (or Associate Deans-Research) of Arts & Science (Science Division), Engineering, Agriculture & Bioresources, and Medicine, a senior leader from an external unit (e.g., NRC, CLS, VIDO, etc.), at least one User Representatives (preferably elected by the Users), and the Director (Executive Director). This Board should meet at least annually to review the SSSC Budget and discuss future (strategic) directions for the Centre.

#### *9. Reconfigure the existing 'Director' position to 'Executive Director' and the 'Manager' position to 'Managing Director'*

This proposal was previously approved by the Management Board but never implemented. Essentially, the roles and responsibilities of the 'Manager' and 'Director' have evolved considerably in the ten years since the positions were created. The proposed name changes more accurately reflect the current range of activities in these positions.

#### *Proposed Responsibilities for the SSSC Managing Director:*

Reporting to the Executive Director of the SSSC, the Managing Director will have the following responsibilities and duties:

1. The day-to-day management of the Centre including:

-Personnel management: job descriptions, hiring, supervision, training and evaluation of Research Officers, technicians and other professional staff employed by the SSSC (in concert with or reporting to the Executive Director)

-Fiscal management: regular invoicing of users/clients, coordination and supervision the operation/maintenance/repair of instruments within the context of budgetary limitations (reporting to the Executive Director).

-Operations management: ensure safe, reliable, and efficient operation of facilities according to approved policies and procedures.

## 2. Business development:

-Seek and negotiate contracts with external users (in concert with or reporting to the Executive Director).

-Identify and develop (or supervise the development of) new instrumental methods to benefit existing users and attract new users.

-Publicize the activities and capabilities of the SSSC including the organization of workshops

-Advise and help develop projects/experiments for existing and potential users

-Promote interactions among users and between users, groups

## 3. Policy development

-Prepare an annual report on Centre activities

-Provide recommendations to the Executive Director on the establishment and evaluation of user fees (in consultation with users)

-Provide recommendations to the Executive Director on the purchase of major equipment items (in consultation with users)

-Provide input/recommendations on to the Executive Director development of the Centre’s annual budget

-Participate in all aspects of applications for capital and/or operating funding for the SSSC (in concert with or as approved by the Executive Director)

### *Proposed Responsibilities for the SSSC Executive Director:*

The Executive Director, appointed by the Advisory Board, will hold a regular, adjunct or emeritus faculty position at the University of Saskatchewan. The Executive Director is responsible for providing direction for the Centre and its research staff and for managing the Centre's financial operations. The Director will report to the Advisory Board and Vice President (Research), and will act as the link between the Board and the Centre's users. The Executive Director’s duties will include:

- submission of an Annual Report to the Advisory Board and the Vice-President Research;
- development of and adherence to annual budgets'
- oversight of the work of the Managing Director and overall responsibility for all SSSC staff
- approving purchases of major equipment items according to U of S procedures and policies;
- promoting interactions among users and users' groups and encouraging the exchange of scientific and technical information for the benefit of existing and potential SSSC users
- arranging and chairing meetings of the users' groups
- working with the Managing Director to:
  - establish appropriate user fees (in consultation with Users)
  - publicize the activities and capabilities of the SSSC
  - seek contracts with potential private sector uses
  - identify and prioritize needs for upgrade or purchase of major (in consultation with users)
  - facilitate the preparation of applications for capital and operating funding related to the SSSC
  - ensure safe, reliable and efficient operation of SSSC facilities
- additional duties as requested, from time to time, by the Vice-President (Research)

#### *10. Resurrect the originally envisaged 'User Group'*

The SSSC was clearly envisaged, proposed, and designed to be a User-driven facility; i.e., where the Users are seen as partners in the 'management' of the Centre. During the establishment and development of the SSSC, the Users became estranged from management and, with few exceptions, have not subsequently become self-organized (see **SS**: page 10). The original management plan proposed a 'Management' Board (similar to the proposed 'Advisory' Board) that would oversee the development of the Centre with the advice of the *Users Group* (see section II.8). I strongly believe that the desired "*more representative, transparent and active management structure is essential to the survival and growth of the SSSC*" recommended by the Reviewers would be most effectively achieved by resurrecting the originally envisaged *Users Group*.

The User Group should consist of ca. 4-6 representatives from among the major users and covering users of all major instrument suites, a research student, the Managing Director and the Executive Director. This group should meet quarterly and would have responsibilities for:

- proposing and approving protocols to ensure safe, reliable and efficient operation of SSSC facilities and fair access to those facilities
- providing advice on user fees, instrument upgrades, new instrument acquisition, and other aspects of equipment and personnel development