

Title of Proposal Mathematics in Science Fairs**Contact Information****Name** Klaus Hoechsmann**E-mail** hoek@math.ubc.ca*The one person and place to
communicate with the applicant(s)***Telephone** (604)822-3782**Fax** (604)822-0883**Institution or department to administer grant funds**

Name	PIMS		
Address	#200-220, 1933 West Mall	Contact	Andrea Hook
	University of B.C.	E-mail	andrea@pims.math.ca
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Summary *Less than 100 words* **Total amount requested in this competition** \$ 3,000

Work with students and teachers, mainly in secondary schools, to invent and develop mathematical projects for exhibition at science fairs, in collaboration with the Science Fair Foundation of BC.

Applicants*Put any specific information on the relevant experience or expertise of an applicant in "Other".*

Name(s)	Klaus Hoechsmann		
E-mail	hoek@math.ubc.ca		
Position	PIMS Education Facilitator		
Employer	Pacific Inst. f. Math. Sci.		
Address	1933 West Mall UBC Vancouver, BC V6T 1Z2		
CMS member number	yes		
Current Grants	none		

What you propose to do

Times Roman 12pt, 1" margins, at most 40 lines

Work with students and teachers (mostly at secondary schools) to invent and develop mathematical projects suitable for exhibition at science fairs. As a continuation and expansion of the successful programme organized in 1998-99 by K. Heinrich and P. Borwein of SFU, the present one will have PIMS (the Pacific Institute for the Mathematical Sciences) as its main sponsor, take place within the frame-work of the Science Fair Foundation (BC), and be structured along the following lines.

The detailed interaction with students and teachers will be carried out by the "Project Developer", an appropriately competent and motivated graduate student hired to work about 8 hours a week between October and April, advised and supported by the applicant and other professional mathematicians from PIMS, UBC, and SFU. The applicant will also act as organiser, supervisor, and promoter of the programme. For practical reasons, attention will still focus on BC's Lower Mainland, i.e., the Greater Vancouver Area and the Fraser Valley (about 50 schools). In the spring of 2002, the programme was seriously hampered by BC teacher's "job action" in protest to cut-backs by the new Liberal Government. The projects that did survive were of exceptional quality. The two students sent to the Canada-Wide Fair at Saskatoon both won medals: one gold, one bronze. The latter shows considerable mathematical potential.

Again, let me conclude with a quote from my 1999 application: "there are few better means of attracting those students who (like most mathematicians) happen to be marathoners rather than sprinters. While continuing to encourage originality in the traditional domains of recreational mathematics, the present programme will try to extend student 'research' into novel ways of seeing and presenting even 'standard' mathematics as an adventure play-ground." Incidentally, it also helps overcome some popular misconceptions about mathematics.

Budget

Description	Revenue		
Support by PIMS (as per budget)	6,000		
CMS Endowment Grant Requested	3,000		
Total Revenue \$	9,000		
Expenses			
Awards and prizes	1,500		
Science Fair Foundation overhead	500		
Stipend of Project Developer	5,000		
Local travel and materials	750		
Sending one student to national fair	1,250		
Total Expenses \$	9,000		

Other *Funding, partners, revenue potential, information on applicants such as publications or awards, at most 20 lines.*

Klaus Hoehsmann (Applicant) is Professor Emeritus of Mathematics at UBC with a long and active interest in innovative teaching and promotion of mathematics. Janet Martin (Project Developer) has a B.Sc. in mathematics from Ottawa University and is currently finishing her work on a Master's Degree in Mathematics Education at UBC. At age 31, she has extensive experience in teaching and promoting mathematics, both in Canada and abroad (Phillipines). Nataša Sirotić, who did this work in the past, will stay involved in an advisory role.

Project start date: October 15, 2002 **Project finish date:** April 15, 2003

When project is finished what measurements will you use to judge the quality of the outcome?

Judges' reports and feed-back from the Science Fair Foundation.