



HSI
CONFERENCE

Research Internship Programs
INNOVATION
ECOSYSTEMS
Collaboration Mentoring

Accelerating the Impact of HSI STEM Education and Research on Innovation Ecosystems

Nov. 8 & 9, Mayagüez

http://www.uprm.edu/hsi_innovation/



University of Puerto
Rico, Mayaguez
Campus

Presented By:
Rodolfo J. Romañach
Principal
Investigator

Hispanic Serving Institutions (HSI)

- ✓ > 400 institutions with >25% Hispanic students, ≈ 70 in Puerto Rico.
- ✓ NSF HSI program will focus on enhancing the quality of undergraduate STEM education at HSIs to increase the retention and graduation rates of students pursuing associate or baccalaureate degrees in STEM (required by Congress in 2017).
- ✓ The program also seeks to build STEM capacity at HSIs that typically do not receive high levels of NSF funding.
- ✓ NSF has funded 11 conferences to seek input. Nov 8 & 9 – Mayagüez Resort.

<https://nsf.gov/ehr/HSIProgramPlan.jsp>



Track 1: Building Capacity

Priority Area 2: Innovative Cross-Sector Partnerships

- Develop mutually beneficial partnerships that build faculty capacity and undergraduate opportunities to conduct research or STEM education research at HSIs.
- National laboratories, industrial organizations, and/or other public/private organizations should create new and meaningful knowledge and long-term benefit to society.
- Partnerships should generate new knowledge of effective ways to engage and retain undergraduate students in STEM, enhance skills and knowledge content of HSI faculty, and foster communication to encourage the formation and dissemination of new ideas, values, and learning.

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NSF Innovation Ecosystem & HSI

An important feature of an innovation ecosystem is that the resources available to the knowledge economy are coupled to the resources generated by the commercial economy, usually as some fraction of the profits in the commercial economy. **Another feature is that the ecosystem is usually strategically developed around a specific technology.**

HSI can contribute to multiple ecosystems and increase their impact.

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November 8, 9 - 2018

- Promote & present active learning projects in PR HSI.
- Innovation Ecosystems as sources of active learning & mentors.
- Increase impact of HSI.

Publications of research collaboration UPRM and Johnson & Johnson - Janssen Ortho LLC - Gurabo

Process analytical technology in continuous manufacturing of a commercial pharmaceutical product

Jenny M. Vargas^{a,c}, Sarah Nielsen^b, Vanessa Cárdenas^a, Anthony Gonzalez^c, Efrain Y. Aymat^c, Elvin Almodovar^c, Gustavo Classe^c, Yleana Colón^c, Eric Sanchez^c, Rodolfo J. Romañach^{a,*}

^a Department of Chemistry, University of Puerto Rico, Mayaguez, United States

^b Janssen Supply Chain, Johnson & Johnson, New Brunswick, NJ, United States

^c Janssen Ortho LLC-Gurabo, PR, United States

Assessment of Robustness for a Near-Infrared Concentration Model for Real-Time Release Testing in a Continuous Manufacturing Process

Yleana M. Colón^{1,2} • Jenny Vargas^{1,2} • Eric Sánchez¹ • Gilfredo Navarro¹ • Rodolfo J. Romañach²

Evaluation of Analytical and Sampling Errors in the Prediction of the Active Pharmaceutical Ingredient Concentration in Blends From a Continuous Manufacturing Process

Jenny M. Vargas¹ • Andres D. Roman-Ospino² • Eric Sanchez¹ • Rodolfo J. Romañach³



International Journal of Pharmaceutics
Volume 538, Issues 1–2, 1 March 2018, Pages 167-178



Process analytical technology in continuous manufacturing of a commercial pharmaceutical product

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Journal of Pharmaceutical Innovation
March 2017, Volume 12, Issue 1, pp 14-25 | [Cite as](#)

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Journal of Pharmaceutical Innovation
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An Entrepreneurial Ecosystem



EVENTOS EMPRESARIALES

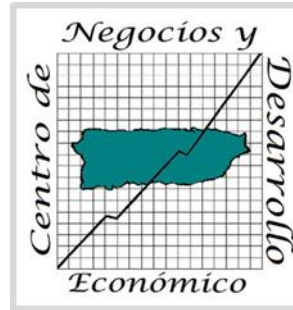


Colmena66
Tu Conexión Empresarial

LUNES	MARTES	MIÉRCOLES	JUEVES	SÁBADO
<p>9 de abril</p> <p>Strategic Doing Agile Strategy Lab / E-Ship Network / Colmena66 9:00am- 3:30pm</p>	<p>10 de abril</p> <p>Exportación de servicios bajo Ley 20 SBDC 8:30am- 12:30pm</p> <hr/> <p>I&E Series: Taller de permisología E-Ship Network 10:30am- 12:00pm</p> <hr/> <p>Pitching to Investors Grupo Guayacán 5:30pm- 8:30pm</p>	<p>11 de abril</p> <p>Curso para establecer un negocio SBDC 1:00pm- 5:00pm</p> <hr/> <p>Introducción a la investigación de mercado y consumidor Centro de Empresas Emergentes en Ciencias y Tecnología 1:00pm- 4:00pm</p>	<p>12 de abril</p> <p>Growth Strategies in Teaming and Subcontracting Agreements FeCC 8:30am- 12:00pm</p> <hr/> <p>Gen.5 Sesión Informativa Parallel18 6:00pm- 9:00pm</p>	<p>14 de abril</p> <p>Impulsa tu familia con una empresa familiar 3:30pm- 5:00pm</p>

Who are we?

A network of collaborators willing to support innovators and aspiring entrepreneurs.



Professors

Students

Alumni &
Friends

Active Learning:

- Undergraduate research
- Problem solving team work approaches.
- Design & innovation.
- Entrepreneurial efforts

UPRM E-Ship Network



Mentorship: Key piece for the
development of companies



**5th National Forum on Entrepreneurial Education in
Puerto Rico:**

“Accelerating the Impact of the Innovation Ecosystem”

June 7 & 8, Mayagüez, PR

TALKING TO HUMANS

I-Corps a great Example of
Active Learning



Success starts with understanding
your customers

GIFF CONSTABLE

with Frank Rimalovski
illustrations by Tom Fishburne
and foreword by Steve Blank



Collaborators



UPRM E-Ship Network



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