

**SIMON FRASER UNIVERSITY**  
**Senate Committee on University Priorities**  
**Memorandum**

**TO:** Senate

**FROM:** John Waterhouse  
Chair, SCUP  
Vice-President, Academic

**RE:** Interdisciplinary Research in the  
Mathematical and Computational  
Sciences (IRMACS)

**DATE:** December 16, 2004

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Attached is a proposal from Dr. Peter Borwein of IRMACS for the establishment of Interdisciplinary Research in the Mathematical and Computational Sciences (IRMACS) as a Schedule B Centre.

The Senate Committee on University Priorities reviewed the proposal at its December 15, 2004 meeting. The proposal was unanimously approved.

Once approved by Senate, the proposal is to be submitted to the Board of Governors.

**MOTION**

“That Senate approve and recommend to the Board of Governors the proposal to establish Interdisciplinary Research in the Mathematical and Computational Sciences (IRMACS) as a Schedule B Centre.”

Attach.

c: B. Pinto  
M. Plischke  
B. Lewis  
P. Borwein  
G. Nicholls

**SIMON FRASER UNIVERSITY**  
**OFFICE OF THE VICE-PRESIDENT, RESEARCH**

*Memorandum*

**TO:** Glynn Nicholls, Secretary  
Senate Committee on University  
Planning (SCUP)

**FROM:** B. Mario Pinto  
Vice-President, Research

**RE:** Interdisciplinary Research in the Mathematical  
and Computational Sciences (IRMACS)

**DATE:** November 25, 2004

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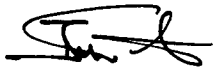
Attached is a proposal from Dr. Peter Borwein of IRMACS for the establishment of IRMACS as a Schedule B Centre.

The Governing Committee for Centres and Institutes recommends that the Centre be granted approval by SCUP. Once approved by SCUP, the proposal is to be forwarded to Senate, followed by submission to the Board of Governors.

Governing Committee:



Dr. John Waterhouse  
Vice-President, Academic and Provost



Dr. B. Mario Pinto  
Vice-President, Research

Attachment

Cc: Dr. Michael Plischke, Dean of Science  
Dr. Brian Lewis, Dean of Applied Science

# IRMACS Centre Document

## 0. Schedule B Centre

The IRMACS Centre will be a Class B University Centre. As such, the decision-making and policy-making process for IRMACS will follow the Policies and Procedures (R 40.01) set forward for University Centres and Institutes (see [www.sfu.ca/policies/research/r40-01.htm](http://www.sfu.ca/policies/research/r40-01.htm)).

The IRMACS Centre will have a university-wide mandate within the portfolio of the Vice President, Research. IRMACS recognises its obligation to conduct activities in accordance with University policies.

## 1. Description / Vision

The principal vision of the IRMACS Centre is to provide a flexible, collaborative, computationally sophisticated environment at SFU for more than one hundred scientists whose primary laboratory tool is the computer. The intention is to provide an environment that removes traditional boundaries between scientific disciplines, in order to promote novel initiatives. The IRMACS Centre will capitalise on SFU's strengths in ground-breaking and interdisciplinary research, together with the expertise of its computationally sophisticated researchers.

The IRMACS Centre will fulfill the critical need to house diverse groups of scientists for variable periods of time, by creating a reconfigurable open research facility that will be able to efficiently incorporate the community of scientists, research associates, students, and visitors in an adaptive manner.

The IRMACS Centre will house research projects for varying periods, providing physical workspace, state-of-the-art computational and communications resources, and expert technical support. A proportion of the assignable space will be set aside for short-term and sabbatical visitors.

It is expected that some or all of the following areas will lead to successful interdisciplinary projects: collaborative communications, computational algebra, health informatics, statistical genetics, telecommunications, signal processing, computational genomics, modeling and prediction, optimisation, proteomics, cryptography and computational number theory.

The IRMACS vision is to help SFU:

- to attract and retain high quality faculty
- to attract and promote high quality research interaction
- to attract and support high quality graduate students
- to attract short-term and sabbatical visitors
- to alleviate some space pressures
- to create new linkages between researchers in different Departments, Schools and Institutions
- to provide a springboard for future large initiatives and grant applications

## **2. Activities**

- support, promotion and housing of high-quality interdisciplinary research groups in the mathematical and computational sciences
- promotion of new scientific projects and collaborations
- provision of state-of-the-art communications resources for scientific collaboration
- provision and co-ordination of significant computational and visualisation resources
- housing of visiting Highly Qualified Personnel for weeks or months
- co-ordination and provision of space for lecture series
- provision of facilities for moderate-sized meetings, workshops, research conferences and related activities

## **3. Management**

See Management Structure document below.

## **4. Funding Sources**

Canada Foundation for Innovation (CFI)  
British Columbia Knowledge Development Fund (BCKDF)  
Simon Fraser University  
In-kind contributions from vendors  
Granting Agencies – long term

## **5. Budget implications / Library needs**

Ongoing funding development / Minimal

# IRMACS Management Structure

The accompanying diagram shows the management structure of IRMACS.

## Management Committee

The Management Committee is responsible for overall running, policy setting, and decision-making on allocation of resources (including space) to projects and to visitors. This committee comprises 8 members:

Project Leader & Executive Director

Scientific Director

Project Manager

Network Architect

plus 4 elected faculty members, at least one of which is from each of the Faculty of Science, the Faculty of Applied Sciences and the Faculty of Health Sciences. The electorate is the Membership (see below).

The initial Management Committee is made up of:

Peter Borwein	Project Leader & Executive Director
Rob Ballantyne	Network Architect
Pam Borghardt	Project Manager
Felix Breden	Faculty of Science
position vacant	Scientific Director
Wade Parkhouse	Faculty of Applied Sciences
Ljiljana Trajkovic	Faculty of Applied Sciences
Les Vertesi	Faculty of Health Sciences.

The Management Committee may obtain advice on the scientific merit of proposals, devising its own procedures to consult disinterested scientific advisors. It then makes recommendations to the Board of Trustees.

The Management Committee can set up groups to deal with specific tasks as required, for example identifying new interdisciplinary opportunities.

## Board of Trustees

The Board of Trustees has an oversight role, particularly regarding University interests. It does not make policy but can require the Management Committee to reconsider decisions. The initial voting members of the Board are:

Dean of Science

Dean of Applied Sciences

Dean of Health Sciences

VP Research

The Project Leader and the Scientific Director, together with other appropriate staff, may attend meetings of the Board to assist information flow, but will not have a vote.

The Board members themselves will determine any changes to the composition of the Board, in consultation with the Management Committee.

### VP Research

IRMACS will formally be constituted as a Class B University Centre reporting to the VP Research.

### Membership

The Membership of IRMACS will ratify important decisions such as appointment of a new Scientific Director, changes to the composition of the Board of Trustees, or significant changes of direction for IRMACS.

The Membership of IRMACS comprises all faculty members with a direct interest in IRMACS (as determined by the Management Committee) together with non-faculty from each current IRMACS project as appropriate.

## IRMACS Management Structure

