



RESEARCH AND DEVELOPMENT CENTER

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Meet Our Researchers: Nico Franz (Biology)

Graduated From: Cornell University

Started working at UPRM: January 2006

Recent Project: *Towards a Systematic and Evolutionary Synthesis of the Neotropical Exophthalmus Genus Complex (Coleoptera:Curculionidae: Entiminae)* funded by NSF (\$174,555)

Research Area: My lab specializes in the systematics of insects – i.e. the identity of insect species and their historical relationships - with a geographic emphasis on Neotropical lineages. We are particularly interested in the systematics of weevils (*picudos*), a diverse family of specialized plant feeding beetles. Approximately 100 weevil species have been reported to occur in Puerto Rico, however during field trips to areas such as Maricao and Toro Negro we are finding dozens of species that are new to science. These observations are symptomatic of a more general pattern – experts estimate that 1000-3000 species of Puerto Rican insects living mostly in protected

areas still remain to be discovered and described.

Research Goals & Interests: At this moment two graduate students in my lab are studying the systematics of a weevil sub-



family that includes many large and colorful species in the Neotropics. One of these is referred to in Puerto Rico as the *vaquita de San Pedrito* and is an important pest of citrus cultivars. We are using morphological and molecular characteristics to resolve the evolutionary relationships in this group; our ultimate goal is to produce a revised classification of the genera and species. Another focal aspect of our research is the upkeep and expansion of the insect collection which contains more than 130,000 specimens, some dating back to the 1920s when UPRM was still in its infancy. More information about ongoing activities in the Franz lab is available at <http://academic.uprm.edu/~franz/>.

What do you like the most about UPRM?
The ability to study insect diversity year-round and "in our backyards".

Presenting ... *Mío CID / My R&D*

We are very proud to introduce *Mío CID / My R&D*, UPRM's brand new Research and Development Center newsletter. It is intended to be a quarterly publication. We aspire to disseminate to the university and general community research projects of UPRM's professors, as well as efforts developed by our Center to promote all creative endeavors. We also want to continuously encourage a sense of belonging and commitment among our employees, students and alumni.

Mío CID / My R&D complements other recent similar efforts: our webpage was revamped a year and a half ago, the first issue of our new research magazine *Sin Límites* came out last December (see page 3), and our blog is being inaugurated as we speak.

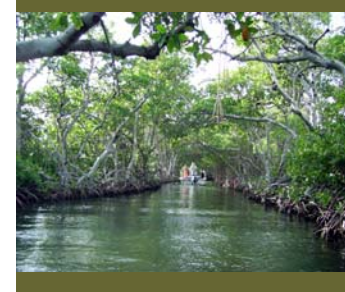
In each and every issue we will try to keep you up to date in what is going on in campus in terms of research and development. We will also introduce you to one of our 200-plus researchers, and the personnel of one of our offices. This time you will meet Nico Franz, from Biology, and the people who work at the Receiving Office.

We certainly hope you enjoy *Mío CID*, and let us know how we can improve it.

Yuri Rojas
Director

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Mío CID / My R&D

BioSEI Seed Money Awards Announced

The R&D Center announces that, after a thorough evaluation process, five Bio Science and Engineering Initiative (BioSEI) awards were granted, for a total of over \$410,000. The projects will run for an 18-month period ending in June 2009. The winner proposals are:

- *Combinatorial Growth of Oxide Nanoscaffolds and Its Influence in Osterblast Cells Adhesion*—Pablo Cáceres (Mech Eng), Nanette Diffoot (Biology), Paul Sundaram (Mech Eng) & Jaime Ramírez-Vick (Eng Sci & Materials)
- *Development of Metal/Polymer Bionanocomposites as Sensors for Biopharmaceutical*

Applications—Marco De Jesús (Chemistry), Rubén Díaz (Mech Eng) & Nelson Sepúlveda (Elec & Comp Eng)

- *Novel Magnetic Bio-Nano-Composite Sorbent for Removal of Toxic Metal Ions and Carcinogens from Pollute Waters*—Félix Román (Chemistry), Oscar Perales (Eng Sci & Materials) & Carlos Ríos-Velázquez (Biology)
- *Polymer Confinement of Protein Crystals: an Innovative Approach to Controlled Drug Release*—

Madeline Torres (Chem Eng), Juan López-Garriga, Gustavo López & Jorge Ríos-Steiner (Chemistry)

- *Puerto Rico's First Biorefinery*—Govind Nadathur (Marine Sci), Luis Pérez-Alegría (Agr. Engineering), Lorenzo Salicetti (Chem Eng/Ind. Biotech) & José Colucci (Chem. Eng.)



The new Bio Processes Pilot Plant, could be a collaboration site for some of the Bio SEI projects.

R&DC Revises Its Mission and Vision Statements

The following are the revised mission and vision statements of the R&DC:

MISSION

To promote, develop and facilitate creative endeavors, research and development at the University of Puerto Rico – Mayagüez (UPRM)

that foster the technological, economic and social wellbeing of Puerto Rico, in collaboration with government, non-governmental organizations (NGOs) and the private sector.

VISION

To become the entity responsible for establishing world recognition of UPRM as Puerto Rico's leading institution for research and creative endeavors, and the one having the greatest contribution in the socioeconomic development of Puerto Rico.

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The CID Singers in Christmas

R&D Center Board meets

The newly-reconstituted R&D Center Board of Directors met on Friday, November 2nd, 2007. The Board, composed of fourteen representatives of academia, industry and government, has an advisory role in matters concerning the Center and the University's R&D activities. After a lengthy and very productive discussion, the Board approved the R&DC 2007-2012 Strategic Plan, including revised mission and vision statements.

Another Board meeting will take place during the month of February 2008 to consider and approve the implementation of the Strategic Plan.

The fourteen members of the Board are: Jorge Vélez-Arocho, UPRM Chan-



R&DC Board members at the November 2nd, 2007 meeting.

cellor; Antonio García-Padilla, UPR President; the Executive Director of the Puerto Rico Industrial Development Company (PRIDCo), represented by James Pérez; UPRM researcher Arturo Hernández-Maldonado, from the Department of Chemical Engineering; Eva Zoé Quiñones, Dean of Business Administra-

tion; Moisés Orengo, Dean of Arts and Sciences; John Fernández, Dean of Agricultural Sciences; Ramón Vázquez, Dean of Engineering; Mildred Chaparro, Dean of Academic Affairs; and five representatives from the industry sector. These are: Lucy Cruz, Research Manager of Monsanto Caribe; Rubén González, General Manager of General Electric; Pedro L. Martínez, General Manager of Nypro; José Martínez, Production Manager of Abbott; and Lu- eny Morell, Hewlett-Packard Director of University Relations for Latin America, and a former R&DC Director herself.

Also present at the meeting were Marisol Vera and Yuri Rojas, Associate Director and Director of the R&DC.

CID's Own Research Administration Academy

The R&DC, in collaboration with the Center for Professional Enhancement (CEP for its Spanish acronym), offers since last semester a series of conferences, workshops and panels to aid researchers and research administrators in both phases of the external funding process. There is a pre-award sequence which consists of the following CID "courses":

CID 101: Proposal Preparation at UPRM

CID 102: Budget Preparation

CID 103: Successful Proposals

CID 104: Electronic Submissions

The post-award sequence is expected to begin later this semester and consists of the following three offerings:

"It is an exciting time to do research in Mayagüez".

Carlos Rinaldi (Chem Eng)
CID 103 panelist—October 2007

CID 201: My proposal was approved...now what?

CID 202: Project Administration Issues: Purchasing and Receiving

CID 203: Project Administration Issues: Accounting

Quick R&DC Quiz

QUESTIONS

1. What federal agency is UPRM's biggest external funding contributor through the R&DC?
2. What is the fringe benefit rate which applies for additional compensations of UPRM personnel?
3. Which UPRM department was the top external money beneficiary during the 2006-2007 year?

ANSWERS

1. The National Science Foundation (NSF) was UPRM's biggest contributor in 2006-2007, with \$4.2M approved for new projects.
2. Fringe benefits total



9.2% of the additional compensation (6.2% for Social Security, 1.55% for the State Insurance Fund, and 1.45% for Medicare).

3. The Department of Electrical and Computer Engineering was UPRM's number 1 money-getter with \$3.8M in external funds.

Maiden Issue of *Sin Límites*—UPRM's Research Magazine

A new magazine is in circulation. We refer to *Sin Límites*, UPRM's research magazine. The first 32-page Spanish edition came out in December 2007 and features articles on projects of some of the institutions top researchers. The maiden issue's cover is dedicated to Biology professor Juan Carlos Martínez-Cruzado's pioneering efforts on tracing the *taíno* Indians DNA.

Also featured were research done by Carlos Rinaldi, from the Chemical Engineering Department, on nanofibers; Geology professor Thomas Miller on stalagmites in Central America caves; as well as studies done by Crop Protection professor Edwin Abreu to control the pigeon pea fly in Puerto Rico, among others.

Marine Sciences professor and former

R&DC Acting Director Juan Gerardo González-Lagoa's long career is profiled.



In welcoming *Sin Límites* to life, Chancellor Jorge Iván Vélez-Arocho said that "Today we share with you a great project. A new publication at UPRM in which we share with the community our institution's research endeavors, inside and outside of campus."

There will be an English version of this first number coming out soon. The intention, however, is that beginning with the second volume, the magazine be fully bilingual, with each article published both in Spanish and in English.

It is anticipated that, beginning in 2008 *Sin Límites* will be published twice a year. An electronic version will be made available through the UPRM's and the R&DC's websites.

Radio Interview of R&DC Directors

During the last week of January Marisol Vera, Associate Director, and Yuri Rojas, Director of the R&DC, were interviewed by reporter Mariam Ludim Rosa, UPRM's Press Office Subdirector, for the program *Foro Colegial*, which is broadcast by *Radio Universidad*. Professor Rojas and Dr. Vera spoke about the mission of the R&DC, as well as some of its emblematic projects, such as the Bio

Science and Engineering Initiative (see front page).

The half-hour interview is scheduled to go on the air on the Friday, March 7th program at 3:30 pm. Radio Universidad can be heard at 89.7 FM in San Juan, 88.3 FM in Mayagüez, and also through the internet at <http://wrtu.pr>.



Meet Our Personnel: Receiving Office

One of the offices at the R&DC is Receiving and Dispatch, responsible for the delivery, and also the return of equipment or research material needing repair, validation and calibration. Purchases received are verified against the original approved purchase order. It is also in charge of internal and external mailings. During the 2006-2007 year, it processed 1,873 orders, an average of over 150 a month, which represented a 12.3% de-

crease over the previous year. There were also 51 picked-up orders, 1,119 receiving reports (a 2% increase), and over 4,200 stamped mailings processed.

Shown in the picture are its four employees. In the back row, from left to right: Godwin Torres (Messenger) and Edgar Flores (Worker), and in front are Miguel González (Administrative Assistant I), and Marcos Rosado (Supervisor).

