Office of International Programs
Faculty International Program Development Grants
Report Template

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Proposal title      Development and expansion of international exchange programs with Hong Kong Baptist University
Countries visited  Hong Kong
Institution visited Hong Kong Baptist University
Dates of travel     03/22/2011-03/30/2011
Number of student participants: 5 graduate students

Previous IP proposals submitted and grants awarded
(list titles, countries and dates):
None

Have all required reports been submitted?
NA

Other funding for this activity available/applied for:
HKBU funding and AFOSR funding
Proposal Abstract (75 word maximum):
This proposal requests funds for travel to Hong Kong Baptist University to develop and extend the current research collaboration with Prof. Don's research group in the Department of Mathematics at HKBU through exchange of graduate students. Prof. Don and Prof. Jacobs have an ongoing collaboration and have published several papers together. We are aiming to extend our collaboration and research intensity by expanding our research program through exchange of PhD students that we are supervising individually at HKBU and SDSU. In the near term, there are two Ph.D. students at SDSU that are scheduled to visit Prof. Don for an extended time (up to a semester) to perform research in his group and learn from his expertise in computational and applied mathematics. One PhD student from HKBU is to visit Prof. Jacobs's group at SDSU and learn about high-speed aerodynamics. We request funding for travel for Prof. Jacobs and one of his students. Additional funding will be provided by Prof. Don at Hong Kong.

Travel report:

I. Opening/overview of intentions/activity
The objective of Prof. Jacobs's visit to HKBU is to develop and expand international, collaborative research program between the Computational Science Research Center at SDSU and the Scientific Computing Research Group in the Department of Mathematics at SDSU. It was the intent to meet with faculty members and management at HKBU and give a seminar to explore matching interests between faculty members beyond the existing international research collaboration between Prof. Jacobs's research group and Prof. Don at HKBU. Initial conversations with the Department Head and Associate Vice President have been productive. Two follow-up visits from Prof. Don and Prof. Jacobs's to SDSU and HKBU have been planned to create a formal agreement between the Universities.

II. In preparation for the trip abroad
- Collaborated with Prof. Wai-Sun Don, Professor, Department of Mathematics, Hong Kong Baptist University /Visiting Professor, Div. of Applied Mathematics, Brown University
- Email: wsdon@hkbu.edu.hk
- HKBU is a publicly funded higher education organization in Hong Kong. It was founded in 1956 and was granted full university status by legislature statutory in 1994. The funding of the University is provided by the Hong Kong government under an advisory by the University Grant Committee. It is ranked 111th in the world and 13th in Asia by the Times Higher Education World University Rankings 2010. The University has about 5000 full time undergraduate student and 3300 graduate students in several faculty and schools. The
Department of Mathematics has 16 full time faculties along with many visitors from China and aboard. The Department is actively engaged in many areas of scientific research, including but not limited to, Applied and Computational Mathematics, Statistics and Applied Discrete Mathematics.

III. Upon arrival/specific activity
- During my stay at HKBU, I have discussed research collaboration and student exchange with faculty members in the Scientific Computing Research group in the Department of Mathematics including Prof. Don, Prof. Ling, Prof. Qiao, and Prof. Tang. Prof. Tang is also Associate Vice-President of HKBU. I have also had a meeting with the Head of the Department Prof. Zhu.
- The major in Mathematics with focus on Scientific Computing is a seamless match with the activities in the Computational Science Research Center at SDSU. Prof. Jacobs is a member of the CSRC and is supervising graduate students in the Computational Science Program. The research interests of CRSC have significant overlap and are complimentary with faculty members of the Scientific Computing Group at HKBU.

IV. Conclusion, recommendation, and next step?
- HKBU and SDSU have matching interests in the area of Scientific Computing. HKBU is one of the primary Universities in Hong Kong. The faculty members in the Department of Mathematics at HKBU are renowned and internationally recognized scientists. An intense, international research collaboration is beneficial the research productivity in terms of papers and grants as well as visibility of both schools. China and Hong Kong have experienced explosive growth in research and science over the last decade. It is clear that students participating in a collaborative exchange program will benefit tremendously from collaboration and visits of this new scientific frontier.
- Prof. Don and Prof. Jacobs have a long established history of collaboration in research and development. Current projects have a great potential for sustained funding and hence more elaborate collaboration between the two Departments is warranted. Prof. Don has since Prof. Jacobs’ visit at HKBU, visited SDSU. He is currently an adjunct faculty member at CSRC at SDSU. We are currently co-advising 4 graduate students and are strongly encouraging these student to spend extended periods of time at HKBU and SDSU.
- Prof. Don and I strongly believe that collaboration with a combined strength of both the theoretical and applied mathematics and applications driven problem from aerodynamics from both Departments creates a unique opportunity for future personal
development of the students from both sides of the Pacific Ocean. Many of Prof. Don’s students are eager to extend their knowledge in applied mathematics to solving practical problems in aerodynamics offered at SDSU under the supervision of Prof. Jacobs. Students of Prof. Jacobs are also conducting research based partially on the pioneering work of Prof. Don. So, the answer to the sustainability of the project is a definite Yes.

- The participation of students will be primarily at the graduate level by performing interdisciplinary research for extended periods of time at host. This will be beneficial scientific professional growth as well as their understanding of international collaborative research.

- Primarily graduate students. We are actively recruiting undergraduate students to pursue degrees at host institutions.

- International, collaborative research.

- Encouraging research visits and internships, and sponsorship.

V. Additional Information