



bio science

16TH EDITION OCT. 7-11

A Spark for Socioeconomic Growth

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The Amgen Bio Talents program demystifies the biomanufacturing workplace for students by exposing them early in their career paths to the industry environment...”

Amgen Bio Talents: Years of Biomanufacturing Experiences for Students

SPECIAL TO CARIBBEAN BUSINESS

After more than a decade of strategic alliances, Amgen—one of the world’s leading biotechnology companies—and the University of Puerto Rico’s Mayagüez campus (RUM by its Spanish acronym) joined forces to address the development of a life sciences professional community in Puerto Rico. The result: The Amgen Bio Talents program. This islandwide initiative has the objective of exposing undergraduate students to a hands-on experience where they can learn about the latest trends in biomanufacturing and become familiar with trends in the field.

According to Dr. Rosa Buxeda, RUM professor & director of Amgen’s Bio Talents program, “Teamwork in an interdisciplinary environment is essential in a biomanufacturing facility and this key factor is a major driver of the Amgen Bio Talents program-learning experience.” She explained that students are able to address the laboratory experiences as teams. Participants are also mentored by interdisciplinary faculty with strong industrial experience, who are

responsible for developing and implementing the student learning modules. The participants’ learning process is assessed through pre- and post-tests.

“The Amgen Bio Talents program creates a strategic synergy through Amgen’s Biotechnology Networking Sessions initiative, through which Amgen Associates, in collaboration with [RUM], visit other UPR system campuses and private institutions across the island to enable students to create networks with other students and industry members, providing them a better understanding of the field of biotechnology,” Dr. Buxeda explained.

The professor indicated that the Amgen Bio Talents program has been expanded through the establishment of the Seminar Series in Current Trends in Biomanufacturing. “This approach provides the academic community an understanding of the innovation ecosystem associated to upstream and downstream manufacturing, as well as technology such as RNA interference, oncolytic immunotherapy, drug conjugates, fusion proteins, among others,” Dr. Buxeda added.

Throughout its first eight years of incorporation, the program has benefited undergraduate science and engineering students from several University of Puerto

Rico campuses including Río Piedras, Arecibo, Humacao, Ponce, Bayamón, Aguadilla and Cayey. The program has also had participants from local private universities such as Inter American University (Universidad Interamericana), Pontificia Universidad Católica de P.R., Universidad Central de Bayamón and Universidad del Turabo.

This year alone, more than 600 undergraduate students across the island have been given the opportunity to experience a unique immersion program in biomanufacturing and participate in the seminar series, right here on the island. In the workshops, these future professionals participate in an 18-hour hands-on experience in key areas, such as aseptic behavior in cleanrooms, genetic modification of cells and scale-up fermentation and purification of a recombinant protein. Furthermore, students become familiar with career paths in biomanufacturing, helping them to choose their future professional careers wisely.

Students who participate in the program represent diverse fields of science, including biology, chemistry, microbiology, biotechnology, physics and engineering. In this last field, there are students

who major in chemical, mechanical, civil, computer & electrical, and industrial engineering.

“Overall, Amgen Bio Talents contribute to a generation of motivated students with a passion for life science-related careers by providing them a unique exposure to an area in biomanufacturing that is not traditionally taught in their academic curricula,” Dr. Buxeda said. The professor added that one of the most important elements of the program is that it demystifies the biomanufacturing workplace for students by exposing them early in their career paths to the industry environment by learning about the biomanufacturing processes, fundamentals and their applications.

Dr. Buxeda said students who participate have expressed their gratitude and the deep impact it had on their academic experience and future paths as professionals. “Many have indicated that the program exposed them to a new world that helped them clarify their goals for the future. Others had said it has been the most enriching experience within their undergraduate studies since it exposed them to the realm of biotechnology, but particularly to the world of industry world,” the professor said.

Activities Calendar

Thursday, Oct. 3

UPR–Humacao

10:30 AM Plenary Conference
Dr. Martin Chalfie (Nobel Prize 2008)
Columbia University–“GFP: Lighting Your Life”

3 PM Coffee with Dr. Chalfie.
Students and faculty may meet Dr. Chalfie.
Place: UPR-H Theater

Friday, Oct. 4

University of Puerto Rico–RCM/RCMI-Biomedical Innovation Center
Biomedical Innovation Lab: Three-Day Workshop on 3D BioMedical Printing.
Dates: Sept. 20, 27 & Oct. 4
For Premedical students

Monday, Oct. 7–Opening

Protocol Activity: University of Puerto Rico, Medical Sciences Campus

8:30 AM–9:30 AM
Proclamation Reading and Messages from Dignitaries

9:30 AM–10:30 AM
Plenary Presentation–Dr. Cartier Esham, V.P. of Sciences & Policies with the Biotechnology Innovation Organization

10:30 AM–11:30 AM
A Talk Among Biopharma Industry Executives. “The Future of the Biopharmaceutical Industry: Challenges & Opportunities.”

11:30 AM–Noon Caras de la Biociencia (Faces of Bioscience) Recognition
Place: Jaime Benítez Rexach Amphitheater

Universidad Ana G. Méndez (UAGM) in Barceloneta

9 AM–Noon Visit from undergraduate Microbiology students.

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“Introduction to Biotechnology & Bioprocesses Engineering.”
Place: AbbVie Biologics Ltd. in Barceloneta

Tuesday, Oct. 8

AbbVie Biotechnology (ABL) Barceloneta–Student Visits by Invitation
Dates: Oct. 7 & 8
Project presentation, exhibition of posters and tour of the facilities. Undergraduate science students (UAGM-Barceloneta & UAGM-Turabo) will visit the installations

of AbbVie Biotechnology Ltd.–Orientation about the manufacture of drug substances and biological parenterals with a tour of the facilities.
Place: AbbVie Biotechnology facilities in Barceloneta

UPR–Humacao (Oct. 8 & 10)
10:30 AM–Noon
Productive Summer–Summer Experience Activity of students of the University of Puerto Rico Humacao
Place: Administrative Sciences Amphitheater

Universidad Ana G. Méndez in Barceloneta
9 AM demonstrations of Yogurt Preparation by students of Food Microbiology. “Intro to Biotechnology and Association of Future Biologists & Biotechnologists.”
Place: Lab 113

Wednesday, Oct. 9

Universidad Ana G Méndez in Barceloneta

9 AM–Noon Strawberry DNA Extraction Demonstration for

5th-grade students from Antonio Vélez-Alvarado School in Manatí in the Future Biologists, Biotechnologists & Physicians Associations.
Place: Campo Alegre Library in Manatí

AbbVie Biologics (ABL) Barceloneta–Student Visits by Invitation
Presentation, exhibition of project posters and tour of facilities. Some 30 students from undergraduate science programs will visit AbbVie Biotechnology Ltd. installations, with an orientation on the manufacture of drug substances and biological parenterals.
Place: AbbVie Biotechnology in Barceloneta

Thursday, Oct. 10

Universidad Ana G. Méndez–Barceloneta
9 AM–Noon Demonstrations to High-School Students on the manufacturing of “Elephant Toothpaste.”
Place: Fernando Callejo High School, Manatí

Universidad de P.R.–Ponce Noon–1:30 PM Presentation by Prabia to students.
Conference: “Advances in Agricultural Biotechnology to Mitigate Climate Change.”
Place: Room F-3, Education Department, UPR-Ponce UPR-Humacao (Oct. 8 & 10)
10:30 AM–Noon Productive Summer-Summer Experience Activity of Students of the University of Puerto Rico–Humacao.

Place: Administrative Sciences Amphitheater

Bristol-Meyers Squibb (BMS)–Humacao 9 AM–Noon Visit by invitation from some 25 bachelor-degree students in science in STEM professions, with presentations and a tour of a laboratory and manufacturing installations.
Place: BMS-Humacao

Friday Oct. 11

Amgen-Biociencia a Tu Alcance
8 AM– 2:30 PM Amgen Bioscience Day–By invitation for students and teachers from participating schools. Invited schools include Isabel Flores High School and José Collazo Colón in Juncos and Caguas High School where they may learn and work on educational science activities (STEM) and will visit the movie room for an educational documentary.
Place: Centro Criollo de Ciencia y Tecnología del Caribe (C3Tec) Caguas

Universidad Ana G. Méndez–Barceloneta
11 AM–1 PM Agroindustry visit by students in Food & Industrial Microbiology, Bioprocesses Engineering & Introduction to Biotechnology.
Place: Campo Verde San Sebastián

Universidad Sagrado Corazón (USC)-Santurce, San Juan
9 AM–Noon Plenary Speaker &

Presentation of investigations for university and high-school students of the Santurce Community.
“A Guide to a Career in the Biotechnology Industry,” by Lizaida Pérez, Lilly del Caribe
Mindfulness: “What is this meditation and how it can help my health and life?” by Dr. Peter Barbosa, Universidad del Sagrado Corazón
Place: Faculty Room

Bristol-Meyers Squibb–Commercial
9 AM–Noon Visit by invitation of STEM profession university students. Brief conferences, speed coaching & career advise with professionals and leaders from various disciplines.
Place: BMS Caparra Guaynabo

Saturday, Oct. 12

Society of Microbiologists of P.R.
9 AM–3 PM www.micropr.org/
Place: Universidad Interamericana–Metro

Thursday, Oct. 17

Universidad de P.R.-Humacao
9 AM–Noon Natural Sciences Investigation Day. Awards students for the best posters.
3 PM–6 PM Ivy League School Visits
Place: First Floor, Natural Sciences Building
National Chemistry Week, Oct. 20 & 26
American Chemical Society National

Chemistry Week Celebration–P.R. Student Chapters & P.R.-ACS Section Activities on various university campuses throughout the week
Main Event: Oct. 20 at Paseo de la Princesa, Old San Juan

Sunday, Oct. 20–Chemistry Festival

1 PM–4 PM Exhibits of the Student Chapters of a number of Universities and Campuses as well as High School Chemistry Clubs.
Celebration of the Periodic Table and its Marvelous Metals.
Place: Paseo La Princesa–La Puntilla in Old San Juan

Wednesday, Oct. 25

UPR Centro de Investigación en Ciencias Moleculares (CICiM)
Time: 8 AM–4 PM
8:30 AM–Noon Invited Schools Visit
10 AM–10:30 AM ACS “La Magia de la Química”
1 PM–4 PM Open House to the General Public
Interactive Tables; Laboratories Tour; Talks by Scientists; Exposition of the Science Art Contest organized by CIRE2N
Visit: <http://cicim.upr.edu/>
Register at: <https://forms.gle/QoMpitc3ZVWSfLCA6>
Place: 1390 Ave. Ponce de León Cupey, Río Piedras

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