The Impact of Philanthropy

Endowed chairs and professorships are distinctions awarded to faculty or Cooperative Extension specialists in recognition of past and potential contributions to the individual’s academic and research discipline. These endowments provide funding to support teaching, research and outreach responsibilities. They also give UC Davis greater impact as a world-class university.

With these positions, we are able to attract and retain the brightest teachers and researchers, who contribute to the scholarly activity and effective functioning of their academic units through teaching, seminars, or other intellectual pursuits that benefit students and external stakeholders.

These important faculty positions, like the Donald G. Crosby Endowed Chair in Environmental Chemistry, are made possible only by the generosity of donors who believe strongly in the need to support an area of study that will benefit society.

I hope you will save the date and join us at our Donor Recognition Event and 25th Annual College Celebration on Friday, October 11, 2013 so we may thank you in person.

Sincerely,

Mary Delany
Interim Dean

Donald G. Crosby Endowed Chair in Environmental Chemistry
Dr. Ronald S. Tjeerdema
Professor
Environmental Toxicology

RESEARCH
The signature activity during this first year of the endowment was to purchase via 5-year payment plan a new departmental liquid chromatograph-mass spectrometer (LC-MS) for use by all graduate students and postdoctoral researchers investigating the environmental fate of pesticides and other chemicals of environmental importance. The instrument was installed in January 2013, and provides the ability to identify chemicals and their breakdown products at very low concentrations.

TEACHING
The course most related to the endowment is ETX 102A, "Environmental Fate of Toxic Chemicals." First developed by Professor Crosby in the 1970s, it serves as one of the core requirements for undergraduates majoring in environmental toxicology. In the course students are exposed to the many processes that govern the ultimate fate of contaminants in the environment. They also select a chemical of interest and develop a poster summarizing its environmental fate, which they then verbally present to the class during an open poster session.

In addition, I also taught ETX 10, "Introduction to Environmental Toxicology." A very popular course (enrollment of nearly 325), it provides undergraduates with their first exposure to both environmental chemistry and toxicology. Typically some 10% of the students choose environmental toxicology as their undergraduate major based on their experience in this course.

STUDENT TRAINING
Via the use of the LC-MS, I have funded the activities of three doctoral students in the Agricultural & Environmental Chemistry Graduate Group investigating the fate of new pesticides in flooded rice fields. Such research can aid in the selection of newer agents that are relatively non-persistent, thus reducing their overall environmental impact.

- Rebecca Mulligan is currently studying the environmental fate of the insecticide clothianidin.
- Caitlin Rering is currently studying the environmental fate of the herbicide imazosulfuron.
- Katryn Williams is currently studying the environmental fate of the herbicide benzobicyclon.

In addition, I have recently accepted a fourth doctoral student, Monica Maier, to embark on a new area of importance -- the environmental fate of pharmaceuticals. This area is of growing concern, as many medicinal residues enter the environment and have potential impacts on humans and other non-target species. Monica is currently surveying the literature in order to select a drug of significance.

UPCOMING ACTIVITIES AND/OR DEPARTMENTAL UPDATES
In the coming year, I anticipate using the fund to continue to expand into the new area of pharmaceutical fate in the environment, as well as support the research activities of the current students focused on pesticide fate. In addition, the funds will be used to maintain the new departmental LC-MS so that it remains fully functional and available to all departmental students working in the area of environmental chemistry.
ACTIVITIES DIRECTLY SUPPORTED BY THIS FUND
The following activities have been directly supported:

- Purchase of the new departmental LC-MS (see above).
- Development of posters for the 2012 annual Society of Environmental Toxicology & Chemistry (SETAC) meeting (November 2012). Both Caitlin Rering and Katryn Williams attended and presented posters of their recent research findings.
- Salary support of Monica Maier to survey the current research literature regarding the fate of pharmaceuticals in the environment (in support of developing her doctoral dissertation plans).

THANKS
Dear Chris and Karen:
I want to take this opportunity to again thank you for your generous gift in the form of the Crosby Endowment. It has provided me with the opportunity to not only enhance my personal activities in the area of environmental chemistry, but to more broadly enhance our department's ability to support the activities of a wide range of students working in this area. In honor of both Professor Crosby and Charlie, my goal is to continue utilizing the support to enhance such activities within both the department and the College.

Very best wishes,
Ron