



Campus Verde

Report 2014

This report includes the activities by the Campus Verde Initiative, which is constituted mainly by students guided by faculty and personnel from UPRM, but also includes several collaborations with members of the community.

Presented by Dr. Sandra Cruz-Pol,
Campus Verde Coordinator.
June 2014

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Campus Verde (CV or in English “Green Campus”) is an initiative founded in the fall of 2007 at University of Puerto Rico – Mayagüez Campus. It’s coordinated by Dr. Sandra Cruz-Pol with participation from students, faculty and campus personnel who strive to raise awareness of the prevailing importance of living in harmony with the planet in order to reduce our impact to the ecosystem and reduce global warming emission and climate change. CV coordinates activities and efforts directed toward education and the implementation of projects in eco-friendly and sustainable issues. We work with collaboration with various student organizations, campus departments and offices, and off-campus community organizations and offices. (Campus Verde also has its own student organization called Campus Verde Students). We provide annual training to dozens of students/faculty, so they can continue to offer lectures and workshops to the community both here or wherever they go to work. Thus we reach thousands of people annually all over the island and beyond, including people from Colombia, Argentina and Mexico who have indicated that we use our resources downloadable freely from our web.

Examples of our education and outreach activities are annual Symposia with experts from multiple disciplines such as renewable energy, organic farming, biofuels, remote sensing of the atmosphere, e-waste, green transportation, political aspects of climate change, green architecture, green economics, among others. In addition we organize information booths at fairs, climate change forums, eco-films, eco-fair, educational campaigns, and parades during Earth week. We use online surveys, and pre/post-tests to assess impact of our activities. We also provide presentations to schools and conventions all over the island, reaching over 5,000 people per year through conferences and visits. See more information and photos in our annual report. http://campusverde.uprm.edu/CampusVerde_Reporte2014.pdf

In addition we have organized activities such as tree planting, beach cleanups, eco-eating fairs, recycling day, waterfalls cleanups, and bicycle marathons, exhibitions with friendly products, among others.

In terms of implementation, we meet regularly with the administration to introduce eco-friendly alternative transportation, energy conservation and efficiency measures, etc. which result in substantial cost savings and lower emissions of greenhouse gases and toxic to the environment. In terms of prevention, we have an eco- health and numerous activities to raise awareness about the positive impact of a healthy diet, not smoking, use of bicycles, use of ecofriendly cleaning products and personal care products, and how all also benefits the planet. We develop and provide free materials online such as posters, fact sheets and presentations. <http://campusverde.uprm.edu>

I. Mission Statement

Campus Verde strives to integrate environmental knowledge into all relevant disciplines; improve environmental studies course offerings; provide opportunities for students to study campus and local environmental problems; conduct environmental audits of its practices; promote environmentally responsible purchasing policies; reduce campus waste; maximize energy efficiency; make environmental sustainability a top priority in land-use, transportation, and building planning; establish a student environmental center; and support students who seek environmentally responsible careers.

II. Campus Verde Structure

Located at Sánchez Hidalgo Building, office SH-106. Campus Verde structure includes the Green Team composed by professors and non-teaching employees. And a collaboration with a grant writing team and the Tree Committee where its main mission is to protect campus green areas. The Green Adventures Leaders, coordinate activities like kayaking, surfing and beach cleanups, among others. We collaborate with the recycling office at *Edificio B*. The student groups are Ride a Bike, Unicef, Campus Verde Students (CVS) and Green Buildings and Sustainability (GBS) RUM Group.

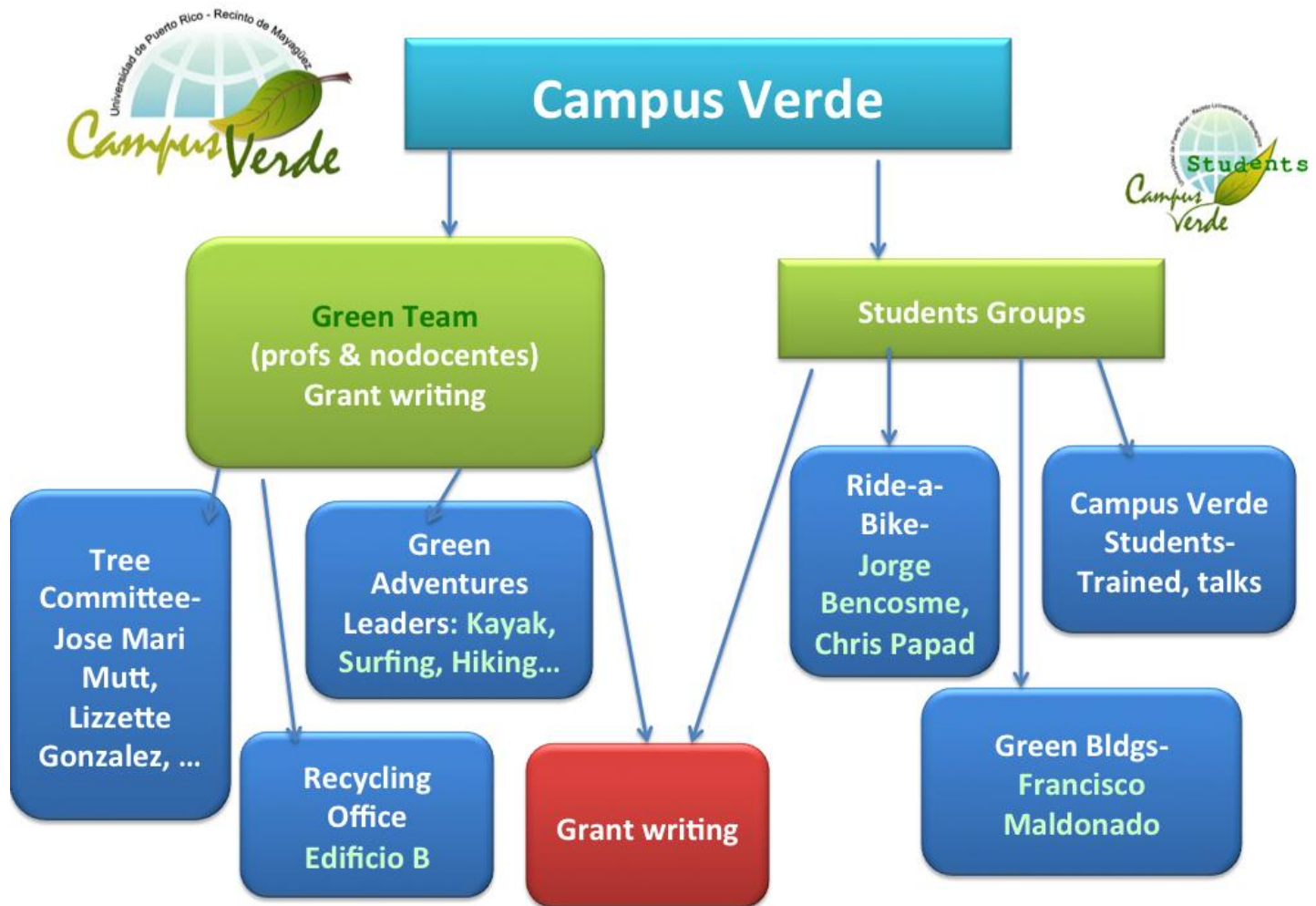


Fig. 1. Campus Verde structure: Green team is composed of UPRM personnel while Students Groups is composed mainly by students with personnel/faculty advisors.

III. Green Adventures

During this past academic year, Campus Verde continued to grow thanks with Dr. Sandra Cruz Pol as Director of CV, and Jorge Bencosme as the Co-Director. Dr. Alston, our previous Co Director, left to Pontifical Catholic University in Ponce but continues to bring many ideas to the program and recently formed a new chapter of Campus Verde at that institution. We are also very grateful to the support of Efraín Morales, from the UPRM Computer Information Technology (CTI).



Fig. 2. The Green Adventures webpage designed by Efraín Morales and Dr. Dallas Alston can be found by clicking *Próximos Eventos* on Campus Verde web (<http://campusverde.uprm.edu>), or directly at <http://www.uprm.edu/eventosverdes>. This is where students register to all sort of eco-events.

We have recruited many people to serve as leaders of these green trips whose main purpose is to give the student body an opportunity to appreciate nature. Most activities on this new page are free but some have for a modest (no reimbursable) donation which go directly to CV account and serve to pay for new equipment or replacement of lost or old equipment, materials, snacks for some activities and the like.



Nature Adventure Leaders

Kayaking	Cycling	Surfing	Clean Ups
Rolf-Martin Vieten Jashira Torres Héctor Quiñones Kellyam Valle Josean Torres Dallas Alston	Jorge Bencosme Dallas Alston	Miguel Canals	Sandra Cruz Pol



Fig. 3 Leaders for the several types of new Green Adventure trips offered by Campus Verde through our new web *Eventos Verdes*.

IV. Green Team

The Green Team with expertise in several areas related to sustainability, including UPRM personnel and faculty with expertise in renewable energy, organic agriculture, etymology and organic pesticides, green chemistry, climate change outreach, organic apiculture, biodiversity, and sustainable construction, among others. A very prestigious green architect joined the Green Team as collaborator from outside UPRM, Dr. Fernando Abruña, who was previously president and founder of (US Green Building Council) USGBC Caribbean Chapter and professor at UPR-RP.

Our intention with the Green Team below, is to leverage with talent from human resources already found within UPRM by asking each Green Team member to organize 1 or 2 activities per year within their field that can benefit our academic community and even our general community since some of our activities take place at the town commons (Plaza Colón de Mayagüez and Cabo Rojo's Boqueron Poblado).

Our Green Team is presented in the next figure. It can be found at <http://campusverde.uprm.edu/contact.html>.

NEW!

iHemos crecido!



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in alphabetical order



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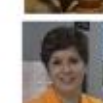
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Fig. 4. Collage of new Green Team members constituted mostly by UPRM personnel with expertise in areas related to sustainability. We also have our collaborators from outside of UPRM, Dr. Fernando Abruña, previous president of (US Green Building Council) USGBC Caribbean Chapter and Sadhu Govardhan, from www.organicfarm.net.

V. Tree Committee

Since early in year 2013, our group of experts in topics related to tree interference in a Tree Policy for the first time in 100 years since the foundation of the institution. This policy is being reviewed by the administration since that year. The idea is that the committee be consulted before the cutting of any tree within the campus.

The team is constituted (ad-honorem) by Jose Mari-Mutt, author of UPRM trees online inventory and vast knowledge about endemic trees of Puerto Rico and the Caribbean, Dr. Sally González and Dr. Lizzette González, experts in horticulture, Dr. Julia Mignucci, expert in phytopathology and Dr. Francisco Maldonado, expert in sustainable construction.

New Comité Poda/Corte Árboles @ RUM

- **Dr. Jose Mari Mutt**
- **Dr. Sally Gonzalez**
- **Dr. Lizzette Gonzalez**
- **Dr. Julia Mignucci**
- **Dr. Francisco Maldonado**



Fig. 5. Members of the new Tree Cutting/Trimming Committee at UPRM

This group mainly communicates via emails but have visited some of the trees as needed. A tree Cutting/Trimming Policy was written and reviewed by the team with the help of Dr. Sandra Cruz-Pol and Jorge Bencosme. In the past the Tree Committee helped save a tree of around 50 years old, which was about to be cut since its leaves bothers some other buildings and a water fountain. The university administration will coordinate with the student associations regular planting trees and palms in proper places for the practice. This committee will advise on Tree species selection to ensure that there is later planted varieties that can cause problems for their impact on persons or property. For this reason the members of the academic community wishing to plant trees or palms must request permission from the Director of Fields and Roads Department and receive prior to planting. The trees and palms planted without permission will be removed if in the opinion of the committee trees have been placed in an inappropriate place for the species or a place that has been assigned to another use. This year Campus Verde alerted of the illegal cutting

of 8-10 trees at the R&D center parking lot. The cutting stopped in time to save some trees and the Natural Resources Department of PR was alerted as well as the director of the R&D Center.

VI. Eco Cine: More Leveraging

Campus Verde has previously offered many documental movies with topics related to sustainability, social and environmental well-being. All the movies are announced through our *Eventos Verdes* webpage.

Eco Cine:

- *Stories of Stuff*
- *Pink Ribbons Inc.*
- *The Dark Side of Chocolate*
- *Blackfish*
- *Hungry for Change*
- *The Dust Bowl*
- *Vanishing of the Bees*
- *Earthlings*



We have selected the series from films which will provide you with information for living harmoniously with the planet. However, we cannot control the content of all of the films and we are not trying to be activists; rather we think that you can be part of the solution with everyone becoming aware of the present and planning for the future. Thus, we would want to work within the political system to educate, not alienate. We can make a difference with one individual, within one home, within one community; it does make a difference. Let's try to make the as many drastic changes during the next 100 years as we made during the last 100 years, but in a more rational and sustainable mode.

Fig. 6 List of all the movies that have been offered in previous years free of charge and will be shown again during the semester.

VII. Merging: More Student Chapters

Campus Verde has previously served as an umbrella for green activities from other student associations and chapters. We have ***Ride-a-Bike***, a group that promotes biking as a means of clean and healthy transportation and lead by Jorge Bencosme. We promote their activities through all of our means including social networks like Facebook and Twitter.

The group of student, the **Green Buildings & Sustainability RUM Group** student chapter. This groups has the Cool Cities subgroup which coordinates talks to schools about sustainability topics. It also helps with the annual coordination of the LEED (Leadership in Energy & Environmental Design) Certification course and with corporate visits to USGBC certified Green Building in Puerto Rico.

UNICEF was also officially integrated to our student organizations even though it doesn't have an annual fee. This group deals with the mitigation of extreme poverty which has been augmented due to climate change. Our UNICEF Team finished 3rd among 85 university teams in collecting donations for children.

In addition, Campus Verde has a student chapter, called **Campus Verde Students** that helps coordinate green activities like talks to schools, beach cleanups and tree planting with other student associations as **PRWEA, IEEE, Tau Beta Pi, BBB, SWE, SHPE**, and others. And **AmeriCorps** as a group of volunteers affiliated to Campus Verde



<http://campusverde.uprm.edu/estudiantes.html>



<http://campusverde.uprm.edu/greenbuildings.html>



<http://unicef.uprm.edu>



<http://campusverde.uprm.edu/RideaBike.html>



Fig 7. Student chapter affiliated under Campus Verde, in addition to our collaboration with green activities of other student's chapters and our Campus Verde Students.

VIII. Education and Outreach Activities 2013-14

During the academic year of 2013 to 2014, Campus Verde coordinated dozens of activities reaching hundreds of students and general public. In our webpage, a photo album depicts most of our activities. We participated in several environmental and social activities such as:

- **Eco Chica:** June 8, 2013 conducted this workshop for women only.

Workshop for women who want to learn to live in harmony with the environment,

1. *Cosmetics eco-friendly.*
2. *Prescription free beauty lotion harmful chemicals.*
3. *Hygiene products without ingredients that cause cancer.*
4. *Female products 'green'.*
5. *Diet 'green': healthy and tasty, and more.*

In old Office of CV (meeting room of bldg Office of Professors. Bldg next to the Sánchez Hidalgo)

- **Americorps Program Orientation:** August 20, 2013. We were approved over \$ 320,000 for environmental projects in *Aquaponic*, restoration of trails for walking and bicycles, environmental energy audits and recycling, among others. The proposal was submitted to *Americorps* by Campus Green, *Mayagüezanos for Health and Environment* and the municipality of Mayagüez, with Carla Ramirez at the Liason Office (Oficina de Enlace Del Municipio Mayagüez.)

- **Day Kayaking with Rolf, La Parguera:** August, 25, 2013. To learn to live in harmony with the environment and learn more about the nature around us is steady we are planning outdoor activities for our students and faculty who register online to participate and have a nice time with nature. For safety concerns we kayaking early in the morning. The reason for the early time is to avoid too much wind, rain, and the mid-day sun.

- **Eco Cine: Earthlings** Forum with the participation of **Dr. Enid Arcelay**, Professor Industrias Pecuarias – RUM. Description: Using hidden cameras and never-before-seen footage, *Earthlings* chronicles the day-to-day practices of the largest industries in the world, all of which rely entirely on animals for profit. The Office of Government Ethics Contact credited two hours for attendees present (not online). Must sign in (point) and end of the Forum and be there all the time.



- **Ride a Bike – Caño la Boquilla:** on September 6, 2013. The student association **Ride a Bike** where proud to promote a day in a bike ride leaving from the front of Angel F. Espada Gym, cycling the boardwalk to reach the Nature Reserve *Caño Boquilla* in the neighborhood *El Maní* of Mayagüez.

Photo link: <http://bike.uprm.edu/Ride a Bike/Fotos/Paginas/Boquilla 2.html>

- **Day Kayaking con Rolf, La Parguera:** September, 8, 2013, we have many participants and is steady students and faculty who are interested in being part of campus activities, so the constantly do these activities to teach people to live in harmony with the environment, flora and fauna.



- **Crash Course for Information Tables: Green Campus:** on Wednesday, September 18, 2013
Themes of interest as:
 1. *Consequences of Global Warming: Climate Change*
 2. *Solutions at Home*
 3. *Renewable Energy*
 4. *Transportation with low emissions of greenhouse gases*
 5. *Principles of Organic Farming*
 6. *Diet 'green' effect of what we eat in the emission of gases (GHG) and use of resources*
 7. *Recycling, Reduce the importance and Reuse before recycling*
 8. *Eco-friendly Insecticides*
 9. *Green Cleaning Products carcinogens in common*
 10. *Smoking and the environment*
 At 7:00 PM in the Board Room of the Faculty Office Building (bldg next to Sánchez Hidalgo)
- **International Coastal Cleanup at Golondrinas, Isabela:** on September 21, 2013.
Isabela Beach Cleaning at Golondrinas, Co-Sponsored by the Meteorological Society of PR-chapter UPRM



Photo link: <https://plus.google.com/photos/102771810526877231463/albums/5926163489510037393>

- **Cleaning waterfall and picnic in El ataúd, Adjuntas,** one of the most beautiful waterfalls in all Puerto Rico. On September, 29, 2013



Photo link: <https://plus.google.com/photos/102771810526877231463/albums/5929856000335575985>

- **Eco Cine y Forum: Vanishing of the Bees:** on October, 1, 2013 with the forum panelist **Dr. Daniel Pesante, Catedrático Apicultura, UPRM and the Dr. Hipólito O'Farriel, Etmólogo, Ext. Agrícola - RUM.** This documentary takes a piercing investigative look at the economic, political and ecological implications of the worldwide disappearance of the honeybee. The film examines our current agricultural landscape and celebrates the ancient and sacred connection between man and the honeybee. The story highlights the positive changes that have resulted due to the tragic phenomenon known as "Colony Collapse Disorder." To empower the audience, the documentary provides viewers with tangible solutions they can apply to their everyday lives. *Vanishing of the Bees* unfolds as a dramatic tale of science and mystery, illuminating this extraordinary crisis and its greater meaning about the relationship between humankind and Mother Earth.



Photo link:

<https://plus.google.com/photos/102771810526877231463/albums/5929855432139344737>.

- **LEED GA Review Course:** on October, 5, 2013 Certified in Green Building Concepts LEED Green Associate Course 2013 [LEED= Leadership in Energy and Environmental Design]



- **Day Kayaking con Kellyam & Josean, La Parguera:** October 6, 2013. Training yourself while learning from nature and how to preserve those places that retain large numbers of birds, fish and marine life. In one of the most beautiful coastal locations throughout Puerto Rico, La Parguera.

- **Conversatorio: Colegiales Verdes en Acción:** October 8, 2013. History through the ages has shown that universities have been a key element in the transformation of societies toward a world with greater well-being and social and environmental justice. The fiscal and environmental challenges we face in the present and in the future may continue to force us to be more active in the search for solutions to the environmental, social and economic problems, as well as take part in the action that is necessary to implement the solutions. Therefore, the University of Puerto Rico has a duty to respond to the need to create a sustainable university environment. This activity was done in collaboration with CoHemis.

- **Green Engineering Event Date:** Thursday, October 10, 2013

At this conference all the participants learned *What is Green or Sustainable Engineering* topics including; *Planned obsolescence, Environmental and ethical aspects of design.*

Issue: *Greenhouse Gases: What they are and where they come from. Engineering Solutions* (brief examples of transportation, renewable energy, etc.). *What is LEED? The factor that has the greatest impact on the emission of greenhouse gases. What is Campus Verde?* Examples of activities and events green. Green Projects in RUM: *Solar boat, solar cart, raft of plastic bottles, Eco Solar House.* With the participation of Prof Carmen Castaneyda and Dr. Sandra Cruz-Pol

- **Visit Innovative House made from Recycled Materials at Las Marías,** on October 12, 2013. *Casa Múcaro*, is an unusual mountain home in tropical Puerto Rico. It is made mostly of recycled nylon fishnet and cement, called "nylon-cement". Above ground, the house consists of a cluster of free-form domes. There is also a vertical shaft in the living room and tunnels underground, all made by hand. The doors are cement, the washing machine is cement, and the flush toilet is cement. The builder say it have over thirty five years working with the stuff and still love it.

Photo Link:

<https://plus.google.com/photos/102771810526877231463/albums/5940256165443680593>

- **Surfing at Rincón,** on October 13, 2013. The event consisted of a brief talk on the ecology of the area and the dynamics of the waves, followed by class surfing at Playa Marías in Rincón, Puerto

Rico. To participate in the event is required to swim. For the safety of the participants, the event is subject to cancellation or postponement if the sea conditions are not appropriate.

Instructors surfing classes: www.rd2happiness.com and <http://surflessonspuertorico.com>



Photo link:

<https://plus.google.com/photos/102771810526877231463/albums/5942842693784039585>

- **Primer 5K Colegial:** October 26, 2013. *Los Tarzanes cojos*, to Macho Vigueroa.
- **Student Associations Working with Unicef Team UPRM:** October, 28, 2013. Each Association designs its fundraising activities and to Create Awareness of the current situation of poverty across the planet. Helping to eradicate extreme poverty Planet, which has been magnified with Climate Change due to extreme droughts, floods and other events that affect agriculture, life and property. Every contribution makes a difference.



Photo Album: <https://plus.google.com/photos/102771810526877231463/albums/5946670835930484257>

- **Eco Cine y Forum: *The Dust Bowl*:** October 29, 2013. Campus Verde brought a documentary that opens the eyes to the impact of human activities on climate. The movie can be watched via web streaming at same day / hour using your UPR account. Forum involvement with **Dr. Amos Winter, Professor of Climatology** and **Dr. Lizzette Gonzalez, Professor Agriculture - RUM**
The Dust Bowl chronicles the worst man-made ecological disaster in American history, in which the frenzied wheat boom of the "Great Plow-Up," followed by a decade-long drought During the 1930s nearly swept away the breadbasket of the nation. Vivid Interviews with twenty-six survivors of those hard times, combined with dramatic photographs and seldom seen movie

footage, bring to life stories of incredible human suffering and human perseverance equally incredible. <http://www.pbs.org/kenburns/dustbowl/>. Counted as 2 hours of Government Ethics for Employees.

Photo link:

<https://plus.google.com/photos/102771810526877231463/albums/5940254328916834993>

- **Corporate Tour: Sartorius Stedim Biotech**, Yauco, PR. On November 1, 2013. One of the main purposes was to learn what this company has done to get its Certification (Leadership in Energy & Environmental Design), which promote energy efficiency and water consumption, use of alternative energy, and other measures that protect the environment.

Photo Link:

<https://plus.google.com/photos/102771810526877231463/albums/5942854643629006049>

- **Adiestramiento en Sostenibilidad: Campus Verde**. On November 2, 2013, we offered the annual Training in Sustainability. The participants earn a Certificate from CV to offer Sustainability Talks. Included in the Workshop are: Circuit Connection Solar Educational (K-12) and short videos related to various topics in sustainability.



Photo Link:

<https://plus.google.com/photos/102771810526877231463/albums/5941764153440289697>

- **AmeriCorps Volunteers swearing:** November 7, 2013: Workshop offered by **Dr. Awilda Acevedo**. This workshop lay the foundation for the rest of the day's activities. A mixture of Adventure Education and focused on offer AmeriCorps members an opportunity to work in a team and embark on the challenges that will be part of the service experience. We were excited about preparing for this meeting. Thank **Mrs. María Hernández** for their dynamism, commitment and efforts undertaken to mount this ceremony, and **Mrs. Carla Ramirez**, of Link Municipality of Mayagüez.
 - Requirement for all chosen as Volunteers for various projects C.H.I.P.E. (Energy Audits, Caño, Aquaculture, etc.)
 - **C.H.I.P.E.** Community in **H**armony **I**ntegrating **P**eople and **E**nvironment, Municipality of Mayagüez.
- **Day Kayaking with Jashira in La Parguera: November 17, 2013.** Kayaking are always during the day as requested by the Department of Natural Resources, and is our commitment to serve, educate and preserve the great treasures of nature.
- **Talk: "12 Reasons Not to Eat Meat"** On Wednesday, November 20, 2013. Our speaker explained 12 reasons of which you could choose 3, for taking the meat off your plate. Thus resulting in a 400% chance that this diet habit change will help you become determined to

improve your health, preserve the environment and contribute to the eradication of world hunger. Presented by **Gianfranco Santaliz**.

- **Unicef: Thanks Day & Oxfam Hunger Banquet:** on November 21, A Dynamic Banquet to explain the relative state of poverty in the world today. Thanks everybody for helping to eradicate extreme poverty of the Planet! Making a difference in the lives of thousands of children in 200 countries.

Photo Link:

<https://plus.google.com/photos/102771810526877231463/albums/5948767008910428209>

- **Eco Cine: Hungry for Change:** November 26, 2013. Participation forum with **Dr. Bryan Brunner**, Agriculture - UPRM Lajas Agricultural Experiment Station in the recognition as 2 hours of Government Ethics for Employees. Hungry for Change is based on the indisputable premise That "Food Matters," as it exposes you the truth about the diet industries and the dangers of food addictions, and Enables you to take charge of your health and Strengthen your mind and body. That was a great discussion at the end of the documentary with a lot of participation from the audience and panel.

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Photo Link:

<https://plus.google.com/photos/102771810526877231463/albums/5950635026747511073>

- **Eco Cine: Blackfish:** January, 28, 2014. Professors **Dr. Ernesto Weil** (Marine Science), **Dr. Lucy Williams** (Biology) and **Dr. Ernest H. Williams** (Marine Sciences) attended the forum at the end of the movie. Credit: 2 hours of ethics for employees RUM. This documentary explores how long-held misconceptions and harmful living conditions may be causing orca whales to lash out violently toward their trainers. Several cases of death and mutilation are researched, leading to some uncomfortable questions about how we choose to keep and display these large and very intelligent animals. That was a great discussion at the end of the documentary with a lot of participation from the audience and panel.

Photo Link:

<https://plus.google.com/photos/102771810526877231463/albums/5974009679589534849>

- **Visit Acuaponics:** January 30, 2014 at 8:00 a.m. to 9:00 a.m. The visit to the new *Aquaponic* facility in Finca Alzamora, to see how work a hydroponic system with tilapia fish. **Dr. Patrick Reyes**, explain the details of this system which has been made possible as a gift of **AmeriCorps** submitted by the Municipality of Mayaguez in collaboration with **Campus Verde** and **Mayagüezanos for Health and the Environment** in liaison with **Sea Grant** in collaboration with the Agricultural Extension Service (AES),



Photo Link:

<https://plus.google.com/photos/102771810526877231463/albums/5955804692217827905>

- **Jane Goodall R&S Chapter visit to UPRM:** Visit on January 30, 2014 Dr. Rick Asselta, from the JG Institute and his group visited UPRM to see how we can collaborate to create a greener Puerto Rico. **Jane Goodall** founded **Roots & Shoot** environmental chapters (R & S), first in the U.S. and now across the globe. <http://rootsandshoots.org/> There was a great discussion at the end of the talk with a lot of participation from the audience and visitors.

Photo Link:

<https://plus.google.com/photos/102771810526877231463/albums/5974856611630208321>

- **Eco Cine Dark Side of Chocolate:** On February 6, 2014: Very interesting documentary in order to learn if your favorite brand of chocolate used child labor. With forum and discussion by **Dr. Sara Gavrell** from UPRM Ethics. Account for hours of Ethics for employees. Co-sponsored by **UNICEF UPRM Team**. That was a great discussion at the end of the documentary with a lot of participation from the audience and speaker.

•

- **Free Hugs UNICEF Abraza a la Humanidad:** February 13, 2014. This is the 3rd time this activity takes place at the Student Center and it was a great success again! Many students feel depressed at this date and there is our group giving friendly hugs to any one that needs one. Unicef had Free Hugs T-shirts available for a donation of \$10, all proceeding go to unicefusa.org on behalf of UPRM Unicef Team.



Se la organización estudiantil de UNICEF en el RUM, celebraron el Día de Abraza a la Humanidad, repartiendo unos abrazos gratis a quienes transitaban por el tercer piso del Centro de Estudiantes.
> / Taller de Estudiantes Prensa RUM

- **Eco Cine Pink Ribbons, Inc. (2011):** March 11, 2014 at 10:30 in Nursing Amphitheatre. Breast cancer has become the poster child of corporate cause-related marketing campaigns. Countless women and men walk, bike, climb and shop for the cure. Each year, millions of dollars are raised in the name of breast cancer, but where does this money go and what does it actually achieve? Pink Ribbons, Inc. is a feature documentary that shows how the devastating reality of breast cancer, marketing experts have labeled a "dream cause," Becomes obfuscated by a shiny, pink story of success. Written by the National Film Board of Canada. That was a great discussion at the end of the documentary with a lot of participation from the audience.
- **Talk: *Como ser Vegetariano*:** March 13, 2014. Talk about how to choose food that is healthy for the planet and healthy for the individual. According to studies, a vegetarian diet is healthier for the planet and lower the incidence of several types of cancer and cardiovascular disease among others. But it is important to educate yourself about how to acquire all the nutrients necessary for good health. Speaker: **Sadhu Govardhan** Author of *Oro Verde*. Access and learn more: organicfarm.net, Sadhu Govardhan is an independent thinker, eco-organic farmer, rare tropical fruit connoisseur and agricultural consultant. Extensive journeys for over twenty years have allowed him to study indigenous cultures and different life styles throughout the world.
Photo Link:
<https://plus.google.com/photos/102771810526877231463/albums/5990666504656054977>
- **Cleaning and Picnic in Waterfall Gozalandia** in San Sebastián, PR. March 15, 2014. Co-sponsored by Tau Beta Pi, Engineering Honor Society. Photos online at our Album
- **Magueyes Island Clean Up:** March 22, 2014. Campus Verde assisted **AECiMa** (Association of Marine Science Students) during a Cleanup event around Magueyes Island, Lajas. Campus Verde kayaks used to clean up around the island. Trash was removed from around the mangroves and Magueyes. It is important to register the event because we send out last minute information concerning the weather. Inclement weather at La Parguera: We monitor the weather before each trip kayaking; if the wind is predicted to be more than 12.2 knots which is 14 mph, then the trip will be postponed and rescheduled as soon as possible. Check Weather Forecast: (<http://graphical.weather.gov/sectors/puertorico.php?134,47Marine.html>)



Fig. 8 Photo Album depicting some of Campus Verde activities. More photos and activities: <http://campusverde.uprm.edu/album.html>

- **Bird watching on Campus:** March 22, 2014. First bird-watching walk here at the UPRM campus with Dr. Carlos A. Delannoy, Professor-Department of Biology. Over 30 people showed up including a group of boy scouts to observe the birds in our campus very early on this Saturday morning.
- **Earth Hour 2014:** March 29, 2014. Celebrating Earth Hour at **El Poblado Boquerón, Cabo Rojo, PR**, joined over 2000 cities all over the world to turn-off the lights for one hour. The object was to create awareness about the importance of doing everything we can to slow-down global warming and stabilize Earth climate. This event was mostly coordinated by the GBS student group.



Photo Link:

<https://plus.google.com/photos/102771810526877231463/albums/5999337168823739553>

- **Eco Panel Stories of Stuff:** April 22, 2014 With the participation in the forum of
 - Story of Solutions: **Dr. Carmen Castaneyda**, Dept. Materials Engineer
 - Story of Bottled Water: **Dr. Ana Navarro**, UPRM Sea Grant Marine Science
 - Story of Cosmetics: **Dr. Nilka M. Rivera Portalatin**, Dept. Chemistry
 - Story of Electronics: **Dr. Sandra Cruz Pol**, Dept. Electrical and Computer Engineering.
 That was a great discussion at the end of the documentary with a lot of participation from the audience and the panel.
- **Talk: Sustainable Economics for Puerto Rico:** Guest speaker: President-elect of the Chamber of Commerce, Jose Izquierdo Encarnación. The talk presents a green alternative and sustainable world focused on the common good. On April 23, 2014. That was a great discussion at the end of the documentary with a lot of participation from the speaker.

Green Expo: April 24, 2014. The exhibition called Green Expo with the theme *Environmental Sustainability*. Featured projects like cycle-tracks by the student David Soto in the Litoral Mayagüez our member associations and student CV Ride a Bike, giving way to a different alternative transportation. And the presentation of CART using solar panels Solar power to the electric motor giving preventing the emission of gases and excessive fuel consumption. We had over 10 projects presented at the student Center in a wide variety of subject as shown in the Table below.

1. Topic: <i>Achieving Energy Efficiency by Utilizing LED lighting: SMART LED Lamps of the Future</i> Autor: Rachid Darbali-Zamora, Dr. Andres J. Diaz Castillo Department: Department Of Electrical And Computer Engineering
2.Topic: <i>Sustainable Development And Transportation Decision Making: Embedding Community Preferences In Visualizations"</i> Autor: Davis Chacón Hurtado(1), Alberto M. Figueroa Medina(1), Ph.D., P.E., Christopher M Papadopoulos(2)Ph.D., Didier M. Valdés Díaz(1), Ph.D., and Marcel J. Castro Sitiriche(3) Ph.D. 1 Department of Civil Engineering and Surveying, 2 Department of General Engineering, University of Puerto Rico, 3 Department of Electrical and Computer Engineering, University of Puerto Rico, Mayagüez, PR. Department: Graduate Research and Education for Appropriate Technology – Inspiring Direct Engagement and Agency
3. Topic: <i>Evaluation Of Physical Properties, Mechanical And Effectiveness Of Preservatives For Tropical Bamboo With Applications structural</i> Autor: Pablo Jose Acevedo Acevedo Department: Department of Civil Engineering-Structural
4. Topic: <i>New uses for wood pallets: creating furniture.</i> Autor: Wirber Hernández González Counselor: Dr. Moraima de Hoyos Ruperto, Faculty of Business Administration, Business Development Center.

5. Topic: <i>Solar Electric Car (gas engine vs. Facts. Electric Solar Engine)</i>
Author: Prof. Erick E. Aponte Bezares, Voluntiers Anthony Perez Santiago y Yamilex Quintan
Department: Department of Electrical Engineering
6. Topic: <i>Radar Weather Solar OTG</i>
Autors: Drs. 2. Drs. Jose Colom, Sandra CruzPol, Rafael Rodriguez, Leyda Leon, Students, Jose David Diaz, Joshua Ramirez, Javier Ortiz, Christopher Demel, Eric Marrero, Bryan DeLeon, Daniel Silva, Anthony Llanos.
Department: Dept Electrical Engineering, NSF CASA Proyect and NASA IDEAS
7. Topic: <i>Ciclovía del Litoral de Mayagüez</i>
Autors: Alberto Figueroa, Ing. Francisco Klein, Profesor Didier Valdés
Department and Project: Civil Engineering UPRM. Institute of Transportation Engineers UPRM Student Chapter, Institute of Transportation Engineers Puerto Rico Section, Klein Engineering.
8. Topic: <i>Conservation of Natural Coastal Reserve, La Boquilla, Bo. El Maní</i>
Autors: Maricarmen Rodríguez (Voluntary)
Project: AmeriCorps CHIPE
9. Topic: <i>Solar Car SEERT</i>
Mentor: Davis Serrano Autores, Gustavo Gonzalez Tomei and others.
Department: Mechanical Engineering
10. Topic: <i>Conservation of marine species: Sea Grant</i>
Voluntary: Monserrate Casino
Department: Sea Grant Graduate program

- **Campus Verde 2014 Initiation Ceremony:** As every year we have new students who join our programs, and once a year, during Earthweek our students make the commitment to create a better environment for everyone on the planet, preserving and bringing new ideas to the conservation and global sustainability. On April 25, 2014 at the Tarzan Hall (Annex)
- **Playa Golondrinas Clean-up:** To finish off a very successful Earthweek, we coordinated this cleanup. We are proud that, through our actions, we are contributing to a better country, by doing beach cleanups where our students are with us and we show others our commitment and so we set the example for others to follow. On April 26, 2014.



Fig. 9 Photo Album depicting Earthweek 2014 activities.

Period between: August 2013 - December 2013:

Approved Proposals:

1. Proposal "*Community in Harmony Integrating People and Environment (CHIEP)*", \$ 320,000, Dr. Sandra Cruz Pol, Dr. Ana Navarro, Dr. Julia Mignucci, Ms. Carla Ramirez Submitted to AmeriCorps, through the Municipality of Mayagüez, , March 2013. Adopted in August 2013 to begin Oct 2013-Setp 2014.

Travel outside PR:

- October 10 to 11: New York, NY, **Unicef** Campus Summit-received 3rd prize Campus Challenge Among over 85 universities.
- October 23 to 27: Colombia Conference "**Risk Management and Adaptation to Climate Change**". Invited talk.

Articles on Local Magazines:

- Sandra Cruz-Pol. "Oh, green Christmas!" Newspaper "Create the Good", December 2013, p. Three. <http://compartiresvivir.yolasite.com/resources/Compartir%20es%20Vivir%20-%20Diciembre%20de%202013.pdf>

Workshops and Presentations:

1. Forum Colegial TV, August 19, 2pm Topic: "**Improvements to the solar house, transforming it into Ecological House**".
2. Radio 990AM WPRA Broadcaster: Dr. Cruz-Pol, our director interviewed Dr. Andrés Díaz-UPRM ECE about *photovoltaic system, solar caddy RUM, LED lamps and solar boat, and Dr. Hipólito O'Farrill about eco-friendly insecticides*. 7:00 a.m. to 9:00 a.m.

Period January 2014 - summer 2014:

Proposals Submitted:

1. **Proposal "Eco House"** to restore the 2005 Solar House, resubmitted to Mayagüez Municipality, February 2014
2. **Approved Proposals:**
Americorps 2014-2015: with the Municipality of Mayaguez.

Proposal Approved Donations:

- Paint for **House EcoSolar - Master Paints**, paint inside and out type with zero VOC Green Seal, Contact: Miguel Vergara: MVergara@mastergroup-pr.com
- February. Exhibits from the **Energy Museum Exhibition ON OFF** in *Banco Popular* in old San Juan, PR will be donated to UPRM. Contact: Carlos Bruno: Carlos.Bruno@popular.com

Travel in PR:

- **Council on Climate Change (CCC) of Puerto Rico**, Summit, Embassy Hotel, SJ, PR. Friday March 28, 2014. To provide recommendations to the government on mitigation and adaptation. 6 hours.
- Compinche Verde **Meeting** with **Jane Goodall Institute**, Mar 28, at Ponce, PR, 3 hours. Compinche Verde **Meeting** with **Jane Goodall Institute**, May 2, at Maunabo, PR, 5 hours.
- Compinche Verde **Meeting** with **Jane Goodall Institute**, June 18, at Isabela PR, 6 hours.
- Meeting with **Prof. Dr. Luisa Jimenez and Awilda Mendez** gets **Green Campus in UPR-Aguadilla**. 1hr

Workshops and Presentations

1. **WPRA 990AM Radio Interviews** Dr. Sandra Cruz-Pol **Campus Verde on Cancer Prevention, Are Mammograms Useful?**. With Toti Figueroa, March 4, 2014, 7:00 a.m. to 9:00 a.m.
2. **WPRA 990AM Radio** Broadcaster: Dr. Cruz-Pol- **Campus Verde**-interviewed **Mr. Miguel Vergara**, manager of **Master Paints** for donation to the **Solar Eco House eco friendly paints** with zero VOC Green Seal stamp and reflective treatment for the roof of the house, and the consequences to health (asthma, allergies, etc.) of harmful gases (VOC) and environment pollution, and **Mr. Carlos Bruno** from the *Banco Popular* Director of display **Power ON OFF** to be donated to the **RUM for EcoSolar House**. June 17, 2014, 1-3pm
3. Saturday March 1, 2014: **Talks, Training and Solutions: Climate Change**: Training for 30 members of **Americorps**, in CID123, 8am to 3pm.
4. **WPRA 990AM Radio Interviews** directorial Campus Verde about **"Vaccine Myths"** Toti Figueroa. March 25, 2014, 7:00 a.m. to 9:00 a.m.
5. Programs Radio **"Energy Saving and petrol"** with Toti Figueroa AM 990, Jun 2014 7-9am.



**CAMPUS VERDE -
COLEGIO DE MAYAGUEZ**
Universidad de Puerto
Rico

IX. Campus Verde Students

As mentioned above CV counts with a student chapter. This group of students is a very active and dynamic group that brings ideas and actions. Help coordinate green activities like beach cleanups and tree planting with other student associations as **PRWEA, IEEE, Tau Beta Pi, BBB, SWE, SHPE**. Below is a list of our directive from this year.

2013-2014

Presidente -Angélica Abreu Fontánez
Vicepresidente -Héctor Quiñones
Finanzas - Reina Marrero
Coordinador de Eventos -Héctor Quiñones
Recruiting (Promotion) - Kellyam Valle
Kayak Leaders (prospects pending):
 Rolf-Martin Vieten ,Josean Torres, Rafael Padilla, Héctor Quiñones, Angélica Abreu, Marilyn Pérez, Edgardo Estavillo.

Fig. 10 Students positions for the CV Student chapter. Note the new positions for the year 2013-14.

X. Ride a Bike: Promote Bicycle Transportation

A. Official Student Organization

Ride a Bike is an official Student Association in Campus. An inscription document has been submitted to the Dean of Students and the organization's directive is as follow:



2013 - 2014

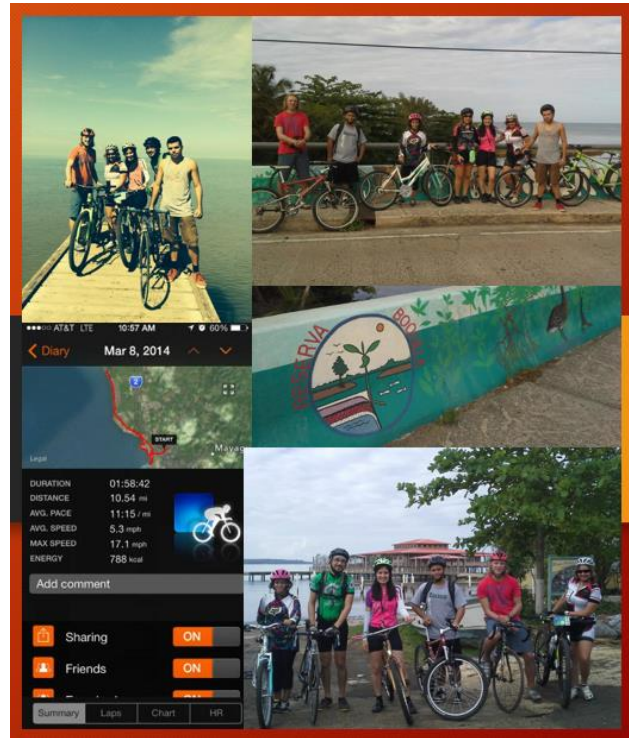
Advisor - Jorge Bencosme

President - _____

Vice president - David R Soto Padín

Treasurer – Marilyn Pérez

Activity Coordinator y Educator- Rafael Padilla



B. Projects:

- **Mission:** To promote the use of bicycles as alternative transportation to reduce traffic congestion, contribute positively to the environment and improve the quality of life of the whole community.
- **Vision:** To work actively in the promotion of cycling and its benefits as a means of alternative transportation in and out of the campus including the community in general.
- **Objectives:**
 - Educate the university community and the general public about the benefits of using bicycles as transportation, recreation and lifestyle.
 - Intercede for infrastructure provided by the university administration and the municipality to facilitate and promote the use of bicycles.
 - Recreational Plan for fraternization Member activities.

C. Educational, Recreational and Outreach Activities:

- Bike ride to Litoral Park, March 8, 2014
- Ride a Bike: informative and educational table, November 22, 2013
- Bike ride to coastal way, road 102 south of PR. November 4, 2013
- Labeling with bamboo and meeting. November 3, 2013

XI. Green Buildings and Sustainability RUM Group

A. Official student Organization: With a new name for this year's students buildings green strive in planning workshops and outreach are aimed at students from middle and high schools, as in the search for alternatives by doing research studies in buildings RUM looking for new ways to energy savings.



2013 - 2014

President: Anthony Pérez Santiago

Vice-President: Griselle Martínez Traverso

Finance Manager: Louis Maldonado Pérez

Marketing Manager: Koby Bonilla Fernández

Director of External Activities: Carolina Marrero Ralat

Public Relations Coordinator: Anthony Flores Nigaglioni

B. Educational, Recreational and Outreach Activities:

Cool Cities

- Talks at the College-School Christian Oscar Correa Agosto in Mayaguez, PR. March 25, 2014. The members of the group Cool Cities Koby Bonilla, Carolina Marrero Ralat, Cristina Nazario, Keishla Ríoa and Johannie Velázquez González gave a talk topic **Recycling** they split the group into 2: kindergarten through sixth and seventh through 12, was it a total of 55 students. Contact was Professor Margarita Figueroa.
- Talks in Miradero 2 School, Mayaguez PR. March 28, 2014, Lectures on Sustainability Presentation Kit solar panels for demonstration.
- Talks at Hostos School, Mayaguez, PR. April 14, 2014. Lectures on Sustainability Presentation Kit solar panels for demonstration.



Fig. 11 Cool Cities group of GSB RUM Group

C. UNICEF

A. Official student Organization:

Association designs its fundraising activities and to Create Awareness of the current situation of poverty across the planet. Helping to eradicate extreme poverty Planet, which has been magnified with Climate Change due to extreme droughts, floods and other events that affect agriculture, life and property. Every contribution makes a difference.



President: José Virella

Vice-President: Neysha López

Finance Manager: Lizmar Rodriguez

Secretary: Jimena Pérez

Marketing Manager: Marilyn Pérez

Counselor: Dra. Sandra Cruz-Pol

B. Educational, Recreational and Outreach Activities:

- UNICEF Thanks Day & Oxfam Hunger Banquet, November 21, 2013
- FREE HUGS! UNICEF Abraza a la Humanidad, February 13, 2014
- Unicef teach workshop, April 3, 2014



Fig. 12. UNICEF's Activities.

D. AmeriCorps

A. Project:

Green Campus is also part of the **AmeriCorps** teams and in conjunction with the Municipality of Mayagüez, provides work for 30 people from the community and students RUM. For this year with a budget of \$ 324.000 per year. A request renewal that was approved of a budget of \$ 137.850 for 2014 and 2015 on environmental projects, thanks to the “Oficina de Comisión de Voluntariado y Servicio Comunitario de Puerto Rico”. Work includes setting up **Acuaponics** at Alzamora Farm, carrying energy audits to save energy at UPRM campus buildings, and educational projects in Sustainability including Recycling and talks to schools. In addition, we lead workshops and energy conservation training, conducted studies of current situation and identified future goals.

AmeriCorps Program C.H.I.P.E

- There are several options to choose from:

Full-Time 1,700 hr / yr, \$ 12.300 / yr

~ 35hr/wk

Reduced Time-675 ½ hr / yr, \$ 6.400 / yr

~ 24 hr / wk

Minimun-Time 300 hr / yr, \$ 3.375 / yr

~ 6.25 hr / wk

* All for one year. After completing this period is granted an educational scholarship participants. As stipend but no salary, receiving funds does not disqualify you from other federal aid.

B. Educational, Recreational and Outreach Activities:

- Talk on *"A better environment through engineering"*, Vivian M. Rodriguez, Anned Vargas and Michael Pineda, the AmeriCorps Program. 2 groups of 30 students in grades 11 and 12. April 14, 2014 at School Eugenio María de Hostos, Mayaguez.
- Talk on *"Recycle"*. April 25, 2013, at Ramey School in Aguadilla.
- Talk to the Mayaguez Municipal Summer Camp, the topic was *"Sustainability"*. June 7, 8, 2014.
- Talk to the "Young Writers" camp, the topic discussed was *"Tropical Organic Agriculture"*, attended by about 12-18 years younger. June 16, 2013.
- Talks to the Summer Institute of Transportation. Topic *"Transportación y el ambiente"* June 19, 2014 at 1:15 pm.
- Talk to a Summer Camp in La Biblioteca Juvenil del Municipio de Mayagüez. The topic was *"Sustainability"*. June, 26, 2014.
- Talk to Tarzan Camp at RUM. The topic was *"A better environment through engineering"*, July 9, 2014.



XIV. Energy Conservation and Efficiency

Our co-Director, Jorge Bencosme, produced a document with an inventory of the outside lightning around campus to show all the lights that remind on due to photo control failures or not been controlled automatically by a photo control or timer.

This document was updated and can be viewed and downloaded at [http://campusverde.uprm.edu/ReporteAhorro\\$LuminariasRUM.pdf](http://campusverde.uprm.edu/ReporteAhorro$LuminariasRUM.pdf)

In the document is referenced the section of Energy Conservation, part of the Energetic Plan of the institution in which compares the cost analysis of replacing the existing outdoor lighting for a more energy efficient one, and the time it will take to recover the investment with the savings in energy bill.

It was proposed that:

- The administration should consider the option of replacing outdoor lighting with new luminaries that can be deemed when full light output is not needed.
- Consider turning off some outdoor lighting were security is not a concern or the light does not need to be on all night.
- Energy consumption should be metered in all buildings. This data should be public as we are a public institution and will encourage to pursue energy efficiency and been an example to others.
- Equipment such as air conditioner should have the option to be remotely controlled or turned off when there is no occupancy of the building or office. Office and hall lights should be controlled by occupancy sensors.
- Entrance, halls and outdoor lighting operation in the buildings can be improved and made more efficient by automated controls such as photo controls, motion / occupancy sensing and remote controlled circuits.
- Start projects for generating renewable energy in campus and pass that clean energy to the electric grid to be locally used and reduce the carbon footprint.
- In the long term, develop the campus electricity grid to be a smart grid.

A. Eco Solar House:

Our Dean of Engineering agreed to support the restoration of an old Solar Decathlon house from 2005 that has lost all walls to termites, and convert the Eco Solar House an Ecological house. Our last chancellor had approved funding for buying the new materials needed, but the construction was halted. We have work on it but at this time all efforts to use and display the Eco Solar home have been unsuccessful.

New projects and new proposals: Mr. Miguel Vergara, manager of *Master Paints* and his company donate to the **Solar Eco House eco friendly paints** with zero VOC Green Seal stamp and reflective treatment for the roof of the house, and the consequences to health (asthma, allergies, etc.) of harmful gases (VOC) and environment pollution. We have had the support of the Technical Team lead by Luis Karry from the Engineering Dean, with the lead by the Associate Dean Dr.

William Hernandez. The UPRM architect has devoted his time to design modifications to the EcoSolar House so that it has a handicap ramp around the balcony and terrace. We have met several times with all of them and with the Administration Dean at the Chancellors Office and with the office of OIIP, including Eng. Nancy Mendez, lead by Dr. Noel Artiles at the time. We are grateful to all of them for their support.

The newest plan can be found at

http://campusverde.uprm.edu/solarEcoCasacambio4-18-13-2-Plano_Model.pdf



Fig. 14: These photos show the state of the old solar decathlon house by the beginning of 2012 (left), the state as of June 2012 (center) and the present state as of June 2013 (bottom). The final product should look similar to figure on bottom right.

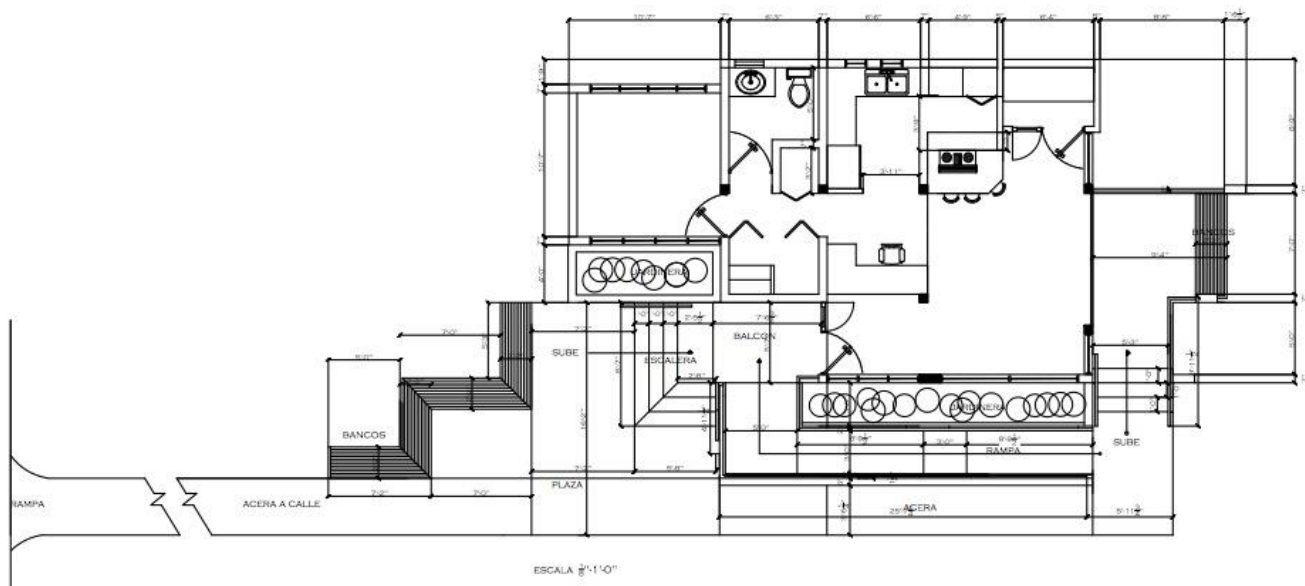


Fig. 15. New layout with handicap ramp and balcony.

We are submitting proposals to the government of Puerto Rico and to several private corporations to support this new sustainability showcase. A Copy of the proposal can be found online at:

<http://campusverde.uprm.edu/Proposal-GreenCampus UPRM Eco House.pdf>

XV. Nature Activities

- A. **Beach Clean-up Day with 2 activities this year in**
Playa Golondrinas in Isabela, P.R
- B. **Waterfall Clean-up Day with 2 activitis this year**
Gozalandia Waterfalls Cleanup Day in San Sebastián, P.R.
El Ataud, Waterfalls in Adjuntas, P.R.
- C. **Day Kayaking with 8 activities this year**
La Parguera, P. R.
- D. **Surfing Activities with 2 activitys this year**
Rincón, P. R.

XVI. Education and Outreach Materials and Training

We continue to develop materials for our website including a new pages for cosmetic and green cleaners (<http://campusverde.uprm.edu/album.html>), another about the link between healthy people and healthy planet (<http://campusverde.uprm.edu/ecosalud.html>) and we continue to add our pages with additional food eco-friendly recipes, homemade insecticides recipes, and much more. Like this examples:

Insecticidas Eco-Amistosos: baratos, natural y que no dan asma

...para eliminar hormigas, piojos, ácaros, mosquitos, termitas y cucarachas en el hogar.

Insecticidas **Naturales** sin tóxicos que causen asma, irritación y alergias. Son muy económicos y efectivos. Versión pdf

🌿 Bórax 🌿 Ácido Bórico

🌿 Aceite de Cedro (Repelente de Mosquitos)

🌿 Insecticidas para el Jardín- para controlar plagas en plantas y huertos caseros



Ácido Bórico

Disuelve 1 cucharadita (5mL) de polvo de ácido bórico y 10 cucharaditas de azúcar en 2 tazas de agua (500mL); moja bolitas de algodón y colócalas por donde pasan los insectos, como dentro de los gabinetes del baño o detrás de la estufa, y también **LEJOS del alcance de niños y mascotas.**

El ácido bórico deshidrata los insectos lentamente y ellos no se dan cuenta, de manera que los **insectos NO crean inmunidad o resistencia al veneno.**

Además el ácido bórico se puede usar como antiséptico para heridas leves, y para el acné pues es anti-bacterial natural. Tiene usos medicinales para tratar hongos, por ejemplo, y por eso se usa en las soluciones para lavar ojos y lentes de contacto. Además se usa para tratar madera contra las termitas.

Rocie este polvo en las alfombras para matar PULGAS, PIOJOS y sus huevos. No se puede ingerir pues es TÓXICO y algunas personas son sensitivas en la piel a este detergente.



Aceite de Cedro (y otros aceites esenciales) una botellita de 1 onza cuesta entre \$4 a \$6 y rinde muchísimo. También venden cantidades mayores para proteger dentro y fuera del hogar, ver [aquí](#).

Repelente de Mosquitos: Disuelve 10-15 gotitas de aceite de cedro (cedarwood oil) en 1/2 taza de agua, 1/3 taza de alcohol y 1/4 taza aceite vegetal como almendras u oliva, dentro de una botella rociadora. Le da un olor a madera que no le gusta a los insectos. Es seguro para niños y mascotas, pero no rocíe en los ojos ni cerca de la boca. Sirve para aliviar salpido de piel (rash). Puedes añadir unas gotitas **adicionales aceite de menta** (peppermint), lavanda, limoncillo y/o eucalipto para aumentar la gama de insectos que repele además de los mosquitos.

Ácaros en la cama: Rocíe la misma solución de repelente en la cama. Deje que se seque, olerá a madera durante unos días. Puede añadir gotitas de aceite puro de menta o lavanda que también son anti-gérmenes y tienen una suave fragancia. El cedro mata los ácaros que causan picor en la noche que se alimentan con fragmentos de piel que sueltan los humanos en los mates. Es bueno limpiar el colchón con vacuum frecuentemente. Sirve para aliviar salpido de piel (rash).

Piojos: Use la misma solución de repelente de mosquitos. Mata larvas, y huevos de piojos. No causa irritación, asma ni alergias, pues no es tóxico a los humanos. Se puede añadir al champú y al acondicionador.



Pulgas y Garrapatas: Pon unas cuantas gotitas (no más) de esta mezcla en el collar de tu perro.

Mezcla bien 2 cucharaditas de aceite vegetal (el de almendras contiene sulfuro el cual ayuda más aún) con 10 a 25 gotas de aceite palmerosa (Rose Geranium essential oil) o de cedro, limoncillo, eucalipto, romero o mezcla de varios. **Para los gatos no se debe usar aceite de palmerosa o cedro ya que los gatos se lamen y estos aceites no son comestibles. Para los gatos usa los otros aceites.**

Para **gatos y perros**, mezcla 1/2 cdta de vinagre de manzana, y/o turmeric y 1/2 diente de ajo majado (no más) en la comida...esto hará que la sangre tenga mal olor y ayente a las pulgas y garrapatas. También puede untar aceites esenciales diluidos en aceite de oliva, siempre y cuando el aceite sea comestible ya que los gatos se lamen. Puede usar aceite de romero, limon, clavos. * **Nunca use aceite de cedro, palmerosa o eucalipto para los gatos**



pues no son comestibles.

Termitas: Disuelva 1 cucharadita gotitas de aceite de cedro en 1/2 taza aceite de limoncillo u otro aceite, y rocíe o aplique con brocha en la madera para protegerla de las termitas.



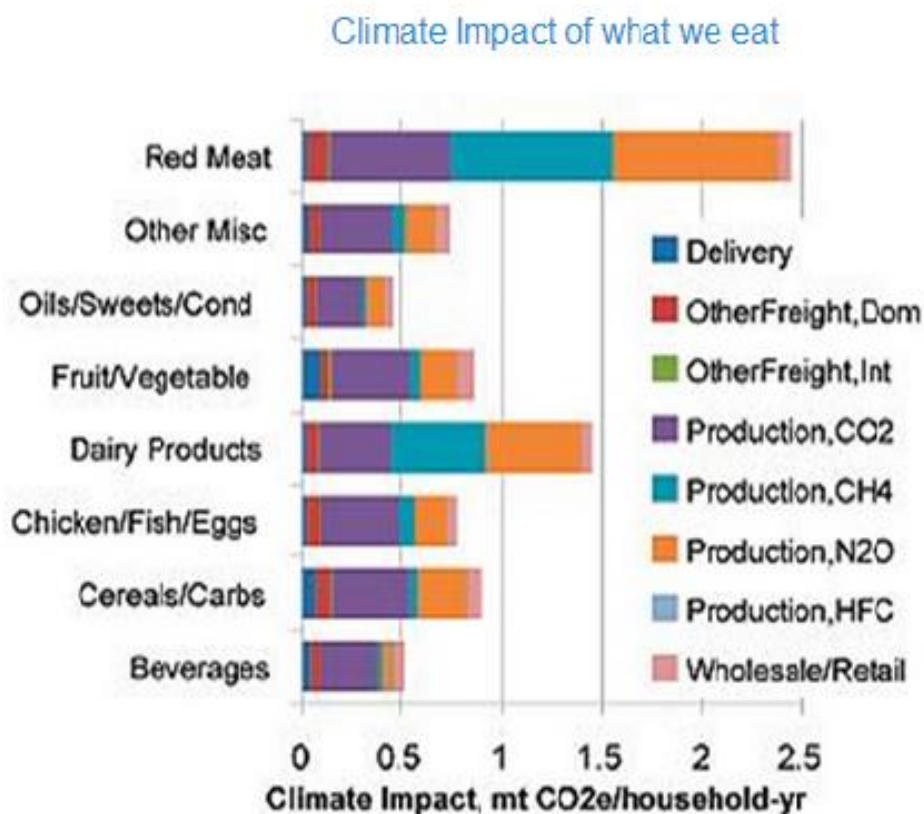


Figura. 1. Cantidad de emisiones de gases de invernadero al producir carne, vegetales, cereales y otros debido a la producción de dióxido de carbono, metano, óxidos nitrosos, transportación, etc. Fuente: <http://www.terrapass.com/blog/posts/cutting-the-carbon-from-your-diet>

Reduce los plaguicidas que ingieres:

Lista de productos con **POCOS** plaguicidas aunque no sea orgánicos

[*Recuerda quitar la cáscara antes de consumir, en el caso de las zanahoria raspa su superficie a menos que sean orgánicas.]

Guineos	Aguacates	Frambuesas
Chinas	Piña	(Rasberries)
Toronjas	Cebollas	Kiwis
Papaya	Mangó	Guisantes (green peas)
Melones (Canteloupe)	Moras (Blackberries)	Brécol
Sandía (melón de agua)		Repollo
		Espárragos

Lista de productos que **MÁS** contienen plaguicidas a menos que sean orgánicos

Manzanas y Peras	Apio (celery)	Papas
Uvas Importadas	Pimientos verdes	Lechuga
Fresas y Cerezas	Productos lácteos	Espinaca
Melocotones, Nectarines		

Fig. 16 Según el Environmental Working Group y <http://www.thedailygreen.com/healthy-eating/>

A. Training for students and personnel about Global Warming Solutions

We continue offering the training given to students where they learn about Climate Change and its solutions in which the students are then tested and certified to give conferences, therefore spreading education. The past years, students visit several schools all over PR offering advice and talks. One of the 'adopted' schools has participated in beach cleanups with us and established a recycling program in their school. The student leader at the school, Adriana Caban, which was advised by our student Maraida Balaguer and Luz Laboy, received a Presidential awards. See picture below.



Fig. Adriana Cabán, a student from a local high school which was advised by our program and given several talks by our CV trained students; Luz and Maraida, and joined us in one of our beach cleanups with her school.

1. Television and Radio Appearances about Global Warming Solutions

Our Director was interviewed in a local TV show called CVBIEN with Carlos Ochotecho last 25th of June (Invitation by Jessica Otero jotero@cvnetwork.tv from Channel 24 of PR). She was also interviewed in Foro Colegial and talked about the Green Campus initiative and about tips on how to conserve electric energy, water, and how to lower our ecological footprint.



2. Campus Verde goes international!

Campus Verde has been affiliated to the Jane Goodall's Roots & Shoots chapters since 2012. In addition Marcela Zuluaga from NBC -Telemundo at Dallas [817 654 6584] contacted us on March 2012 to ask for our authorization to use CVC informaion on their web. It was granted. So we are expanding our reach!

Previously we were contacted by people in Mexico and Argentina to use our web, and from the state of Florida to ask permission to use our website materials. We were having the visit of

3. Old San Juan Energy Museum

Our director was invited visit ON/OFF Energy Museum in Old SJ. This visit served to make important contacts to what we can expect in the future and incorporated several of their ideas in or future interactive exhibits in or Eco Solar House. [Contactos: Dinorah Bonilla <dinorah@muuaaa.com> , Celina Noguerras Cuevas noguerras.celina@gmail.com y Dr. Fernando Abruña]

Additional alliances and dissemination

In our effort to reach beyond the university limits, we have formed the following alliances and dissemination strategies:



1. We have just started an official collaboration with **Dr. Jane Goodall's Roots and Shoots (R&S)** environmental program, so our program is officially affiliated to them! This was as a result of our talks with Dr. Rick Asselta, Puerto Rico's R&S representative. Visit on January 30, 2014 Rick Asselta and his group visit us to see how we can collaborate to create a greener Puerto Rico. **Jane Goodall** founded **Roots & Shoot** environmental chapters (R & S), first in the U.S. and now across the globe.



2. We have our Twitter account linked to a global group in Facebook called *Campus Verde Colegial* so that we can reach people outside the academia with tips on how to save money and help the environment. We've had people from as far as Argentina complementing the group messages!



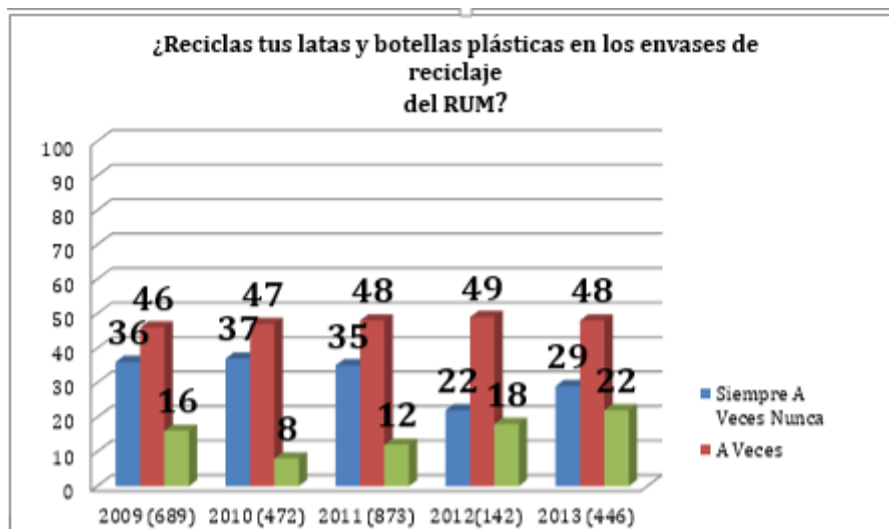
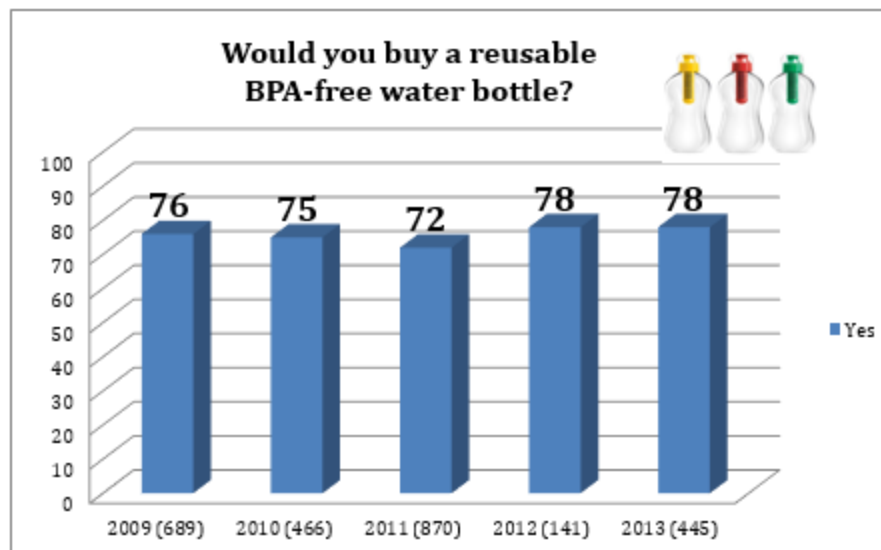
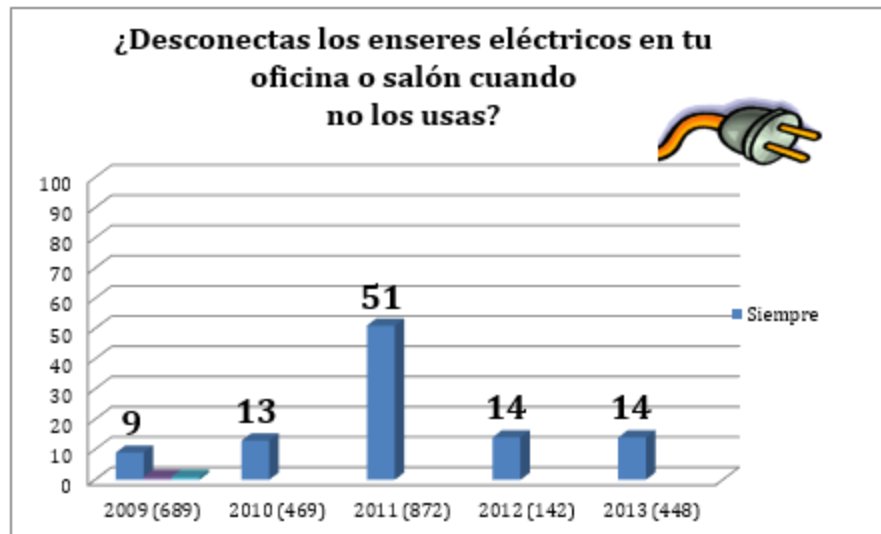
@ CampusVerdeUPRM



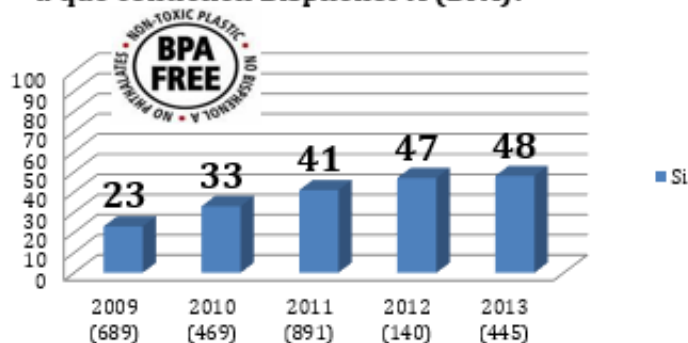
Visit us at: <http://campusverde.uprm.edu>



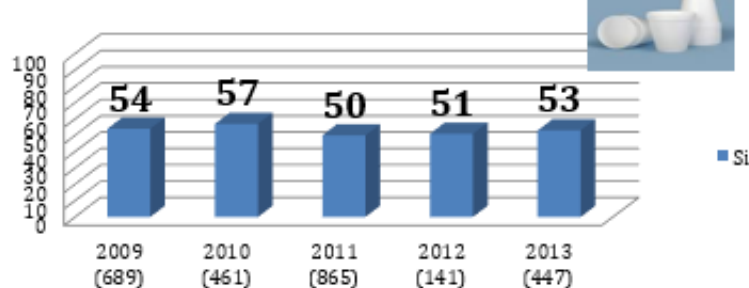
Appendix A: Campus Verde Survey Results Comparison 2009-13



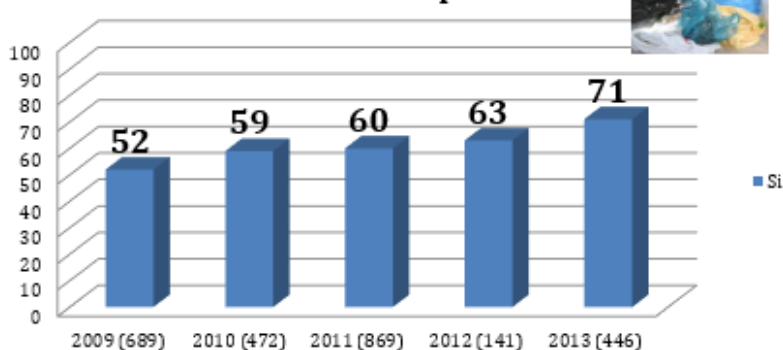
¿Sabías del posible daño a tu salud de las botellas plásticas debido a que contienen Bisphenol-A (BPA)?



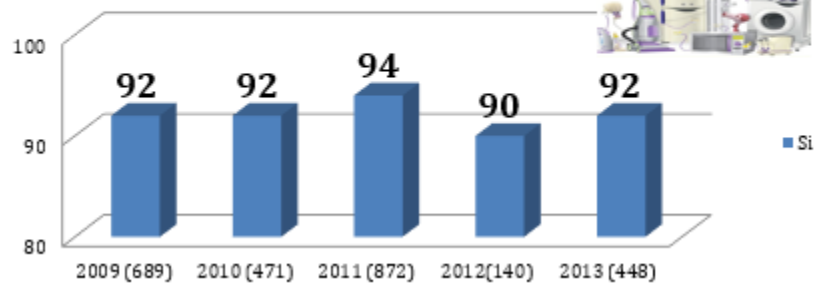
¿Conoces el impacto ambiental que causan los platos de poliestireno (Styrofoam®) al fabricarse en términos de tóxicos atmosféricos...



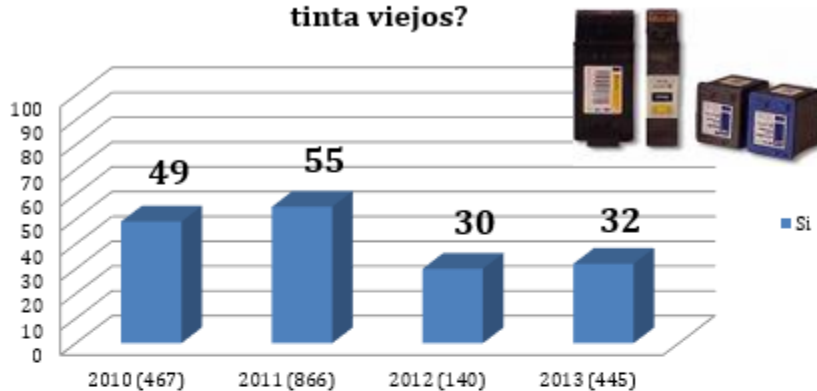
¿Sabías que la mayoría de las bolsas plásticas están hechas de petróleo?



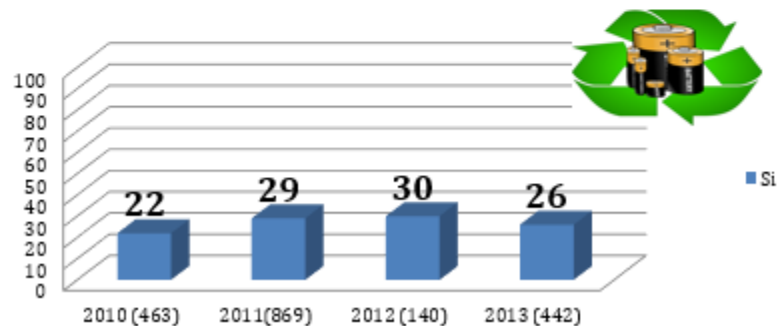
**¿Sabías que los enseres eléctricos siguen
gastando electricidad
estando apagados si permanecen**



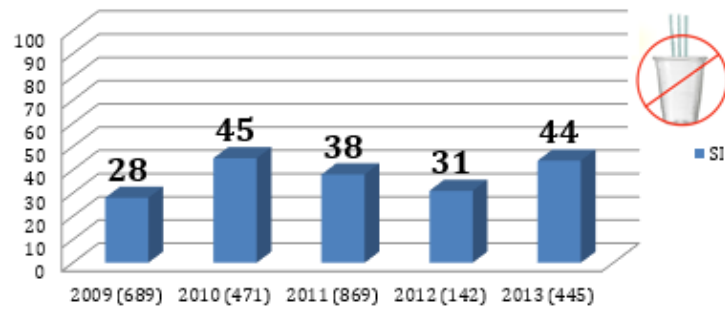
**¿Sabes donde disponer de los cartuchos de
tinta viejos?**



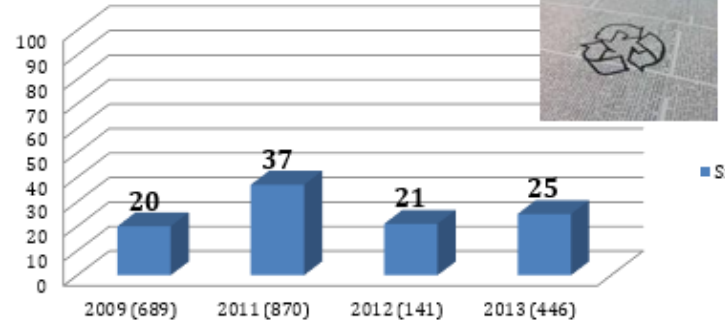
**¿Sabes dónde disponer de las baterías viejas para
evitar
contaminación de las aguas y la naturaleza?**



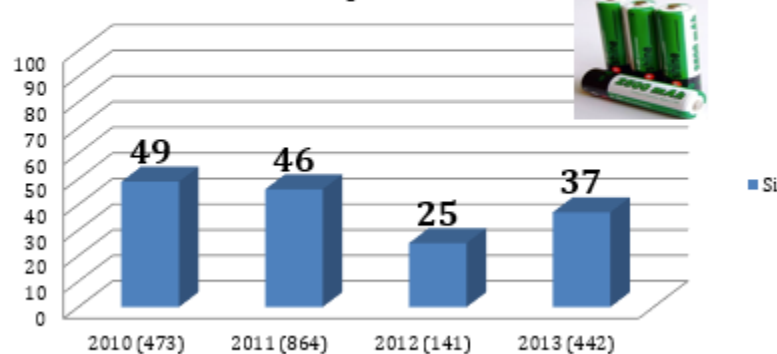
¿Sabías que los vasos y los sorbetos plásticos NO se reciclan porque no son plástico tipo # 1 ni #2?



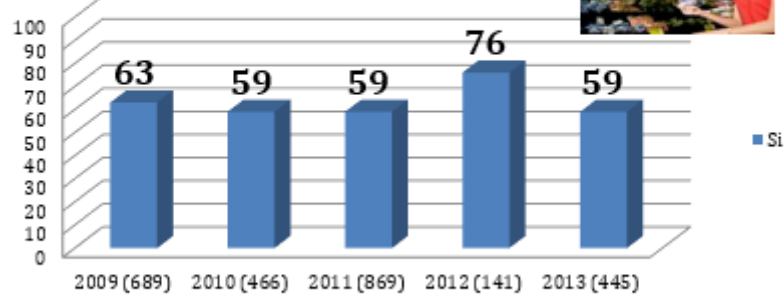
¿Sabes donde reciclar el papel y el periódico en el RUM?



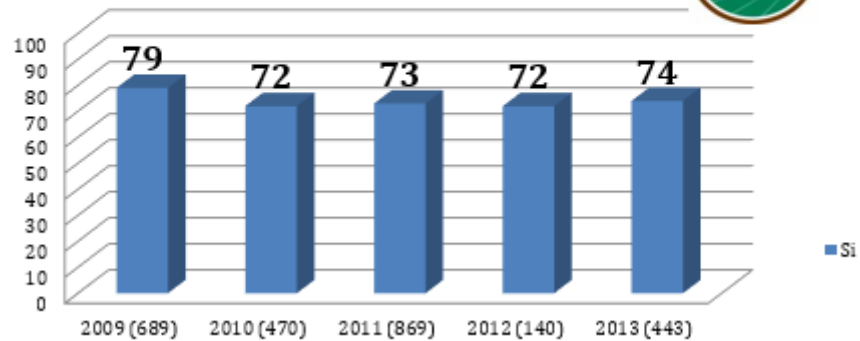
¿Sabías que puedes ahorrar unos \$100 por cada batería recargable que usas?



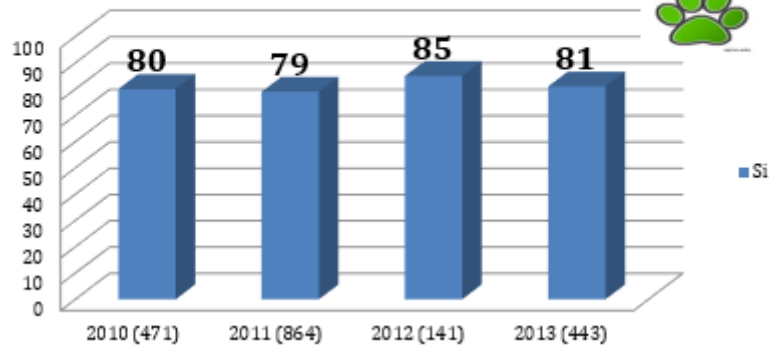
¿Conoces los beneficios a la salud de la comida, ropa y otros productos orgánicos?



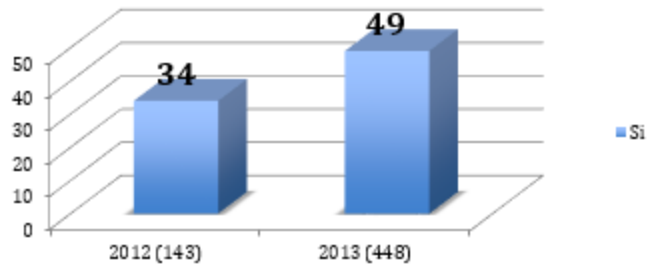
¿Conoces el efecto adverso para el planeta de los productos que no son orgánicos?



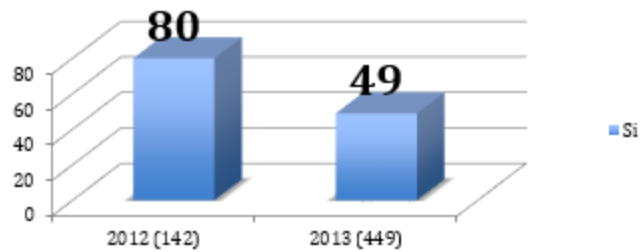
¿Te gustaría que se re-establishiera el uso de vajilla de platos reusables (mejores para la salud) en la Cafetería...



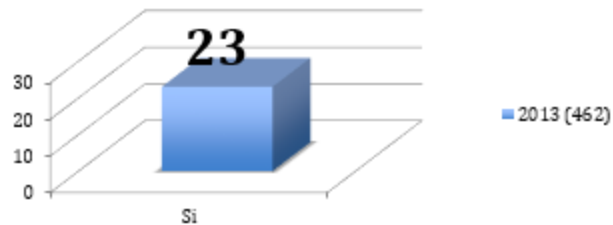
¿Sabías que algunos champús de bebé y productos de higiene y belleza contienen ingredientes conocidos como carcinógenos?

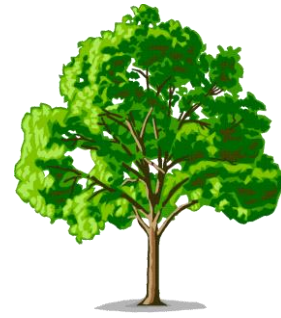


¿Sabías que la mayoría de las baterías son inofensivas o necesarias para una vida saludable?



¿Sabías que algunos alimentos contienen insectos o secreciones de insectos bajo el nombre de "carmine" (color rojo) o "shellac" ?





Política Institucional para la Conservación de los árboles y las palmas del Recinto Universitario de Mayagüez

Introducción

Gracias a la iniciativa de los miembros de la comunidad académica que a través de las décadas han sembrado plantas, y a la dedicación del personal encargado de cuidarlas, el Recinto Universitario de Mayagüez es hoy un atractivo jardín botánico donde crecen doscientas especies de árboles y palmas. Esta flora no sólo embellece el recinto, sino que con su sombra refresca los edificios. También atrae aves que hacen más placentera la estadía de empleados y visitantes. No menos importante, nuestra flora sirve de laboratorio para varios cursos.

Muchas universidades otorgan una alta prioridad a la conservación de su flora. Con el cuidado adecuado, nuestros árboles y palmas continuarán embelleciendo el recinto y beneficiando a futuras generaciones de estudiantes, profesores, administradores y visitantes.

Comité de Árboles

Se establece mediante esta política un Comité de Árboles compuesto por **tres profesores** nombrados por el rector, el decano de administración o su representante y **un miembro del Departamento de Campos y Carreteras** nombrado por el director de esa dependencia. Los miembros servirán por tres años, al cabo de los cuales podrán ser nominados para otro término similar. El comité establecerá las normas para su funcionamiento y evaluará cada solicitud de poda sustancial o corte en un plazo no mayor de tres semanas luego de ser notificados sobre la intención de realizar dicho trabajo. El comité evaluará cada solicitud teniendo como una de sus prioridades más altas la conservación de los ejemplares y la protección de los miembros de la comunidad académica y de la propiedad pública y privada. El Director de Planta Física y su personal están para “implantar y ejecutar” las medidas a tono con la Política Ambiental de la UPR, de la leyes que administra Recursos Naturales y de la política interna que se apruebe para el manejo preventivo de la flora del RUM. Adjunto ver copia de la *Política de Manejo de Áreas Verdes de la UPR* Comité de Arboles del RUM es el que debe tener la decisión final sobre el trabajo a realizarse.

Mantenimiento de los árboles y las palmas

El Departamento de Campos y Carreteras establecerá un plan para la remoción anual de plantas epífitas y parásitas que por su abundancia reducen la salud y buena apariencia de los árboles. El Comité de Árboles identificará estas plantas para que sólo se remuevan las que ocasionan daño. Esta actividad evitará que el árbol se debilite o muera y tenga que ser removido. Durante el mantenimiento

rutinario de los alrededores, el personal de mantenimiento tendrá especial precaución con el uso de cortadoras de hilo (**trimmers**) que pueden remover la corteza y matar ejemplares jóvenes.

Mitigación por la remoción de ejemplares

La remoción ocasional de un árbol o una palma por razones justificadas será mitigada mediante la siembra de diez ejemplares similares cerca o en otro lugar del recinto. Si no es posible conseguir la misma especie o si ésta es común en el recinto, el comité recomendará otras especies adecuadas para los lugares donde serán sembradas. Este proceso de mitigación puede **aprovecharse para aumentar la diversidad** de especies que crecen en el recinto.

Siembra de ejemplares

La administración universitaria coordinará con las asociaciones estudiantiles la siembra periódica de árboles y palmas en lugares propios para dicha práctica. El Comité de Árboles asesorará en la selección de especies para asegurar que no se siembren variedades que más tarde puedan causar problemas por su impacto sobre personas o propiedad. Por esta misma razón los miembros de la comunidad académica que deseen sembrar árboles o palmas deberán solicitar permiso al Director del Departamento de Campos y Carreteras y recibirlo antes de realizar la siembra. Los árboles y las palmas sembradas sin permiso podrán ser removidas si a juicio del Comité de Árboles han sido colocadas en un lugar inapropiado para la especie o en un lugar que ha sido destinado a otro uso.

Cultura de conservación

Para que esta política sea exitosa es necesario crear conciencia en la comunidad académica sobre la importancia que tienen los árboles y las palmas, además de los arbustos y otras plantas que crecen en el recinto. Con este propósito, el Comité de Árboles, la administración universitaria y las asociaciones estudiantiles coordinarán **actividades que eduquen e integren** la comunidad a este esfuerzo.

