PROPOSAL FOR PARTIAL SUPPORT FOR US SCIENTISTS TO ATTEND THE 4TH RENCONTRE DU VIETNAM CONFERENCE

Abstract

Two Rencontres du Vietnam, devoted to Particle Physics and Astrophysics were held in Vietnam; the first one in December 1993 and the second one in October 1995. The third Rencontres du Vietnam, devoted to Condensed Matter Physics was held in Hanoi in January 1999. The aim of the Rencontres has been to extend the succesful international collaboration of Europe, Russia, Japan and the United States in these fast moving fields to the emerging Pacific rim countries. The fourth Rencontres du Vietnam, devoted to *Physics at Extreme Energies* will be held in Hanoi from Wednesday July 19 to Tuesday July 25, 2000. Hanoi, capital of Vietnam, has many universities and research institutes in physics. We request support for travel and registration expenses to allow US physicists and astrophysicists to participate.

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1 Introduction

There have been two previous highly-successful Rencontres du Vietnam, focused on the Standard Model of elementary particle physics. The Rencontre, a small, intense gathering of physicists, is intended to extend the enormously successful international enterprise of Europe, the former Soviet Union, Japan, and the US in particle physics to the emerging Pacific rim countries. The success of international efforts, both experimental and theoretical, at national and international laboratories (CLEO at Cornell, the DOE labs of Brookhaven, Fermilab, and SLAC; CERN in Switzerland; DESY in Germany; KEK in Japan, Serphukov, Novosibirsk, and Dubna in Russia, Bejing in China, to name some) has made particle physics a truly international discipline. Fostering strong scientific ties to Pacific rim countries, both at a high level (the Rencontre has close ties to a large number of distinguished Western scientists, as evidenced in Appendices B and D, as well as to high officials in Vietnam), and by identifying and encouraging the best and the brightest young scientists in Southeast Asia, will prove to be an important long-term achievement.

The number of countries represented, especially from South East Asia and the presence of top quality scientists demonstrated the importance which the international community places on scientific relations with Vietnam. It was suggested that a conference on particle physics be organized in 2000.

These are in addition exciting times in Elementary Particle Physics, with the establishment of the existence of neutrino oscillations (and hence neutrino mass), the commissioning of several B-factories, and recent major steps in theoretical areas. The timing of the Recontre has been set to take advantage of the siting of the Lepton-Photon conference in Osaka, Japan; we expect the relative proximity of this large conference will facilitate travel by both distinguished speakers and younger scientists.

The Rencontre du Vietnam is run by Prof. Jean Trân Thanh Vân, who also originated and has been running the Rencontres de Moriond in the French Alps for over thirty years. The Moriond conferences have been highly successful and influential over the years in bringing together both highly distinguished and young scientists in an informal and productive atmosphere. The proceedings are widely known and are often cited in their role as a forum for the presentation of the latest results. The first two Rencontres du Vietnam in High Energy Physics were in the same mold, and were also very successful.

Lastly, an effort will be made by the conference organizers and participants to promulgate broadly the importance and benefits of science by using some of the exciting results and questions as the basis for science education efforts in Vietnam.

2 Elementary Particle Physics

2.1 Scientific Program

The proposed program for the conference is given in Appendix A. The United States is now producing some of the most interesting results internationally, from Cornell, Fermilab, and SLAC, as well as from international collaboration with CERN and DESY. CLEO and BABAR are at the world forefront in B-physics. We are highly competitive in K physics.

There is in addition US participation in Super-Kamiokande and SNO, as well as in most of the other big neutrino efforts. It would be a shame not to have our results presented at a first-rate conference with a very broad and distinguished participant list.

The Rencontres are small, with a special mix of senior distinguished scientists from all over the world. They are consequently a wonderful opportunity for young American scientists to meet the leaders of the field in a situation where there is a lot of opportunity for interaction and discussion. There is also the opportunity to meet with the best young upcoming scientists of the Pacific Rim, establishing contacts that will prove valuable in the future.

2.2 US Participation

2.2.1 Proposed Level of Participation

We propose that a number of approximately 16 US particle physicists, of whom 12 are young, both experimentalists and theorists, is an appropriate number to attend the meeting funded from the Physics division. We are specifically interested in allowing working physicists to present new and important results to the international group that will be present. In addition, there are a number of US Nobel Laureates and other highly distinguished senior physicists who support the Rencontre. We place support for these at a lower priority, under the assumption that they have better access to travel funds than the 'working poor'. However they play an important role in the Rencontre– it is the interaction of senior scientists with the young ones that makes these small conferences so productive.

2.3 Support for Young Scientists

We propose making a special effort to involve the most promising young scientists in the Rencontre. The meeting will be small and intense, and will provide opportunities for close interaction with both the highly distinguished international senior scientific attendees, and with scientists from Asia with whom they would otherwise be not likely to get to know well. We propose that we give priority to young scientists who have results to present. These will very likely be those selected to present new results at Osaka.

2.3.1 Selection Process

The selection process will consist of widely and publicly soliciting written applications for attendance and support. The applications will be ranked by the US members of the Scientific program committee (still to be established). Priority will be given to those presenting new results.

2.3.2 Budget

Based on estimates from the organizers, we estimate the total cost of attending the meeting to be \$2200 per participant, consisting of \$1300 airfare (this assumes assiduous planning) and \$900 hotel, expenses, and registration fees for the week. We propose that the standard assistance for eight of the twelve attendees be that we provide 50% of the expenses, *i.e.*

\$1100 per participant. Because of the emphasis on young scientists, we would like to allow for coverage of the total for eight participants who have no other source of funding. The total is then $8 \times \$1100 + 8 \times \$2200 = \$26,400$.

3 Administration

The Rencontre has a professional staff which is highly experienced at organizing similar conferences. All details relating to the conference will be handled by them; the intent is to have only the actual disbursement of the travel funds handled by the University of Chicago in its role of responsibility for the proposed funds. The accounting will be done by the Administrative department of the University of Chicago. We are requesting overhead at the rate suggested by the NSF for group travel applications. This is the same arrangement as for the last Rencontre du Vietnam, which seemed to work very well.

4 Budget Summary

We summarize the total request in Table 1.

Expense Item	Cost
Particle Physics: 8 attendees	\$8,800
Young Scientists: 8 attendees	\$17,600
Administrative Expenses (\$50/attendee)	\$800
TOTAL	\$ 27,200

Table 1: Summary of the proposed budget.

5 Appendix A: Scientific Program: Elementary Particle Physics

III. Program

- Electroweak Interactions : Precision Tests, CP Violation, Baryogenesis - Quantum Chromodynamics : Heavy Flavours, Jets, Low x physics, Color Superconductivity - Higgs Physics - Supersymmetry, Strings and New Physics of Extra Dimensions - Neutrino masses, neutrino oscillations, solar neutrinos - Very high energy phenomena in the universe - Cosmology

The scientific program will consist mainly of reviews and invited talks. Parallel sessions will also be organized.

6 Appendix B: International Science Advisory Committee

M. Aguilar Benitez (Madrid), J. J. Aubert (Marseille), R. Barbieri (Pise), G. Charpak (Paris), Chen He-Sheng (Beijing), Chia Swee Ping (Kualalumpur), Chung Bok Keun (Sioul), J. Cronin (Chicago), M. Danilov (Moscow), J. Dorfan (Stanford), J. Feltesse (Saclay), T. Ferbel (Rochester), J. Friedman (Cambridge, USA), S. Glashow (Cambridge, USA), C. Jarlskog (Lund), L. Lederman (Chicago), Lee Shih-Chang (Taipeh), L. Maiani (CERN), Nguyjn van Hieu (Hanoi), L. Okun (Moscow), R. Peccei (Los Angeles), N. Ramsey (Cambridge, USA), G. Ross (Oxford), V. Rubakov (Moscow), A. Santoro (Rio de Janeiro), M. Shochet (Chicago), A. Skrinsky (Novosibirsk), M. Spiro (Saclay), J. Steinberger (Geneva), H. Sugawara (Tsukuba), S. Tovey (Melbourne), A. Wagner (Hamburg), A. Watson (Leeds), M. Witherell (Chicago), Y. Yamaguchi (Tokyo) and Yang Chen Ning (Stony Brook).