

CAL POLY

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Dear Dr. Christopher Dicus,

I'm writing to you to support Charles Moritz' proposal for this inaugural round of the Warren J. Baker Endowment: Excellence in Project-Based Learning. In my opinion Charles' proposal is precisely the kind of work Dr. Baker had in mind when he put this endowment together.

The project Charles is proposing evolved out of the larger *E. coli* Pyroprinting Program initiated by myself and three other faculty in 2010 with support from the W.M. Keck Foundation, CSUPERB and the National Science Foundation. Our initial work was focused on the development of a database of *E. coli* fingerprints (called pyroprints) to be used as a method for tracking sources of fecal contamination in the environment.

One of the long-term goals of the Pyroprinting Program is the use of this database to address local water quality issues and we've been in contact with the Morro Bay National Estuary Program (MBNEP) for some time, trying to get funding for work in the Morro Bay watershed. Charles agreed to start this work on a shoestring and his efforts have already garnered \$2000 of support from MBNEP along with matching time for training in the MBNEP volunteer monitoring effort. Consequently, this project is already in progress, has the backing (both in terms of equipment and space) of the Center for Applications in Biotechnology and will continue without further funding. However, support from the Warren J. Baker Endowment will give Charles the recognition he deserves and will also allow us to expand the project gathering more data for more solid results.

Charles is leading a group of 4 students in a study of the sources of fecal contaminants found in Pennington Creek. This creek is a tributary to Chorro Creek and the waters eventually exit into Morro Bay. In addition, Pennington creek borders on Cal Poly land which is used to house cattle and the study will help us understand if recent cattle exclusion fencing undertaken by Cal Poly has been effective in keeping cattle feces out of the creek.

As for Charles himself, I am really impressed. This is one of those independent, self-motivated and resourceful students that exemplify Cal Poly's style. Charles came to me over a year ago, interested in working on the Pyroprinting Project. We had a full plate at the time so I asked him if he'd be willing to do some independent work. He agreed to start up our "wild-life poop" program and coordinated with several animal rescue operations, collecting feces and isolating *E. coli*. Some time later he said he was enjoying the work enough to want to build a senior project out of it. I suggested Pennington Creek as a focus and he stepped right up to coordinate with Ann Kitajima at the MBNEP and immediately got a sampling plan and budget together we both could work with. In addition, without help, Charles collected a group of students to work with him on the project and he is now serving as the coordinator and leader of the project.

It's clear to me that Charles is going to go far, and we'll be glad we supported him. Although the funds he's requesting are small, the prestige of support from the Warren J. Baker Endowment will give this young go-getter a resume line he can stand on to reach even further.

Sincerely,



Chris Kitts