
Updated Feb 1, 2010

Travel together overseas this summer to work on a Global Clinic research project!

Global Clinic projects for 2010-2011:

1. INDIA - Designing small scale thermal energy storage techniques.
2. SINGAPORE - Developing protein separation techniques, with applications in cancer research.
3. SINGAPORE and INDOCHINA - Developing techniques for small scale food canning and processing in Cambodia.

We are now accepting applications from rising seniors.
Also, some rising juniors may also be accepted into the program.

Details can be found below. Thank you, LdeP

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Detailed Descriptions of Global Clinic Opportunities for 2010-2011

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If you have an interest in any of these projects, please email Prof. de Pillis ASAP at lissette_depillis@hmc.edu

1. INDIA - Birla Institute of Technology - For regions around the world where there is no connectivity to centralized electric power (or likely to be) distributed power generation is essential for basic functions like lighting, heating and cooling, refrigeration, electronic equipment use (including computers), machine operation and water treatment. The objective of this project is to evaluate various energy storage concepts for distributed power systems that utilize low grade heat to achieve functionality and to design, build and test at least one of the more promising concepts.
SUMMER DATES: May 15-June 25, 2010 (May 15-June 5 in India, June 6-June 25 at HMC).

2. SINGAPORE - National University of Singapore & Bio-Rad Laboratories
Separation of proteins using their chemical properties can provide an approach to analyzing and purifying proteins. The technique has applications in cancer research. The proposal considers two aspects, the first consisting of a series of bead chemistries (solid state buffers, SSB) that provides sufficient buffering capacity to maintain a defined bulk solution pH without modifying the ionic strength, and the second consisting of a device that is able to route sample, wash and elution solutions across multiple bead chemistries in a specific sequence. The device should be able to accommodate generic chromatographic media (e.g. spin columns, microtiter filter plates) and ideally provide moderate throughput.
SUMMER DATES: June 6-July 16, 2010 (June 6-June 25 at HMC, June 26-July 16 in Singapore).

3. SINGAPORE and INDOCHINA - National University of Singapore & Operation Hope Foundation (OHF) Singapore - In poor developing countries, food is usually not equally distributed. Depending on the harvest, there can either be an excess of food or famine. When there is abundant crop harvest, the excess crops are often left to rot due to a lack of good preservation methods. Transporting fresh fruits and vegetables long distances to far away markets or large processing plants is not a solution as these food items spoil easily along the way. In this global clinic project, students will research on existing technologies to design a micro food processing plant to do on-site preservation and canning of tropical fruits and vegetables.
SUMMER DATES: June 6-July 16, 2010 (June 6-June 25 at HMC, June 26-July 16 in Singapore).

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Financial Support

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If you are accepted into the Global Clinic program, your program-related housing, food and transportation costs for the six weeks of summer will be covered, and you will also receive a small stipend. Please direct specific questions regarding the details of compensation to Prof. de Pillis (depillis@hmc.edu).

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Application Process

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Applications are now being accepted.

To apply:

IMPORTANT: MAKE SURE TO PUT "GLOBAL CLINIC APPLICATION" IN THE SUBJECT LINE OF YOUR EMAIL. If you don't, your application might not be received on time.

1. Write a brief statement of application no more than 1 page long describing
 - * Why you want to participate in Global Clinic
 - * What projects you would like to be on in order of preference (see below for descriptions)
 - * What skills you bring to the projects
 - * How a Global Clinic experience fits into your academic and eventual plans

2. Go to your department Clinic Director (if you have one, if not, go to your department chair) and have them sign your statement of application. This assures that they agree that Global Clinic participation will fulfill your graduation requirement.

3. Email the scanned signed statement of application to Professor L.G. dePillis (depillis@hmc.edu), and cc a copy to Lorena Gonzalez (Lorena_Gonzalez@hmc.edu).

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Questions?
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If you have discipline-specific questions, feel free to talk to the member of the Global Clinic Advisory Board in your department. Board members are:

Prof. Anna Ahn (Bio)
Prof. Tony Bright (Eng)
Prof. Marianne DeLaet (HSA)
Prof. Mike Erlinger (CS)
Prof. Dick Haskell (Phys)
Prof. Susan Martonosi (Math)
Prof. Hal Van Ryswyk (Chem)

Please email Professor de Pillis at depillis@hmc.edu if you have any questions prior to submitting your application.

Students from all majors are invited to participate as these projects are multidisciplinary and may involve biotechnology, chemistry, computer science, math and or physics in addition to engineering. Students will need to make a commitment for the summer aspect of the program.