

Students' Invention Receives an Award

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Students, Carola Barrera and Adriana Herrera, of the doctorate level Chemical Engineering program, at the University of Puerto Rico at Mayagüez (UPRM), recently received the *Merck Health Innovation Award* in recognition of their investigation in the field of science engineering.

The pharmaceutical company, *Merck* presented the award for their project, “Synthesis of multifunctional magnetite nano-particles for the treatment of cancer,” for its significant contribution to the fields of health and bioengineering. The project was a collaborative effort with Dr. Carlos Rinaldi, professor of Chemical Engineering at UPRM.

“We propose to utilize the responses generated by these particles to kill cancer cells in a way that is confined, in order to avoid the secondary effects of conventional therapy,” explained Barrera.

Herrera sustained that their efforts will make a significant contribution to the field, because it's a treatment for cancerous tumors that is not as invasive as radiotherapy or chemotherapy.

Dr. Rinaldi pointed out that the project, which began in 2004, also received a \$1.2 million donation from the National Science Foundation. He noted that the research has gone forward because of the emphasis that society has placed on cancer and its biomedical uses.

“We are working on another project that involves thermo-sensitive particles that are not only used to burn cancerous cells but also transport a drug, which is later released as a result of the magnetic field,” indicated Dr. Rinaldi.

Rinaldi, Barrera, and Herrera all agree that the *Merck Health Innovation Award* confirms UPRM’s leadership in the fields of biomedicine and bioengineering. This project is just one example of the UPRM’s numerous efforts in these specialized fields.

Rinaldi noted the importance that this type of recognition has for the field of research, in Puerto Rico.

“We have numerous examples of people with great potential that have to leave the island, their knowledge and technology are then provided to other countries. I believe that it is important to recognize the people who are working in Puerto Rico, and who are demonstrating that science can be done here too,” said Rinaldi.

Barrera and Herrera expressed that the recognition of their efforts provides motivation to continue to develop other projects that will impact society.

“It’s worth the effort, all the hours in the lab just to see the result. This award is an incentive to continue,” stated Herrera.

These two young women gave special thanks to Dr. Rinaldi, for his collaborative efforts, and their families for supporting them in their endeavors.