

# **Proposal to the IEEE Information Theory Society Board of Governors**

***on a fund to support New Zealand graduate students to attend international symposia, workshops, and conferences sponsored and co-sponsored by the IEEE Information Theory Society***

## **Executive Summary**

**We propose to set up a small fund of US\$10k to support students from New Zealand in attending ITSOC-related conferences for which they have a peer-reviewed paper accepted and which they would otherwise be unable to attend. The aim of this proposal is to foster information theory activity among students in New Zealand and take it to an international level. Students in New Zealand are disadvantaged compared to their counterparts in Europe, North America, and Asia as almost every international conference of repute requires an expensive international airline ticket to attend, conference funding for students is hard to come by, and disposable income is low compared to other countries. The amount of funding requested is less than the excess surplus (beyond the 20% required now) returned to the society by ITW2005 in Rotorua.**

## **Contact for questions**

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## **Background**

The Information Theory community in New Zealand, a country of four million people, is still very small and while the society has a few members in the country, we do not have the numbers for a chapter at present. This is something we would like to change.

We have, however, run a successful international workshop (ITW2005 Rotorua) and will soon be hosting ISITA2008 on behalf of SITA, both IEEE ITSOC sponsored/co-sponsored events. We would like to build on this basis.

ITW2005 was able to return a surplus of US\$23,668.13 at a total expenditure of US\$42,581.18. This corresponds to a surplus of 55.6%, which was largely earned through extensive and efficient use of local goodwill, solutions, volunteer labor, and a NZ\$5,625.00 grant from the Royal Society of New Zealand. At budgeting time, IEEE required a 10% surplus to be built into the budget to guard against risks. Even given the current requirement of a 20% surplus, ITW did very well financially, returning over US\$15k more than required.

We understand that the Board of Governors has recognized this and are grateful and feel honored to be able to present the following proposal to the Board.

We would like to propose that, in recognition of this extra surplus, a fund be set up to support Information Theory activity in New Zealand in a way that meets the needs of the New Zealand Information Theory community. Our proposal is outlined, detailed, and justified below.

## **Proposal**

That a sum of US\$10,000 be set aside in a special fund to assist graduate students at New Zealand universities with travel to and attendance at international symposia, workshops, and conferences for which the IEEE Information Theory Society is the sponsoring entity or acts as a co-sponsoring entity and at which the supported students are presenting an accepted paper that has been subject to the usual peer review.

Details and a justification follow below.

## **Details**

Travel support under the fund should be on a first come, first served basis, subject to the following proposed conditions:

1. Only one award per individual. Partial awards may be made.
2. Awards can only be made for travel to and attendance at an international symposium, workshop, or conferences for which the IEEE Information Theory Society is the sponsoring entity or acts as a co-sponsoring entity (technical and/or financial co-sponsorship is acceptable) and at which the supported student is presenting an accepted paper that has been subject to the usual peer review. For simplicity, these shall be referred to as “conferences” herein. A copy of the referee report(s) must accompany the application.
3. The conference for which support is granted must be outside New Zealand or, if inside New Zealand, must be held in the North Island (South Island) if the student’s usual place of study is on the South Island (North Island).
4. An individual award must not exceed the value of US\$2500 at the time, plus registration fees at the conference. This covers the cost of attendance in most circumstances, on a shoestring budget.
5. Awards will only cover actual costs of travel at the lowest commonly advertised airfare (whether or not the student is able to book this airfare), local transport from airport to conference venue, and accommodation in a youth hostel, backpacker hostel, camping ground, or equivalent budget accommodation, where available, and conference registration fees. The awards also cover the cost of travel insurance for travel outside New Zealand, for up to 3 days before and after the conference.
6. Awards can only be made to IEEE members/student members with current membership at the time of application and conference.
7. Awardees must be NZ citizens, permanent residents of New Zealand, or holders of NZ work permits.

8. Awardees must have been enrolled in a graduate programme at a New Zealand university, either at the time of paper submission or at the time of the conference. If the student is not enrolled at the time of the conference, the award can only be made if the student has since graduated or submitted a thesis, and is not in full-time paid employment.
9. Priority will be given to applicants who can demonstrate a financial contribution from their home departments, universities, or third party scholarships.

Awards should be decided upon by an ad-hoc committee, consisting of the current ITSoc president, treasurer, conference co-ordinator, and a co-opted ITSoc member from New Zealand. The co-opted member should, if possible, not originate from a university from which a student has submitted an application. If this is unavoidable, the co-opted member should abstain from voting on any applications before the committee until after all applications from his/her own university currently before the committee have been decided upon.

Applications must be made in writing or by e-mail and must include the student's paper, referee report(s) from the conference in question, current travel quotes, information about any third-party support applied for or granted, and a letter of support from the student's supervisor.

## **Justification**

When we were approached by the Board of Governors about making this application, we were given a number of options, including funding for guest speakers or direct support for events to be held in New Zealand. The following considerations underpin our choice of proposal:

- The IT community in NZ is very small. To the best of our knowledge, there are less than half a dozen ITSOC members here, with reasonably diverse interests.
- Getting international colleagues of repute to come to NZ is not usually a big problem, as is getting local funding for a night's accommodation and a meal, if not more. New Zealand's reputation as a top tourist destination compensates for a lot.
- Getting funding for academics here to attend conferences is a so-so affair, sometimes there's plenty and sometimes there isn't, but by and large we get by.
- Student funding is a real issue. Smart graduates are almost drying up here with strong competition from industry, and while NZ has recently reduced fees for international PhD students to domestic levels, money is still very tight for a lot of them.
- Our Performance Based Research Fund (PBRF) counts MSc and PhD completions, and papers at international conferences count more than local or Australia-NZ workshops.
- We're a "long drive" from anywhere else.

So in terms of prudent investment, we believe that flying high-powered lecturers in to talk to a small audience should not be our top priority. For a meaningful student

workshop, we do not have the numbers (yet). Study abroad scholarships seemed like good idea, except that the cost of study abroad exceeds the ITW2005 surplus significantly, and substantial booster funding for study abroad is hard to find in New Zealand. This left us with conference travel for students, and we see a number of reasons for why this gives us very good leverage:

- NZ students have less opportunity to attend international conferences than even their Australian counterparts - we have fewer of them here, and one cannot usually just drive there. Any conference in the US or Europe now carries at least a US\$3000 price tag for flight, fees, and accommodation. The Computer Science Department at the University of Auckland, for example, pays for only one trip during a PhD, and even then it only pays for about US\$2400, and only if funds are available.
- Most other funding, and even departmental/university funding at times, falls short of target or requires top-up funding from elsewhere. This is where having a conference travel fund for students could really leverage a lot more because it encourages and considerably strengthens applications to these funds.
- New Zealand graduate students do not enjoy the level of stipend and scholarship support that many North American and European students have available to them. The disposable income of NZ students and their families is much lower as well, opportunities to earn money as a student are limited, and many NZ students have large debts in order to be able to pay for their education. This further restricts their ability to attend conferences overseas.
- Going to an international conference is a window opener for a lot of students, and it helps them find their bearings. For a NZ-based student, attending a conference in Baltimore is something real special, a once-in-a-lifetime experience, whereas for a student from MIT it's often all in a week's work. Being able to go to Allerton, ISIT, ITW, or ISITA etc. exposes students to feedback they would not otherwise get. This motivates them and makes them easier to supervise.
- Having our students out there helps us indirectly through PBRF, too, and increases the international visibility of our work at the same time.
- With ISITA, we have the (to my knowledge) largest reputable international information theory conference coming our way, so can make a little money go a long way next year.

## **Budget**

It is realistic that we will want to support 1-2 students a year to conferences overseas for the next few years, and (as a one off) probably about three students from the South Island to attend ISITA2008 in Auckland next year.

ISITA will likely attract the following cost for a student from the University of Canterbury (the most likely source of candidates):

Airfare: NZ\$300 (US\$225)  
Accommodation (4 nights @ NZ\$25/night): NZ\$100 (US\$75)  
Local transport: NZ\$40 (US\$30)  
Registration (provisional): NZ\$470 (US\$353)  
**Total: US\$683**

Supporting three students in this way would thus cost roughly **US\$2000**.

Attendance at ISIT in Nice this year cost the following:

Airfare: NZ\$2850 including taxes (US\$2140)  
Accommodation (5 nights @ 20 EUR): NZ\$180 (US\$135)  
Local transport: NZ\$40 (US\$30)  
Registration: presumed waived (?)  
Travel insurance: NZ\$200 (US\$150)  
**Total: US\$2455**

Seattle in 2006 would have worked out only slightly cheaper. If we presume that most students would be able to find top-up funding of on average about US\$500 from a local source, then we are looking at about US\$2000 per international conference support case.

The suggested fund of US\$10,000 would allow us to offer this support for at least three years and possibly four, as we would hopefully be able to leverage it to obtain additional funding.