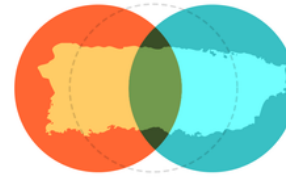




Puerto Rico
Science, Technology
& Research Trust



PR RESEARCH
& INNOVATION
MEET UP

***AUDIENCE INPUTS ON:
RESEARCH, INNOVATION & ENTREPRENEURSHIP IN PUERTO RICO'S AGRICULTURE***

AUGUST 19, 2016
BIOPROCESSING DEVELOPMENT & TRAINING CENTER (BDTC)
MAYAGUEZ, PUERTO RICO

PRODUCTION, DESIGN & FACILITATION: RICARDO BURGOS, ERNESTO R. CRUZ



PR RESEARCH
& INNOVATION
MEET UP

Overview

The Trust's Local Meet Ups are done with the intention of generating alignment, as well as points of intersection, between the agendas of research, existing resources, and market opportunities; and to highlight Puerto Rico's intellectual capital in order to promote improved technology transfer, development, and commercialization of our intellectual property. The Meet Ups will serve as a vehicle to present the new resources made available by the Trust in these areas while simultaneously building an audience base that will provide the critical mass for the eventual celebration of the Puerto Rico Research & Innovation Summit, in early 2016.

Key points regarding the Meet Ups

Foster encounters, sharing, learning, and improvement

The proposed event seeks to bring together key staff from public and private colleges and universities, private sector stakeholders, civil society organizations in charge of community economic development, business incubators, and key government players in the areas of economic development and education.

Discussion of important topics pertaining group dynamics and interests

The content agenda revolves around: Public Policy and indicators for innovation, research and development; Technology transfer for innovation; and, a new ecosystem for innovation in a variety of sectors within the Island's economy. These subject matters will be discussed in a variety of formats, from traditional presentation, workshop, and open discussion formats.

Increasing social capital by providing space and context from which to engage in crossed networking

The Meet Ups are geared at creating opportunities for participants in the fields of research, investment, traditional entrepreneurship, as well as social enterprising, in order to form bridges among groups, promote understanding through social interaction, and empower innovation.



Agenda

Agro Research, Technology and Entrepreneurship Showcase

Andreas Neuman
UAV-IQ

Luis Román
Biodiesel Production

Andrés Rúa
PR Hardwoods

Ricardo Zapater
Corderos

José Fabre
Bananera Fabre



Activity: PR Research & Innovation in Agriculture Meetup- Part II

Location: Bioprocess Development and Training Complex (BDTC), Mayaguez

Date: August 19, 2016

Meet-up Agenda

- 9:45 AM
Registration
- 10:00 AM
Welcome remarks – *Dr. Gretchen Diaz*, Grants Program Director
- 10:10 AM
Feedback from previous Meet-Up – *Ernesto Cruz*, Facilitator
- 10:20 AM
Interactive Panel Discussion: How to enable curricular changes in the academia to meet present day challenges and aspirations? – *Ernesto Cruz*, Facilitator
Panelists: Drs. Lizzette González, Esbal Jiménez, Fernando Pérez, Ubaldo M. Córdova
- 11:00 AM
Networking Coffee Break
- 11:15 AM
Interactive Discussion: Firm steps to enable effective collaboration for Puerto Rico's Agricultural sector – *Dr. Ubaldo Córdova Soto & Ernesto Cruz*
- 12:00 PM
Networking Lunch
- 1:00 PM
Learning new agricultural entrepreneurship, Case Study: Hacienda Costa Verde – *Ricardo Burgos*
- 1:30 PM
New approaches in the development of cocoa farming in Puerto Rico – *Juan Echevarría & Damaris Echevarría*
- 2:00 PM
Why climate change is important for agriculture and how we adapt? – *Dr. William Gould*, Climate Hub PR
- 2:30 PM
AgroTech Showcase – Various
- 3:30 PM
Wrap Up



Puerto Rico
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Feedback on the future development of Agriculture in PR *Metrics*

- *Internships for students and faculty*
 - *Number of hours in agribusiness internships*
 - *Number of hours in agribusiness*
 - *New revenue (\$) from products and services resulting from projects*
- *Number of students from other faculties with access to laboratories, computers (there are barriers between departments, instead of membranes)*
- *Number of interdisciplinary courses created with participation of two or more professors*
- *Number of students that finish courses successfully*
- *Number of agro-entrepreneurs involved in the creation/offering of said courses*
- *Number of “projects of interest”*
- *Measure the % of self-generated investment*
- *Number of successful projects in which the academia was integrated to the private sector*
- *Number of certifications and workshops for food management and others, i.e. HACCP, FSMA-FDA, biosecurity*
- *Number of research projects that directly integrated the active participation of the agro-researcher and agro-entrepreneurs*



Feedback on the future development of Agriculture in PR

Metrics

- *Number of collaborative research projects*
- *Number of peer-reviewed publications and/or common interest, that include collaboration*
- *Number of private sector enterprises that collaborate with the University*
- *Number of common problems*
- *Number of courses with students originating in different departments*
- *Number of students with more than one bachelors degree*
- *Number of minors in one association*
- *Number of funds for/in collaborative projects*



Feedback on the future development of Agriculture in PR

Firm steps for collaboration

- *Establish an Agro MeetUp” executive committee, composed of:*
 - a) *Academia (Ubaldo Córdova, Joaquín Chong y Esbal Jiménez)*
 - b) *Facilitator (PR Science Trust: Greetchen Díaz, Ernesto Cruz)*
 - c) *Agro entrepreneurs (Josefina Arce, Reinaldo Feliciano, Duamed Colón)*
 - d) *Financial sector: Semillero Ventures (Gualberto Rodríguez)*
- *Have a two-day retreat between entrepreneurs and professors (no more than 50 persons) in order to explore next steps in collaboration*
- *Establish/identify courses that may be declared as interdisciplinary in all the University system [UPR] y offer the opportunity of registration without obstacles or impediments.*
- *Use social networks to create collaborative initiatives (juntas)*
- *Forums and brown bag lunches*
- *Round table discussions*
- *Establish a direct connection between successful entrepreneurs and the University*
- *Facilitate the process of initiating projects*
- *Create dedicated collaborative spaces in University spaces that are underutilized (tables, chairs, blackboards, and proyects) ... With controlled access, for those involved in participating projects.*



Feedback on the future development of Agriculture in PR

Firm steps for collaboration

- *Create and advisory committee made up of agro-entrepreneurs*
- *Provoke meetings between the Dean and the advisory committee to receive suggestions, ideas for collaboration between the academia and agro-entrepreneurs*
- *Creation of social/networking events between academics and entrepreneurs (High-Tech Happy Hour, Pecha Kucha events)*
- *Create committees with stakeholders from different disciplines that work on a particular project, where each may contribute their knowledge so the project is developed optimally. There should be a holistic approach to this endeavor.*
- *Connect me TODAY with an organization that can bring together students and professors to work on projects that Semillero Ventures is kicking off in September.*
- *Assign resources and student-professor teams that are interested in agri-business for projects such as: market research, due diligence for Semillero Ventures selected business segments.*
- *Shark Tanks*
- *Invite entrepreneurs to participate in class.*
- *Develop partnerships between academic projects and private enterprise*
- *Create a campaign among all agricultural sectors to enable working groups by geographic zones.*



Feedback on the future development of Agriculture in PR

Firm steps for collaboration

- *Contar con asociaciones de mayor participación, mayor utilización de productos en los platos del puertorriqueño*
- *Mayor participación en actividades como esta en Asamblea*
- *Ciencias ambientales aplicadas a problemas de agro empresarios destacados en la producción de cultivos. Estos problemas se pueden presentar a estudiantes por medio de cursos (o educación continua)...por ejemplo: estudios de enfermedades limitantes de los cultivos, control de enfermedades en cultivos y estudios para mantener suelos sin contaminantes.*
- *Hacer reuniones a principios de semestre para presentar nuevos proyectos*
- *Encuestar a estudiantes sobre los cursos de su interés.*
- *Como parte de la orientación inicial, diseñar un espacio para recoger grupos de temas de interés para los estudiantes para que los departamentos trabajen investigaciones sub-graduadas de forma interdisciplinaria y una vez aprobados se anuncien a toda la comunidad.*
- *Educar a los propietarios de empresas existentes para que estén informados de cómo la Universidad y los proyectos de investigación pueden ayudar a mejorar y optimizar sus procesos.*
- *Financiamiento mixto (empresa, academia, gobierno)*



Feedback on the future development of Agriculture in PR

Firm steps for collaboration

- *Committees with online assemblies*
- *Reduction of external consumption*
- *For faculties: networking activities among them, inside the campus. These should be recorded and published in a digital media platform for those who were not able to make it there.*
- *Outside...sharing among professors, accompanied by government folks who should be ready to fill applications, receive feedback, and provide assistance to all interested parties.*
- *Write and/or fund collaborative proposals*



Event Analysis Top Observations

Increased social capital, emerging leadership, and the role of the Trust

As planned, our second event demonstrates a growing support and momentum for Agricultural MeetUps, as we saw an increase in attendance to the event. Thus, we can conclude that bridging and linking social capital are taking place as expected. Participant feedback validates the acceptance and appreciation for the Trust's initiative and continued support, expressed –personally- by speakers and attendants alike. By fostering these dialogues we expected leadership to rise among the ranks, so as to begin to support self-driven activities. It was interesting to see comments in that light (calling for an facilitated executive committee to be created). The fact that they recognize the need for facilitation of this working group signals the rising of horizontal leadership. In summary, there is validation of the platforms progressive success.

Increased linkages between the academia and the private sector

Several voices called for an increased presence of the private sector in the academia, so as to have a better knowledge of the demands of the private sector as it relates to new capacities of human resources entering the labor market. Likewise, there is a petition for mentorship from private sector business leaders.

Government relations and support

It was interesting to note that while there is acknowledgement that government incentives are warranted to enable the growth and development of the sector, there is an increasing understanding that there is a pressing need for self-reliance in order to succeed. At the same time, there is a calling for government to be more agile in the processing and granting of certifications and incentives.



Content Analysis Other salient arguments

In this section we provide feedback on additional comments made throughout the event that merit acknowledgement, as they are key to understanding present circumstances and challenges ahead.

- UPRM needs to develop the capacity to move faster to meet the dynamics of emerging market opportunities as well as the evolution of traditional industrial segments. There is a patent need for curricular evaluation from the vantage point of innovation and entrepreneurship, based on scientific and technological advancement.*
- Examples of how to collaborate from the sidelines (and, therefore avoid bureaucracy) are programs and initiatives like Pathways to Innovation and the New Venture Design Experience led by Prof. Ubaldo Córdova*
- An example of curricular change would be to enable “rotations” like those required in the School of Medicine to allow for increased exposure to the diversity of opportunities, both academically and professionally.*
- Virtual education is mentioned as a way to attract more students of the agricultural sector.*
- In order to have higher levels of success in the field of innovation, it is important to have more porous departments. Instead of having walls that divide them, there should be membranes that allow movement between departments. This may be a first step towards the establishment of interdisciplinary departments or interdepartmental courses.*
- The concept of intrapreneurship is presented as a variation of traditional internship experiences offered to students..*
- There is an evident need to provide re-training of professionals who may have been displaced from their jobs, as these persons would benefit from new knowledge to allow them to re-invent themselves and engage new job opportunities or self-employment.*



Consultant Recommendations for the platform's evolution

Supporting leadership and organizational development

The forthcoming recommendations are meant to allow for a delegation exercise that enables emerging leadership to take charge of strengthening the ecosystem at the same time that we foster visibility, engagement, follow-up of the stakeholders and their projects.

Increase frequency of events. *We have observed a growing base of attendance and participation in the Research & Innovation MeetUps, which is why we consider that increasing their frequency may enable higher levels of participation, thus feeding for this growing momentum.*

Widen the circle of dialogue. *We need to move beyond the academia-private sector equation and include civil society organizations, such as: SOPCA, Asociación de Agricultores de PR, Colegio de Agrónomos de PR, the new Commission on Agricultural Industry (PRMA), so as to get them on board with the new conversations and stakeholders in this segment.*

Expand the discussion topics. *There is a need to extend the discussion to the financial aspects of agricultural entrepreneurial activity, as it relates to early stage capital investments, alternative business models,*

Infographic development to increase visibility of the ecosystem. *We believe that the creation of new pieces that illustrate the changing dynamics of the agricultural ecosystem will improve the networking capacity of the group and enable a more diverse leadership.*

Enable supportive mechanisms. *In order to enable sustained momentum, as well as an emerging leadership that can effectively continue the development of a working agenda and the growth of the agricultural ecosystems, we propose the development of a digital tool that may act as a bridge that connects stakeholders who are geographically disperse. In addition, this tool may collect critical data that may be necessary for the development of the agricultural ecosystem. Further, this may be a first stepping stone in fostering more productive relationships between the government agencies delegated with the responsibility of promoting agricultural activity.*