Report on the 2002 NSERC Subatomic Physics Grants Competition

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Introduction

This overview of the process and results of the 2002 NSERC competition for GSC 19 (Subatomic Physics) is addressed to both the subatomic physics community and to NSERC's Committee on Research Grants (CORG). The reports are also used during the periodic reallocation exercises to which all GSCs are subject.

This report will describe the process of the competition, including the financial aspects of the budget available to the committee and a summary of the competition results. As has been the practice for a number of years, we will give an indication of the envelope available for next year's competition; however, it is impossible to do this for subsequent years in part because the NSERC reallocation process is underway as this report is being written. In addition, some policy issues are raised and recommendations made for future competitions.

Committee Membership

This year, the committee was composed of:

- Geneviève Bélanger, LAPTH Annecy;
- Sampa Bhadra, York University;
- Pierre Binetruy, Université de Paris XI;
- Peter Blunden, University of Manitoba;
- John Carr, Centre de Physique des Particules, Marseille;
- Don Geesaman, Argonne National Lab;
- Peter Jackson, TRIUMF;
- Dean Karlen, Carleton University;
- Louis Lessard, Université de Montréal;
- Nigel Lockyer, University of Pennsylvania;
- Ken Ragan, McGill University (chair);
- Brad Sherrill, NSCL and Michigan State University;
- Jim Waddington, McMaster University.

The committee had 13 members this year, although a more usual size is 12. The first year members were Karlen, Lessard, Lockyer and Sherrill; members completing their terms are Bhadra, Binetruy, Blunden, Geesaman, Ragan, and Waddington. Suggestions for future members are always welcome and should be directed to the NSERC staffers listed below.

The committee was most ably aided in its work by the NSERC staff members: team leader Kate Wilson, program officer Michèle Beaudry, and assistants Valérie Augier and Sue Dodds.

Review of the 2002 Competition

Policy Meeting and Site Visits

Each year, the committee meets in October for a one-day policy meeting followed by site visits at selected universities. The policy meeting in 2001 was in Montreal on Sunday, October 14, and served to introduce the new members – and remind ongoing members – of NSERC and GSC procedures and of the GSC's financial situation.

The site visits for 2001 were to McGill, the Université de Montréal, Carleton University, York University, and the University of Toronto. Each lasted approximately a half-day. Subatomic physicists from Laval, Concordia, the Université du Québec à Montréal, McMaster and Guelph were invited to meet the committee at these meetings. Unlike in past years, the entire committee was present at all visits.

The goal of the site visits is to allow NSERC and the GSC to communicate procedures and policies to applicants, to allow GSC members (and specifically the foreign members) to evaluate, through discussion, conditions at Canadian universities, and to provide a means for subatomic researchers to raise any concerns they may have about NSERC or GSC procedures. It should be stressed that the visits are not held to evaluate specific research proposals.

At each site visit, the GSC chair and an NSERC representative made presentations which were followed by presentations by individual researchers and research groups. The committee also met separately with students and post-docs, and with department and university administrators. The GSC views the latter meetings as particularly important to understand the support and outlook for subatomic physics at each institution.

Some of the issues brought up at this year's site visits were:

- NSERC's 125-day maximum travel rule; NSERC rules forbid travel costs on operating grants for more than 125 days per year for any single person. Although little known, at least one SAP group has apparently run afoul of the rule, and thus it is a concern to many SAP groups who must support personnel at distant labs. NSERC has agreed that GSC 19 grantees may request exemptions to this 125-day travel rule. This can be done in writing to Kate Wilson at NSERC, explaining the case for an exemption.

- support of technical personnel, and specifically computer system managers, through the MFA programme; more on this below.

- the possible reduction or cancellation of the equipment grants program as mooted in a memo (dated October 2001) from the NSERC president to the research community. In fact, the equipment competition was not cancelled and there were no ill-effects on the SAP budget envelope.

- NSERC's web-based forms, which were generally seen to be much improved (though not perfect!) compared to previous years.

Reviews of Major Projects

Each year, NSERC officers, in consultation with the GSC chair, plan for two-day reviews of major projects whose funding requests are before the GSC. This year, these ad-hoc reviews were held for Babar, E787/E949, and TWIST. For each review, the committee is composed of a chair and two or three external members, the GSC chair (ex-officio), and at least one other GSC member. The committee reviews the physics case for the project, technical progress towards operation of the detector, manpower, funding, and any other issues it finds germane. A report is submitted to NSERC (and thence to the GSC), complete with funding recommendations; the report without the funding recommendations is forwarded to the proponents.

In addition, the two largest single projects in the Canadian SAP program – namely, SNO and ATLAS – have standing committees which meet each year. Both committees are international, with the SNO-ARC (SNO Agency Review Committee) having representation from the US Department of Energy and PPARC in the UK. The GSC chair sits ex-officio on these committees. In years in which the experiment has a funding request before the GSC (this was the case this year for both SNO and ATLAS), there is also at least one other member of the GSC on the committee. Again, a report, complete with funding recommendations, is submitted to NSERC and to the GSC.

Large Projects Day and IPP presentation

The day immediately preceding the start of the GSC competition is devoted to Large Projects Day (LPD), a one-day review of the largest projects whose funding requests are before the GSC (typically, requests above \$250K - \$300K). This was held on February 2, 2002, at NSERC headquarters in Ottawa. This year, the GSC heard from ATLAS (R. Orr), SNO (A. McDonald), the Regina SPARRO group (G. Lolos), the Canadian Penning Trap group (K. Sharma), STACEE (D. Hanna), TWIST (N. Rodning), and the rare kaon decay group (D. Bryman). In addition, the TRIUMF associate director (J-M. Poutissou) made a presentation on the TRIUMF program including infrastructure support. Each of the presenters was given a list of questions from the GSC in advance.

There has been a formal procedure in place since 1998 to deal with requests for TRIUMF infrastructure support in grant requests to the GSC: TRIUMF management is consulted by the GSC prior to the competition and given a list of requests for lab resources, taken from the applications pending to the GSC. Although the procedure has worked quite well, it is sometimes useful to have the full proposal to understand the impact of the proposed use of resources on the lab's many activities. The GSC discussed with Jean-Michel whether the existing procedure should be extended to include the forwarding of the full proposals to TRIUMF. This would likely bring up issues of confidentiality, but the GSC encourages NSERC to explore this idea (and if necessary, to encourage proponents to send a copy of their applications that request TRIUMF resources directly to the TRIUMF associate director).

The purpose of LPD is, like the project reviews, to allow the proponents to present the current status of their project in a manner that is less limiting than an NSERC grant request, and to allow GSC members to question the proponents on aspects of their request. Many members of the GSC were dismayed to find that it is viewed by some in the community as a lobbying event.

On the morning of the first day of the competition, the IPP director has traditionally been invited to make a one-hour presentation of the IPP program to the committee. The presentation is most useful and should be continued, but NSERC and the GSC chair should determine if this is best done on the first day of the competition or as a dedicated IPP presentation during LPD.

Applications for funding

This year the GSC received 80 requests for funding, for a total amount of \$17,475K. The breakdown by type of grant is shown in Table 1.

Financial overview

In last year's competition the debt which has been a fundamental part of the SAP financial picture over the last five years was finally paid back. Thus, while the number of grant applications and the amount requested were higher than in previous years, the situation was still the brightest that it has been in many years.

GSC 19, unlike all other NSERC GSCs, operates on an 'envelope' system in which we are given funds to deal with all grant types – operating, MFA, equipment, major equipment, and major installation (all other GSCs deal only with operating grants). The envelope is adjusted each year to reflect the results of

Type	Number	Total amount requested ($k)
Project/Group	24	11,731
Individual	30	1,801
Equipment (including computing)	15	1,198
Major equipment	4	998
Major Facilities Access (MFA)	7	1,747
Total	80	17,475

Table 1: Summary of grant applications and amounts requested.

the last reallocation exercise, as well as one-time only changes such as additional funds from NSERC, grant terminations due to deaths or departures from Canada, or transfers from other GSCs. All of these factors complicate the calculation of the actual amount that is available to the GSC in any given year. Previous GSC chairs' reports from 1997 through 2001 [1] should be consulted for a detailed evolution of the envelope and the budgets. Table 2 summarizes the results of the 2001 competition and the present competition.

The major adjustments in the 2001 competition (line c of Table 2) were extra funds for equipment (a one-time only adjustment) and extra funds for new applicants, in recognition of the pressure on all NSERC GSCs arising from faculty renewal and CRC appointments. NSERC continues to view this as a priority. For the 2002 competition our envelope was increased by $275K because of new applicants in 2001 (since new applicants lead to ongoing funding needs), and by an additional $230K for the nine new SAP applicants in 2002 (line d), to be $20,940K. The 2003 envelope has also been adjusted by the 2002 increment, to be $21,170K (before effects of reallocation), as indicated in line a). In addition there were small corrections due to a transfer from GSC 17 (for the PICASSO project) and a carry-over due to a grant terminated in mid-year (lines e,f).

These adjustments, and accounting for the amounts allocated in previous years on multi-year grants, result in the competition budgets indicated in line g) of Table 2.

Competition procedure

The actual competition took place from Sunday February 3, 2002 until Thursday February 7, 2002. On the first morning there was a review of procedure and policy, a discussion of the budget (see Table 2), and a presentation from the IPP director, Richard Keeler.

As usual, the competition took place in three rounds. NSERC guidelines on conflict-of-interest were followed, and members were out of the room for all applications for which they were in conflict, in all rounds. When the chair was in conflict, either J. Carr or D. Karlen served as acting chair.

Although each member of the committee is expected to review all applications, two members (and sometimes three) are assigned to present the application to the committee in the first round. They independently present an overview of the physics and scientific merit, the applicants, the budget, and other factors such as training of personnel, and present their assessment and recommendations for funding. The entire committee then discusses the application. At any time, members may indicate that they wish to 'flag' an application if they feel that there are outstanding concerns or unresolved issues. Flagged applications were dealt with a second time at the conclusion of round 1.

The committee then proceeded to a secret vote on the four NSERC-mandated criteria: merit of the proposal, excellence of the researchers, training of highly qualified personnel, and need for funds. The latter criterion was interpreted to mean the urgency of the need in this competition. In each case, the vote is between 1 and 5, with 1 being excellent and 5 being a below average ranking. In addition, the committee voted on an amount to award. In the case of multi-year grants, the committee voted separately for each year. Rather than vote on the duration of a grant, we attempted to reach a consensus on the number of years, and then vote only on the amounts. In all cases, we were able to reach such a consensus. All votes

line	Item	2001-2002	2002-2003	2003-2004
	Original (1997) envelope	17,307	17,307	17,307
a	Updated envelope	20,528	20,940	21,170
b	Outstanding debt at start	− 2,838		+ 799
c	Adjustments, 2001	+ 512		
	Adjustments, 2002:			
	correction from 2001		− 85	
d	additional funds for new applicants		+ 230	
e	transfer from GSC 17		+ 20	+ 20
f	carry-over from grant termination		+ 34	
	Previously allocated	− 13,608	− 7,352	− 13,191
g	Budget	= 4,594	= 13,788	
h	Actually allocated	− 4,602	− 12,989	
	Correction	− 77	0	
j	Debt carried forward	= 85	(799)	

Table 2: Summary of the budget situation from 2001-2002 and from this competition (2002-2003), in $k. The $2838K debt at the start of the 2001 competition is the debt due to the SAP 5-year expenditure plan started in 1997; the $85K debt at the start of the 2002 competition is unrelated to this plan, as explained in the Chair's report from last year. The numbers may not add due to rounding. The 'negative debt' in line j for the current year is the *positive* carry-forward available to future competitions, shown in line b for next year's competition as a positive adjustment.

were recorded by the NSERC program officer. The amounts and rankings used were the median values after removal of the highest and lowest values (this is sometimes called a 'Dutch auction' method).

During the round 1 discussion, members were encouraged not to keep track of the total amount awarded, but rather to base their award recommendations solely on the NSERC criteria and on their estimate of the amount needed to carry out the research proposed.

The committee had originally planned to consider all applications in round 1 in plenary session, without breaking into sub-committees as has been the practice in past years. Unfortunately the schedule slipped enough that ultimately, we were forced to split the committee, with one sub-committee for theory grants and one for computing equipment grants. Both subcommittees then reported back to the full committee where their decisions were presented and discussed.

Finally, the committee revisited the 'flagged' proposals and reconciled their outstanding issues. Round 1 was finished by Wednesday morning. Awards totally $13,500,453 had been recommended, *less* than the amount actually available of $13,788,137.

At this point the committee considered the Report of the Canadian Subatomic Physics Five Year Planning Committee (June 2001). That report recommended that approximately $1.5M of the envelope for 2002-2003 be carried forward for future years in order to meet the requirements of several projects likely to require major capital investment in 2005 and beyond. At the end of round 1, the unallocated funds were substantially less than this amount.

A lengthy discussion was held to try to reach a concensus about how to proceed. The committee was generally in favor of carrying forward funds, but was not in favor of targeting a specific dollar figure. Rather, the concensus was to continue to apply the normal high standards that have dictated past GSC decisions, when shortfalls in funding were the norm, keeping in mind the need for the carry-forward. There was also agreement that we ensure the awards are consistent wth the priorities of the community as outlined in both the reallocation report and the Five Year Plan (5YP). With this in mind, in round 2 the committee attempted to establish whether our criteria had been consistent with previous competitions.

The committee reviewed all grants in round 2, paying particular attention to those with the lowest ranking. We strove for consistency among the grants and for consistency with the 'cut-off ranking' (ranking below which applications were not funded) of previous years. The committee thus found itself in the unusual situation of cutting awards while having money available. A total of $512,320 was cut in round 2 from 11 awards, leaving recommended awards of $12,989,133 (line h, Table 2). Thus, the committee has set aside a sum of $799,004 for future use by the SAP community.

Round three was, as usual, a chance for 'sober second thought'. Committee members were invited to discuss applications that they believe may have been treated more harshly – or more leniently – than others. There were no changes to awards. Round 3, on Thursday morning, was followed by a period devoted to the writing of Notifications of Decision that are returned to all applicants. The competition concluded early Thursday afternoon.

Summary of Results

The quality of the applications was generally very high. Of the 80 submitted, one was withdrawn, and 72 awards were recommended. Two of the null awards were MFA applications for computer support personnel; this point will be addressed below. Of the 19 equipment requests, 15 applications were recommended for awards. A full list of awards is scheduled to be on available on the web at

`http://www.nserc.ca/programs/prognewsres_e.htm`

by the time this report is released.

The breakdown of awards by category is shown in Table 3, together with the equivalent figures from preceding years.

	1999-2000	2000-2001	2001-2002	2002-2003
Nuclear Structure and Reactions	914.6	818.1	815.9	848.0
Intermediate Energy	800.7	731.8	891.0	1,028.4
TRIUMF non-ISAC	813.5	682.5	646.0	781.0
ISAC	1,373.5	1,246.0	1,001.0	1,397.1
SNO	3,636.7	3,586.0	3,641.0	4,395.0
ATLAS	4,531.0	4,990.0	3,278.0	3,402.0
Babar	691.5	650.0	650.0	804.0
Rare K Decay	583.0	544.0	926.0	1,060.0
CDF	220.0	220.0	250.0	323.5
OPAL	1,474.0	1,375.0	700.0	370.0
ZEUS	867.0	750.0	750.0	750.0
HERMES	480.3	454.6	385.0	290.0
Future Collider R&D	0.0	15.0	149.0	159.0
Astroparticle and other	38.5	191.9	273.5	727.5
Theory	1,972.5	1,920.5	2,158.3	2,312.5
Infrastructure	1,484.0	1,490.7	1,516.9	1,536.0
Computing	19.0	0.0	178.5	157.0
Total	19,914.7	19,641.2	18,210.1	20,341.0

Table 3: GSC-19 awards broken down by category, in $k. Amounts may not add due to rounding.

Results in light of the SAP reallocation report and the Five Year Plan

As mentioned above, the committee discussed the strategic wisdom of setting aside funds as all GSCs are evaluated in the reallocation process. Two main points were made. Firstly, NSERC staffers have pointed

out to this GSC in the past that other GSCs regularly set aside money, at the few % level, to deal with the fluctuations in the number of applicants and total size of awards over different competitions. The GSC 19 set-aside is $800K, out of a total envelope of approximately $21M – about 3.8%. In light of the use of this mechanism by other GSCs, this does not seem excessive.

Secondly, the committee was careful to look in detail at the GSC 19 reallocation plan, to ensure that we have dealt to the best of our ability with the community's self-declared highest priorities (for which we have argued for additional funds). In order of priority, these are:

- support for a balanced program;
- maximizing science returns for the highest priority projects;
- support for particle astrophysics
- strengthening of sub-atomic theory;
- advanced technology development.

The committee believes that the results of the 2002 competition fully respect these priorities. In particular:

- SNO, ATLAS, Babar, TWIST, and the Rare-K effort all received major increases in operating funding;
- significant ISAC equipment funding was provided for, which will serve in part for TIGRESS prototyping;
- STACEE was funded (for the first time, completely from the GSC 19 envelope) at a substantially higher amount that in previous years;
- the policy started last year of increasing theory grants on average was continued, and over the last two years the theory community funding has moved from 9.8% of the GSC 19 allocations to 11.4% (see Table 3), an increase of nearly $400K. This growth has occurred partially through the funding of very impressive new applicants, and partially through increased funding to ongoing members of the community. The committee recommends that the policy continue over the next two years.

Table 4 contains a direct comparison of the results of this competition to the projections for 2002-2003 contained in the Five Year Plan document, in the status quo scenario. For the purposes of this table, 'Nuclear Structure and Reactions' contains the 5YP entries for 'Nuclei at the extremes', 'Mass measurements', and 'Heavy Ions'; 'Intermediate Energy' regroups 'EM probes' and 'JLAB'; and 'ISAC' includes 'Nuclear Astrophysics' and 'Symmetries at ISAC'. The 5YP entries 'JHF neutrino project', 'New Investigators', 'Minor equipment', and 'TBD' are not explicitly listed, and so the 5YP column does not add.

The two right-most columns of Table 4 contain the evolution from 2001-2002 to 2002-2003 of the actual amounts awarded by the GSC and the projected evolution in the status quo scenario of the 5YP. It is clear from these columns that the general evolution for nearly every category in the SAP program has been more positive than foreseen in that document. Thus, in some sense, a more favourable financial situation than foreseen in the 5YP combined with a smaller – though still substantial – set-aside has already led to marked improvement in the situation across a large part of the SAP community.

Results in light of new money

Finally, the committee was careful to ensure that the new monies allocated to GSC 19 for new applicants were indeed used in that fashion. This was very straightforward: the three new experimentalists are on the highest priority projects in the community (SNO, ATLAS, and ISAC), all of which received substantial increases; the new theorists were all awarded grants.

	GSC Awarded 2002-2003	Five Year Plan 2002-2003	Δ GSC 01→02	Δ 5YP 01→02
Nuclear Structure and Reactions	848.0	647	+32	–171
Intermediate Energy	1,028.4	650	+137	+80
TRIUMF non-ISAC	781.0	835	+135	+2
ISAC	1,397.1	1,585	+396	+727
SNO	4,395.0	3,900	+754	+259
ATLAS	3,402.0	3,286	+124	+8
Babar	804.0	775	+154	+75
Rare K Decay	1,060.0	830	+134	+94
CDF	323.5	240	+84	0
OPAL	370.0	500	–330	–250
ZEUS	750.0	750	0	0
HERMES	290.0	280	–95	–70
Future Collider R&D	159.0	169	0	0
Astroparticle and other	727.5	300	+454	–1
Theory	2,312.5	2,100	+154	+220
Infrastructure	1,536.0	1610	+19	+102
Computing	157.0	-	-	-
Set-aside	799.0	1458	+799	+1354
Total	21,140.0	20,700		

Table 4: GSC-19 awards for 2002-2003, compared to the projections for that year in the Five Year Plan, in $k. Amounts may not add, as explained in the text. The right two columns are explained in the text.

Policy matters arising

Dealing with future set-asides

Inherent in the idea of a set-aside of funds is their use in a future competition – the money is being saved, not lost. Ultimately the community decides, among the projects that are proposed and by the intermediary of the GSC, when and how this is to occur. The GSC finds itself in a situation where it is choosing between real, current needs and saving for future projects whose scale – both temporal and financial – is uncertain. For the 2002 competition the GSC and the community had the guidance of the Five Year Plan and their detailed look at the evolution of our field. Moving forward, that plan will become increasingly dated – indeed, the differences between the right-hand-most two columns of Table 4 indicates that the divergence is often already at the multi-$100K level. Thus the community needs a mechanism to justify future set-asides and their use.

Last year's chair, Richard Keeler, in his Chair's Report, suggested that the Form 180 be used in some circumstances as a Letter of Intent to help keep the committee abreast of the evolution of major projects likely to be the subject of grant requests in the future. Without such a mechanism, the committee is not officially informed of their status, and must proceed by either ignoring them or acting on anecdotal evidence, possibly to the detriment of applicants.

I would like to reiterate this suggestion and formally request that NSERC explore such a mechanism. I also suggest that both IOF (International Opportunity Fund) and CFI (Canada Foundation for Innovation) grantees in Subatomic Physics be encouraged to regularly submit reports to NSERC and to the GSC about the status and potential evolution of their collaborations. In the case of IOF grants, NSERC could make the submission of such a report a requirement. NSERC could also be proactive in soliciting such reports from groups it believes are in the planning stage. While this may seem to be a 'top-down' approach, two

important points should be made. Firstly, there would be nothing binding or exclusionary about such a report, and secondly, the more information that the GSC has at its disposal, the more carefully crafted can be its decisions, to the benefit of the entire community. Finally, I suggest that the annual CAP meeting in June be used as a forum to keep abreast of these projects, perhaps through a special SAP-wide session devoted to future projects. The timing of this meeting, coming as it does just before the deadline for Form 180s, is excellent in this respect.

MFA funding for computer support

Apart from the issue of the set-aside, there was only one substantial policy matter that arose as a result of GSC deliberations during the competition. The committee had before it two applications for MFA funding of computer personnel in support of SAP groups. NSERC has indicated that this is a legitimate area for MFA support, and the committee discussed these applications and their implications at length. Particular attention was paid to the issues of precedent: if these applications were funded, would every SAP group in the country merit such a grant? Only those whose activities encompass multiple projects or experiments? Should there be a threshold on the group size to qualify for MFA support?

In light of these questions, the committee referred the matter to NSERC for guidance. NSERC will consult with members of the SAP community (input on this subject from interested community members should go to K. Wilson) to establish guidelines for this type of grant support in the future, and communicate these guidelines to the community.

Future evolution of the Envelope

The ongoing NSERC reallocation process makes it impossible to know the envelope for next year and subsequent years with any certainty; the amount shown in Table 2 is the result if reallocation has no impact. The maximum impact of reallocation for 2003-2004 is one-quarter (because the changes are phased in over four years) of the amount of our envelope that is subject to reallocation, namely 6.8% (it is 10% of the operating part of the envelope, while amounts for MFAs, equipment, and major installation grants are not considered). This amounts to approximately $350K per annum, doubling in 2004-2005. In addition, there are yearly changes due to appeals, one-time-only funds, and carry-overs that further cloud the situation. In spite of this uncertainty, it is clear that the picture for GSC 19 is much brighter than it has been for the last several years.

The GSC looked briefly at the future implications of its recommendations. If we assume that grants are continued at their current levels, there will be an amount of more than $1.6M available for new endeavors in the next competition. At the same time, a number of projects, some of them identified in the Five Year Plan, may be seeking start-up funding over the next few years, and the community must position itself to take maximum advantage of the science at its existing projects. In order to avoid a 'first come, first served' funding system, we must remain committed to the exacting standards that have served us well in the recent past; although we should improve the information available to the GSC about the status of upcoming projects, we should not be afraid to set aside money for future endeavors that we know to be on the horizon.

Recommendations

Here for clarity and completeness we regroup the recommendations that are discussed above. The recommendations are:

- that NSERC explore a method of distributing complete grant requests that desire use of TRIUMF resources to the TRIUMF directorate prior to the competition, in order for TRIUMF to provide

comments on them for the GSC;

- that MFA support for computer personnel be studied by NSERC with a view to providing guidance to the GSC;
- that the policy of continuing to increase (on average) grants to the theory committee be maintained for the next two competitions;
- that NSERC encourage the community to use the Form 180's as a Letter of Intent, to inform the GSC about the status of projects that are not yet the subject of an official grant request, and explore other possibilities to make the status of such projects known to the GSC.

Acknowledgements

I would like to sincerely thank Kate Wilson, Michèle Beaudry, Madeleine Bastien (former GSC 19 program officer), and Valérie Augier and Sue Dodds for all their help over the past year. I suspect that it is quite a chore educating a new chair each year, but their enthusiasm and competence never flagged, and it was a pleasure to work with them. Thanks also to Nigel Lloyd and to Ian Mitchell for spending time with the GSC during the competition week, and for their valuable input.

Finally, my thanks to the entire committee. Their hard work, dedication, and committment were outstanding and their humour and camaraderie helped to make the task enjoyable.

References

[1] Chairs' reports from 1997 on:

- S.A. Page, April 1997, 'Report on the 1997 Grants Competition: Awards, Policy Matters, and a Five Year Spending Plan for Subatomic Physics,'
- P.K. Sinervo, May 1998, 'Report on the 1998 NSERC Subatomic Physics Grants Competition,'
- M.C. Vetterli, June 1999, 'Report on the 1999 NSERC Subatomic Physics Grants Competition,'
- P. Kalyniak, April 2000, 'Report on the 2000 NSERC Subatomic Physics Grants Competition,'
- R. Keeler, April 2001, 'Report on the 2001 NSERC Subatomic Physics Grants Competition,'

should be available at the IPP web site (`http://www.ipp.ca`) by the time this report is out.