RESEARCH GRANTS PROGRAM

IMPACT REPORT

Fideicomiso para Ciencia,
Tecnología e Investigación
de Puerto Rico

RESEARCH GRANTS PROGRAM
IMPACT REPORT (2014- to present)

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Research Grants Program

As part of the Puerto Rico Science, Technology and Research Trust (The Trust), the Research Grants Program provides a structured, systematic, and competitive mechanism to fund research and development (R&D) projects in Puerto Rico. The mission of the Research Grants Program is to provide proof-of-concept funding and incentives to advance locally developed R&D projects to become more competitive for federal and private funding and/or commercialization. The Research Grants Program of The Trust represents a critical source of competitive financial support for fundamental research and commercialization activities that builds the knowledge economy, fuels innovation and empowers Puerto Rican scientists and entrepreneurs.

The Research Grants Program is a foundational initiative that is at the core of the Trust's its mission to invest, facilitate and build capacity to continually advance Puerto Rico's economy and its citizens' well-being through innovation-driven enterprises, science and technology and its industrial base. The Program is fully aligned with the overarching goal of The Trust's Strategic Plan to increase the innovation capacity of Puerto Rico. Several aspects of the Strategic Plan (Internal Processes, Financial Stewardship and Customers/Stakeholders) are directly or indirectly connected to the Research Grants Program (Figure 1). The Research Grants Program is a key part of the Trust's portfolio of programs, as it complements and synergizes with the diverse activities of the Trust's other programs aimed to support the different stages of the Innovation Pipeline (Figure 2A). At the same time, the Program impacts all of the Trust's strategic pillars—Infrastructure, Commercialization & Entrepreneurship, R&D and Human Capital.

The funding initiatives of the Research Grants Program were developed to directly support basic research, applied research and product development (Figure 2B) through both competitive and non-competitive mechanisms. The Program launched its first competitive initiative in 2014, the Science and Technology Request for Proposals (RFP), with the aim of supporting the most innovative and relevant R&D projects on the island from researchers at academic, non-profit and for-profit institutions. In 2015, The Trust launched several additional initiatives under the Research Grants Program. The Small Research Grants Program (SRGP) aims to improve the likelihood of success of researchers in academic institutions and non-profit research entities to secure federal funding for their R&D activities. Also launched in 2015, the Researchers Startup Funds Program (RSFP) focuses on providing significant matching funds to enable institutions to attract outstanding scientists that are well established in their research areas. Finally, the SBIR/STTR Matching Fund Program for Phase I projects was implemented as a non-competitive mechanism to incentivize local technology-oriented small companies to compete for SBIR/STTR Phase I grants (Figure 2B). In total, since its inception, The Research Grants Program has awarded more than 50 research grants through its competitive and non-competitive initiatives for a total investment by The Trust of $ 6.6 million (Figure 3). The Research Grants Program's overall support is well balanced between basic science and commercialization projects (Figure 4). Presently there are no other peer-reviewed funding mechanisms available to researchers in Puerto Rico that encompasses

opportunities for junior, mid-level and senior researchers representing a broad range of disciplines. The program supports R&D projects in different strategic sectors that include Biotechnology and Natural Sciences, Aerospace, Medical Devices, Information & Communications Technology, Electronics, Clean Technologies/Renewable Energy, Agriculture, and Environmental Sciences. The Research Grants Program's selection process is based on standard and recognized peer-review procedures utilized by federal agencies such as the National Institutes of Health and the National Science Foundation. By strictly adhering to a comprehensive lpeer review process that assesses the scientific merit of grant applications in a fair, independent, expert-driven, and free from inappropriate influences, The Trust is able to identify and fund the most promising research or development work. The Research Grants Program is continuously optimizing its internal processes, such as grants administration and management, grantee evaluations and progress monitoring, internships, collaborations with other Trust initiative, and its policies, among others (Figure 5 and Appendix).

The Grants Research Program which was shaped according to the Trust's Strategic Plan, is empowering scientists and researchers to take Puerto Rico's knowledge economy to a higher level of excellence. Continued expansion and investment in the Grants Research Program is among the Trust's highest priorities with the understanding that the outputs of a robust scientific community engaged in competitive research and development are critical to the creation of meaningful jobs and economic growth in Puerto Rico.

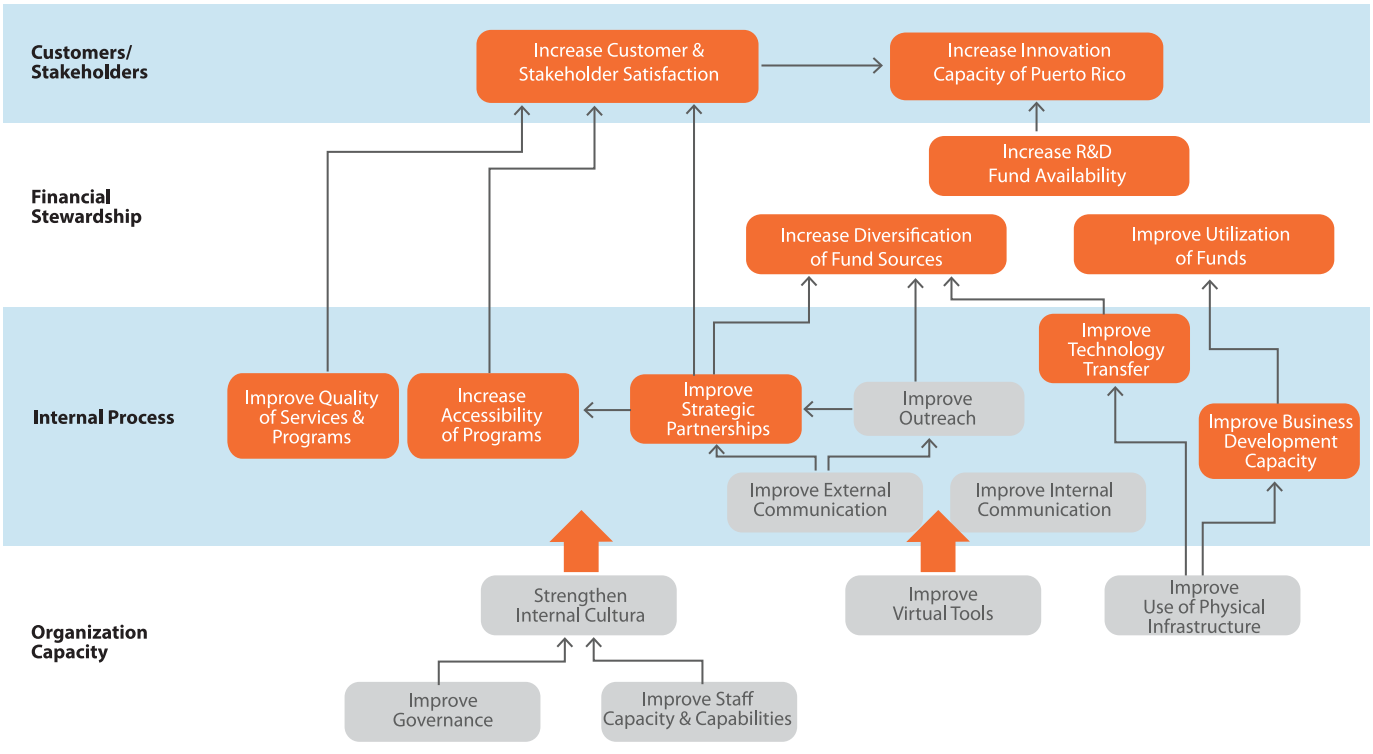


Figure 1: Trust's Strategic Plan. In orange, areas that are directly or indirectly impacted by the Research Grants Program.

A

B

RESEARCH GRANTS PROGRAM

	Academia, Non-profit		For profit	
	SRGP	RSFP	RFP	SBIR/STTR Matching Funds
Basic Research	✓	✓	✓	✓
Applied Research	✓	✓	✓	✓
Product Development	✓	✓	✓	✓

STRATEGIC SECTORS

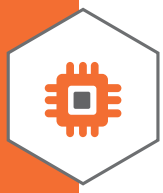
Biotechnology and Natural Sciences

Information and communication technologies

Aerospace

Medical Devices

Clean Technologies and/or Renewable Energy



Electronics

Agriculture

Environmental Sciences

Figure 3: Research Grants Program Programmatic Achievements from 2015 to present.

Basic Research vs Commercialization Investment

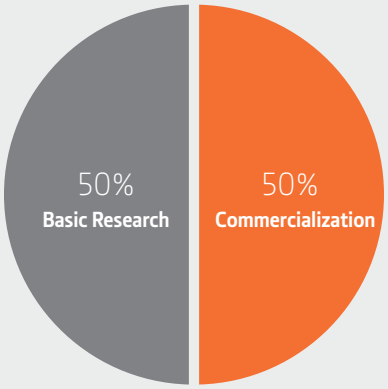


Figure 4: Puerto Rico Science, Technology and Research Trust's Investment on Basic Research and Commercialization Projects from the RFP, SRGP and Matching Funds Grants Programs.

Figure 5: Research Grants Program Operational Achievements from 2015 to present.

PROGRAM INITIATIVES AND ACHIEVEMENTS

A. Programmatic (Funding and Training Initiatives)

1. Funding

1.1 Competitive Funding

- Science & Technology Request for Proposals (RFP)
- Small Research Grant Program (SRGP)
- Researchers Startup Funds Program (RSFP)

1.2 Non-competitive Funding

- SBIR/STTR Matching Fund Program (Phase I)

2. Research Grants Program Training and Outreach

The Research Grant Program's are Puerto Rico's local mechanism that allows to advance its own agenda and research priorities. The programs are designed to promote the production of knowledge and to foster economic development through science and technology.

A. Programmatic (Funding and Training Initiatives)

1. Funding

1.1 Competitive Funding

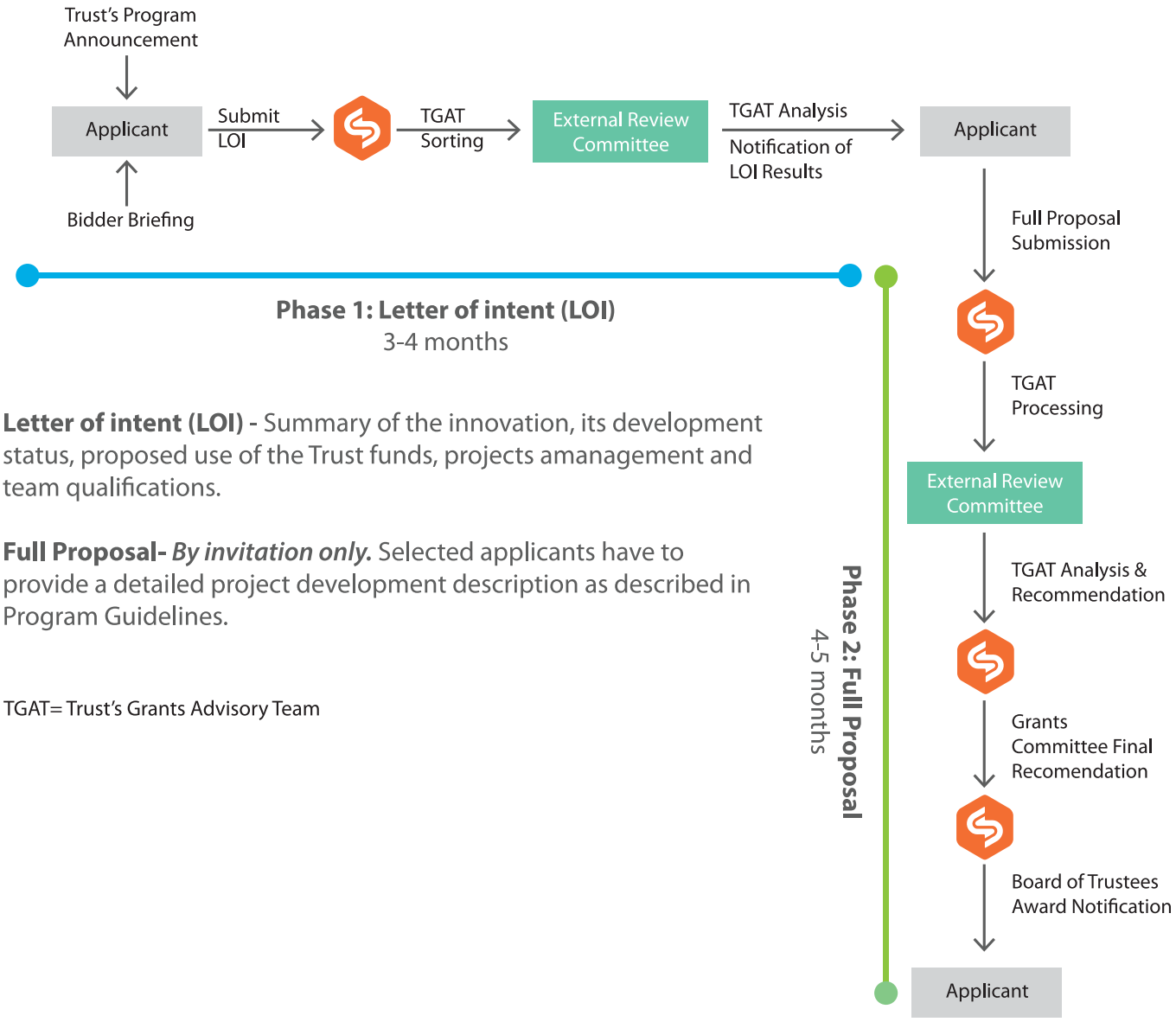
Science & Technology Request for Proposals (RFP)

The Trust launched in 2014 a Science & Technology Request for Proposals (RFP) as a competitive mechanism for the science and technology community on the island to submit proposals for proof-of-concept funding. This initiative seeks the most innovative and relevant research and development (R&D) Projects of Puerto Rico, by local researchers and entrepreneurs. The RFP Program was designed to award 10-15 grants per year of $150,000 maximum (for 1 year).

The application process for the RFP starts with a call for letters of intent (LOIs). Those LOIs are reviewed by experts who score them; based on those scores, the top projects are invited to submit a full proposal. After full proposals are received, they are reviewed for completeness and responsiveness by the Research Grants Program staff. Based on scientific and technical qualifications, highly qualified reviewers have been identified and recruited from all the U.S, Latin America and Europe. These reviewers are officially invited and offered an honorarium for their service. Upon their acceptance, information about the review process, guidelines, instructions, and certification forms are sent. Reviewers must first confirm that they have no conflicts of interest on the proposals assigned to them for evaluation. The Research Grants Program staff is responsible for providing guidance and orientation about the review process, sending out applications, scoring forms and reviewing confidentiality guidelines. Since 2016, all these application processes, including submission and review, have been completed through a new electronic system with the company WizeHive.

According to The Trust's Review Guidelines, proposals for the RFP are scored individually on their approach/technical merit, innovation, significance, researcher, and environment/collaboration. In addition, reviewers comment on the viability of the project's commercialization plan (if applicable) and the budget justification. Reviewers assign an Overall Quality Score for each proposal they evaluate. Applications are triaged based on the preliminary rank of the average Overall Quality Score. In this way, only the most competitive applications are discussed and scored by the full panel at the panel meeting. At the beginning of each panel meeting, panel members are given the opportunity to recall any triaged application that they reviewed for consideration by the full panel. Applications with highly discrepant scores are also discussed. After the awards are announced, all applicants (principal investigators) who were not selected receive the final overall score, criteria scores, and redacted copies of the primary reviewers' critiques. The feedback that the Trust gives at the end of the grants process is important to enhance the understanding and future competitiveness the applicants.

As a result of the peer-review process, the Research Grants Program Director generates a list including the rank of the proposals discussed to be presented to the Board of Trustees' Grant Committee. The members of the committee discuss the final rank and additional aspects of the candidates such as funding history, publication record, patents, and submit their recommendations of final grant awardees to the Board of Trustees for ratification. After awards announcement, the Research Grants Program Director proceeds to work with the grantee on the cooperative agreement processing and signing. Grantees are required to submit reports periodically and the Research Grants Program staff site visit the grantees and their facilities as a required follow-up to the progress reports. The Research Grants Program staff evaluates the report and comment on the visit in order to document the progress of the project and to approve future funding disbursements.



Letter of intent (LOI) - Summary of the innovation, its development status, proposed use of the Trust funds, projects amanagement and team qualifications.

Full Proposal- ***By invitation only.*** Selected applicants have to provide a detailed project development description as described in Program Guidelines.

TGAT= Trust's Grants Advisory Team

Figure 6: Science and Technology Request for Proposal (RFP) Program Application and Review Process.

The first RFP call received 234 letters of intent from which The Trust, after the recommendations from a group of expert reviewers, invited a total of 48 applicants to submit full proposals. A total of 43 full proposals from academia, for profit and non-profit entities were received by December 15th, 2014. For this RFP, each application was assigned two primary reviewers. Preliminary scores were received in the last week of February 2015, and the average Overall Quality Score was calculated in order to rank the applications for panel discussion. A teleconference panel meeting (3-4 hours each) was scheduled during the first and second week of March. Each panel was composed of the Research Grants Program Director, a Panel Chair, and Panel Reviewers.

After the full panel discussion, the Research Grants Program Director presented the ranked proposals to the Board of Trustees' Grant Committee. The committee selected 12 proposals to be ratified by the Board of Trustees for funding.

For the second RFP call, the application, review and evaluation processes were as described above but with the following changes:

Two new strategic sectors were added to this RFP: 1) Agriculture and Environmental Sciences, and 2) Biotechnology and Natural Sciences (previously called Biotechnology and Life Sciences strategic sector). On July 2015 the company WizeHive was hired to design a web system for the Research Grants Program application and review process. The staff worked closely with the WizeHive team to design the platform which was launched in October 2015 for the RFP.

The second RFP call received 166 letters of intent. The letters of intent were divided in two categories: Basic/Translational Research (Basic) and Technology/Product Development for Commercialization (Commercialization). 104 Basic applications and 62 Commercialization applications were received. . The Trust invited a total of 48 applicants to submit full proposals to compete for funding, 24 from each category. A total of 45 full proposals were received by February 4th, 2016.

Different to the first RFP, each application was assigned three primary reviewers. From this point, the review process was as described above. For the second RFP, the Board of Trustee's Grant Committee generated a final list of 14 proposals to be recommended for funding (see appendix 3, for a complete list of proposals approved for funding).

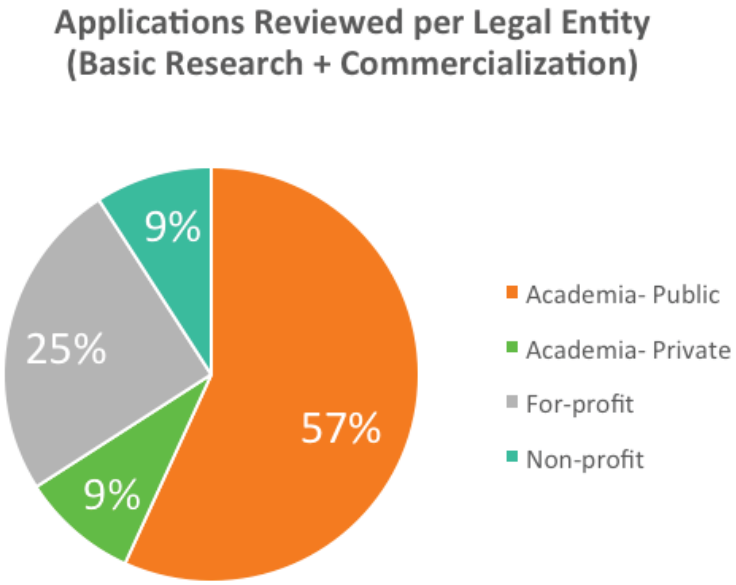


Figure 7: Distribution of applications based on the Legal Entity for the Science & Technology Request for Proposals (RFP). Numbers include the 88 applications reviewed in both RFP cycles (2014-15 and 2015-16).

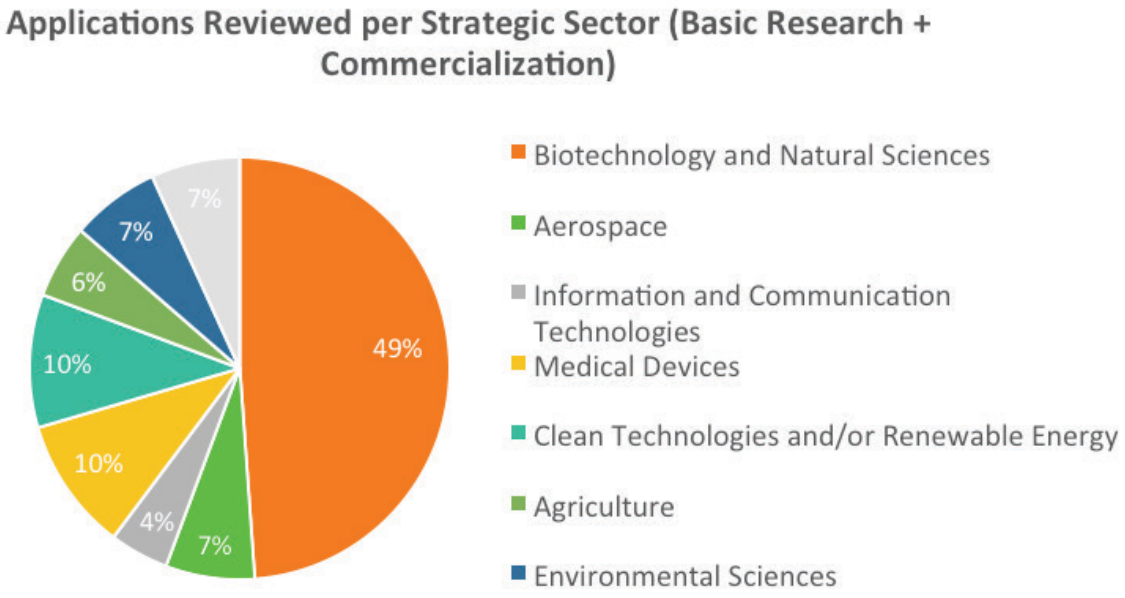


Figure 8: Distribution of approved applications based on the Strategic Sector for the Science & Technology Request for Proposals (RFP). Numbers include the 88 applications reviewed in both RFP cycles (2014-15 and 2015-16).

Since it launched in 2014, the **RFP Program has awarded a total of 26 R&D local projects**. This funding has been instrumental in the acceleration of R&D projects and the general science and technology ecosystem. So far, these grants have created 23 direct jobs and have impacted 63 undergraduate and graduate student who work directly on these projects. In addition, the contribution and impact of these projects have been highlighted in 12 publications in refereed journals (see appendix 4, for a complete list of publications) and in 54 presentations in local and international scientific forums (Figure 9). From the commercialization standpoint, it is important to highlight that 5 companies have been founded by academics, 6 patents submitted, and one of the supported startups has already launched a product to market.

Companies Funded

Paul Bayman- Atabeil Ecosystems, LLC
Suranganie Dharmawardhane- MetaBloq (MBQ), LLC
Carlos Cabrera- BIDEA, LLC
Rodolfo Romañach- IBS Caribe
Pablo Vivas- Release Biotech CRL

Product Launched

Lianable Oliver- OBALearn

Figure 9: Science and Technology Request for Proposal Achievements from 2015 to present. Includes two award cycles: RFP 2014-2015 (12 awards) and RFP 2015-2016 (14 awards).

Small Research Grant Program (SRGP)

The Trust launched in 2015 the **Small Research Grant Program (SRGP)** which aims to help local researchers increase their probabilities of success in securing federal funding for their research and development activities. The SRGP enhances the competitiveness of Puerto Rico's researchers by providing critical bridge funding to help them accomplish the following: (1) obtain reproducible and robust preliminary results, (2) address any recommendations from previous grant reviewers to improve the R&D project to strengthen its position to obtain the grant and (3) secure reagents, laboratory materials, collaborations or additional technical training necessary for the proposed goals. The SRGP was designed to award 5-10 grants per year of $70,000 maximum. By strengthening local researchers' likelihood of submitting highly competitive R&D grants (within the 15-18 months after receiving the SRGP), the program expects to increase the number of proposals that are successful in attracting funding from private and/or federal agencies. In doing so, the SRGP will stimulate the development of Puerto Rico's knowledge-based economy.

The SRGP is open to researchers in public and private universities, colleges, and affiliated non-profit research institutions located in Puerto Rico. Ideal candidates fall into one of the following categories: (1) Junior Faculty (within their first five years of their faculty appointment) with a competitive publication record, seeking to secure their first grants; (2) PIs with a successful track record of securing funding in their primary research topic, who are now embarking in a new research topic and seeking to secure a grant; (3) PIs that applied for highly competitive federal funding, that had their proposal favorably reviewed, but fell short of being funded. In this case, the PI is asked to provide a copy of the evaluated proposal and the evaluations in addition to the SRGP application materials. Highly competitive funding refers to the types of grants that qualify for tax exemptions under Law 101. Applicants must submit a project plan designed to allow them to complete experiments suggested by previous reviewers or generate new data that will strengthen the competitiveness of the proposal.

Unlike the RFP, there are no letters of intent for the SRGP. An online electronic application and review platform was created for the 2016-17 SRGP cycle. All applications are checked for completeness and responsiveness by the Grants Advisory Team (Grants Team). Reviewers with excellent scientific and technical qualifications are recruited from all the U.S., Europe and Latin America. According to the SRGP Guidelines, proposals are scored individually by their research area, project status, technical merit, innovation, investigator, and budget justification. During the second year of the SRGP, the electronic application and review platform WizeHive was implemented. The new platform allows for direct submission of the applications, automatic email confirmation to the applicant when a proposal is submitted, and access to the proposal by the reviewers and electronic evaluation of the proposals by reviewers.

As with the RFP, the Research Grants Program Director generates a list of ranked proposals which are discussed by the Board of Trustees' Grant Committee. The committee then submits their recommendations to the Board of Trustees for ratification.

The application for this program was originally on a rolling basis, where applications were accepted throughout the year. However, the Grants staff decided to close the solicitation after two rounds in order to evaluate the application and review process. The first round of cycle 1 (cycle 1-a) closed on June 2015 and the second round (cycle 1-b) closed on September 2015.

The Trust received 13 applications for cycle 1-a, from which The Trust's Grants Team, after careful evaluation of each application, sent 11 proposals for peer review. Each application was assigned two primary reviewers.

As in the RFP, reviewers with excellent scientific and technical qualifications, were recruited from all the U.S, Latin America and Europe. Potential reviewers were officially invited and offered an honorarium for their service. After their acceptance, information about the review process, guidelines, instructions, and certification forms were sent. After reviewers confirmed that there were no conflicts of interest on their assigned proposals, the Grants staff provided guidance and orientation about the review process, and sent out applications, scoring forms and confidentiality guidelines.

For the cycle 1-b, The Trust received 6 applications from which 5 proposals were sent for peer review, after careful evaluation. For both cycles 1 a-b, each criteria was evaluated in a scale of 1 (best) – 9 (worst) for a total score range of 5 (best) to 54 (worst). The Total Score was calculated by adding the scores of each individual category. Preliminary scores were received by the final week of August 2015 (cycle 1-a), and by the first week of December 2015 (cycle 1-b). The average Total Score was calculated in order to rank the applications.

In both rounds for cycle 1 a-b, the Grants Team generated a list with the final ranking of all the applications evaluated, to be reviewed by the Board of Trustees' Grants Committee who in turn requested ratification of their recommendations by the Board of Trustees. The committee recommended the Board of Trustees to consider awarding a maximum of six awards for cycle 1-a. From this cycle, two proposals of senior faculty were put on hold for consideration during the next cycle of the SRGP. For cycle 1-b, the committee recommended to award five SRGP grants that included four junior faculty, and one senior faculty (evaluated during the cycle 1-a).

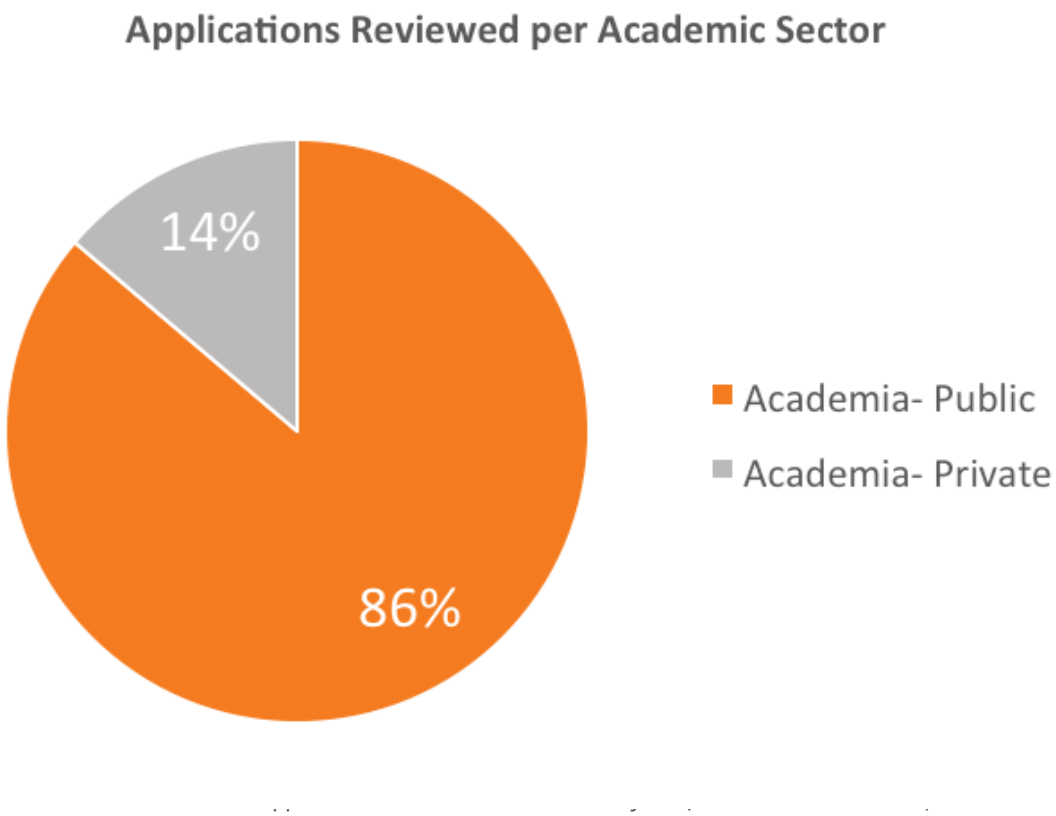
For the second cycle of the SRGP, the Grants Team decided to design an annual application process for this program, similar to the one used with our RFP Program. Thus, the call for proposals opened in May 31st, 2016 and closed August 17, 2016. As with the RFP Program, for this second year it was implemented an electronic application and review platform with the company WizeHive.

For this second cycle, The Trust received 43 applications from which The Trust's Grants Team, after careful evaluation of each application, sent 42 for peer review. For this SRGP, each application was assigned three primary reviewers. All preliminary scores were received by December 2016, and the Average Total Score was calculated in order to rank the applications. As a result of the peer-review process, the Grants Team generated a list with the final ranking of all the applications evaluated to be revised by the Board of Trustees' Grants Committee. The committee asked the Board of Trustees for ratification of 9 proposals for funding (see appendix 3, for a complete list of proposals approved for funding).

Partial Application (PA) Includes the PI information and Project Summary and should be completed by the date specified in the online application.

Full Application (FA) Includes a detailed description of the proposed project

Figure 10: Small Research Grant Program (SRGP) Application and Review Process.



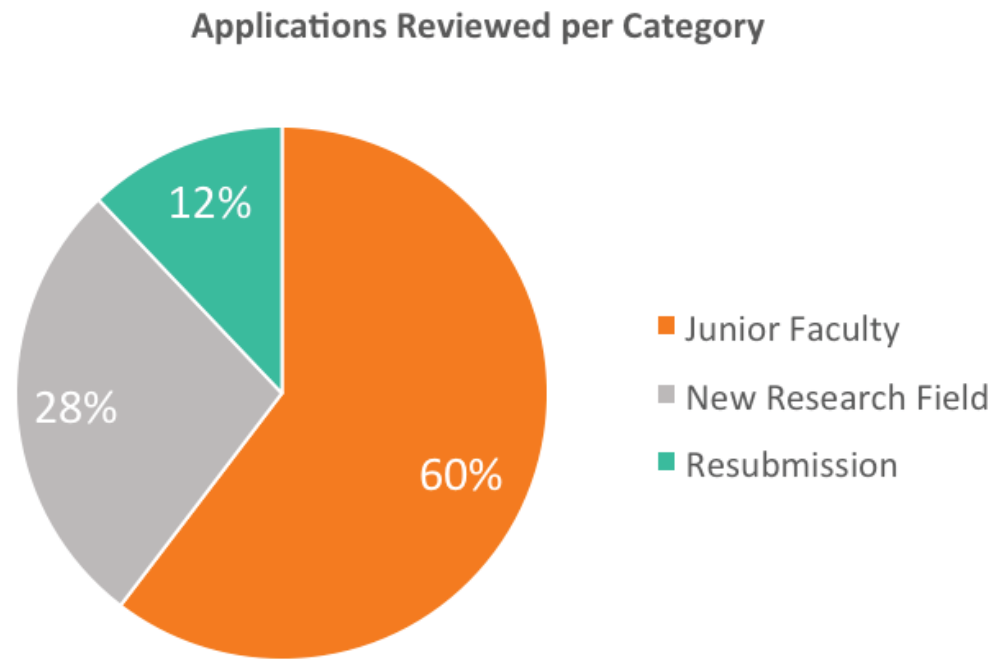


Figure 12: Distribution of applications based on the Category for the Small Research Grant Program (SRGP). Numbers include the 58 applications reviewed in both SRGP cycles (2015-16 and 2016-17).

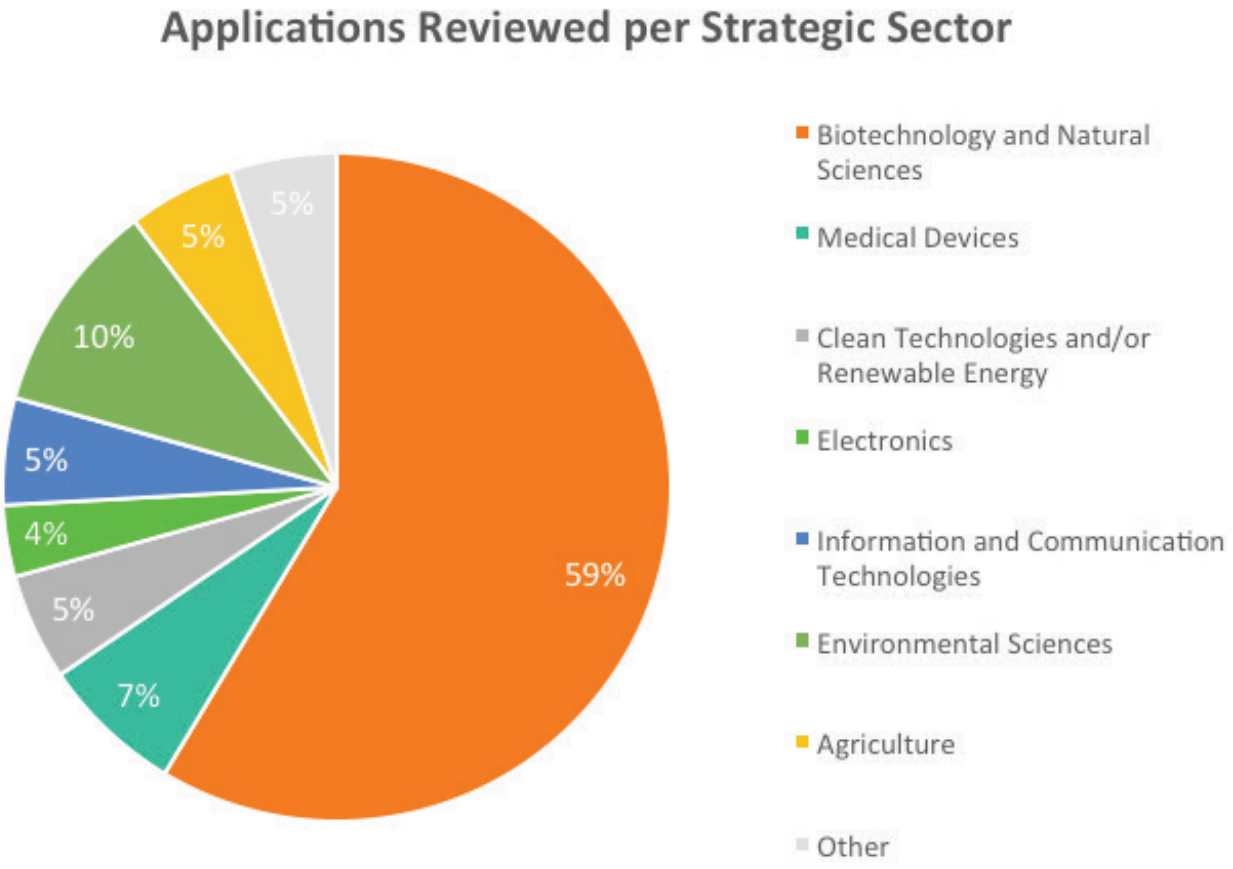


Figure 13: Distribution of applications based on Strategic Sector for the Small Research Grant Program (SRGP). Numbers include the 58 applications reviewed in both SRGP cycles (2015-16 and 2016-17).

Since the SRGP was launched in 2015, the program has awarded a total of 18 awards. This funding has allowed academic researchers to start to work on the preliminary data they will need to prepare a highly competitive proposal for federal/ private funding. So far, the SRGP have impacted 64 undergraduate and graduate students. Also the contributions of these projects have been highlighted in 7 peer-reviewed publications (see appendix 4, for a complete list of publications) and 34 abstracts and presentations at local and national scientific meetings. It is important to note that as intended, this program has helped scientists attract more than one million dollars in external funding (Figure 14).

Figure 14: Small Research Grant Program Achievements from 2015 to present.


Fideicomiso para Ciencia,
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Puerto Rico
Science, Technology
& Research Trust

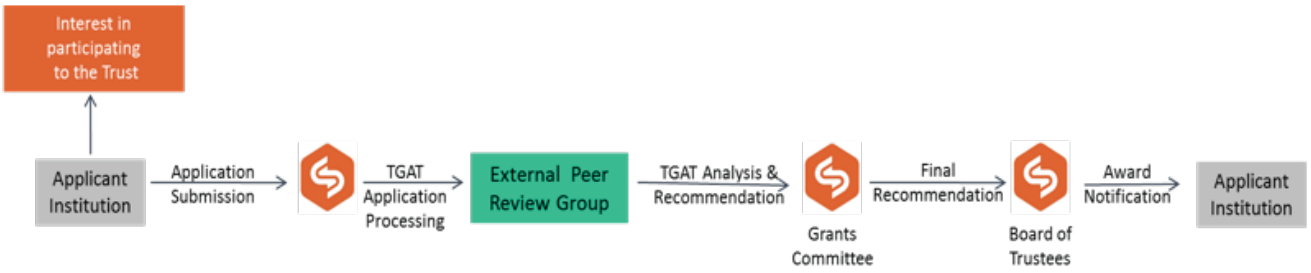
Researchers Startup Funds Program (RSFP)

The Researchers Startup Funds Program (RSFP) was created to provide matching funds to institutional recruitment packages to enhance the ability of Puerto Rican universities to attract and recruit outstanding scientists that are well established in their field of research and are interested in working in Puerto Rico. This program is flexibly structured to enable institutions working in collaboration with The Trust to foster the recruitment, retention and development of world-class research in Puerto Rico. Funds can be used for the relocation of scientists to Puerto Rico or for the initiation of satellite (or mirror) research programs in Puerto Rico for researchers maintaining their appointments at other institutions.

Scientists considered for the program must have had a sustained, high level of productivity and be able to demonstrate how their expertise, research accomplishments, and contributions will enhance Puerto Rico's competitiveness in the global knowledge economy. This program is expected to: (1) Position Puerto Rico at the forefront of certain science fields identified as strategic to Puerto Rico's science and technology agenda, as defined by The Trust and the Puerto Rico's Public Policy on Science, Technology and Innovation; (2) Enhance the recruitment, development and retention of a strong scientific workforce—including the sponsored candidate, as well as his staff, trainees, and collaborators—that increases Puerto Rico's research expertise and/or capability and capacity to attract additional research funds; (3) Improve the setup of important laboratory infrastructure; (4) Leverage Trust funds as measured vis-à-vis the amount of additional funds brought to Puerto Rico as a direct result of the startup funds provided; (5) Increase in the amount of scientific and intellectual property outputs (e.g. science papers, invention disclosures, patents and other forms of intellectual property) from Puerto Rico. Awards in response to the RSFP are made to the Academic Institution. Funding request maximum is $300,000 per year, with a cumulative budget for $900,000 maximum, for no more than five years.

In 2015, the Research Grants Program received two proposals from the Ponce Research Institute, which is part of Ponce Health Sciences University (PHSU) to recruit two scientists in the areas of neurobiology and cancer. Well-established and highly respected reviewers from institutions outside of Puerto Rico were selected to give their opinion on whether the PRSTRT should support the recruitment of the candidate(s). Each application was assigned two reviewers, including an expert from the candidate(s)' field. Evaluation was based on: Candidate, Career and Research Plan, Institutional Environment, Budget, and Letters of Reference, according to the RSFP evaluation form. The Research Grants Program Director generated minutes for each reviewer conversation and asked for reviewer's approval. The Research Grants Program Director reported to the Board of Trustees' Grants Committee who in turn discussed the applications. Following this thorough evaluation process, the committee approved the two proposals (one with conditions) and asked the Board of Trustees for a ratification of their recommendation.

In less than 2 years, these two high-calibre faculty recruitments have resulted in the creation of 3 direct jobs, 4 scientific publications, impact on 9 students who work on these projects, and have contributed to attracting $1.8M in additional external funding to Puerto Rico (Figure 16).



Applicant Institution

The Institution must be in the process of recruiting the PI for an independent faculty position (or equivalent) at the time of submission.

Application Submission

The Academic Institution President and the Chancellor of the particular campus unit will submit applications on behalf of candidates.

Figure 15: Researchers Startup Funds Program (RSFP) Application and Review Process.

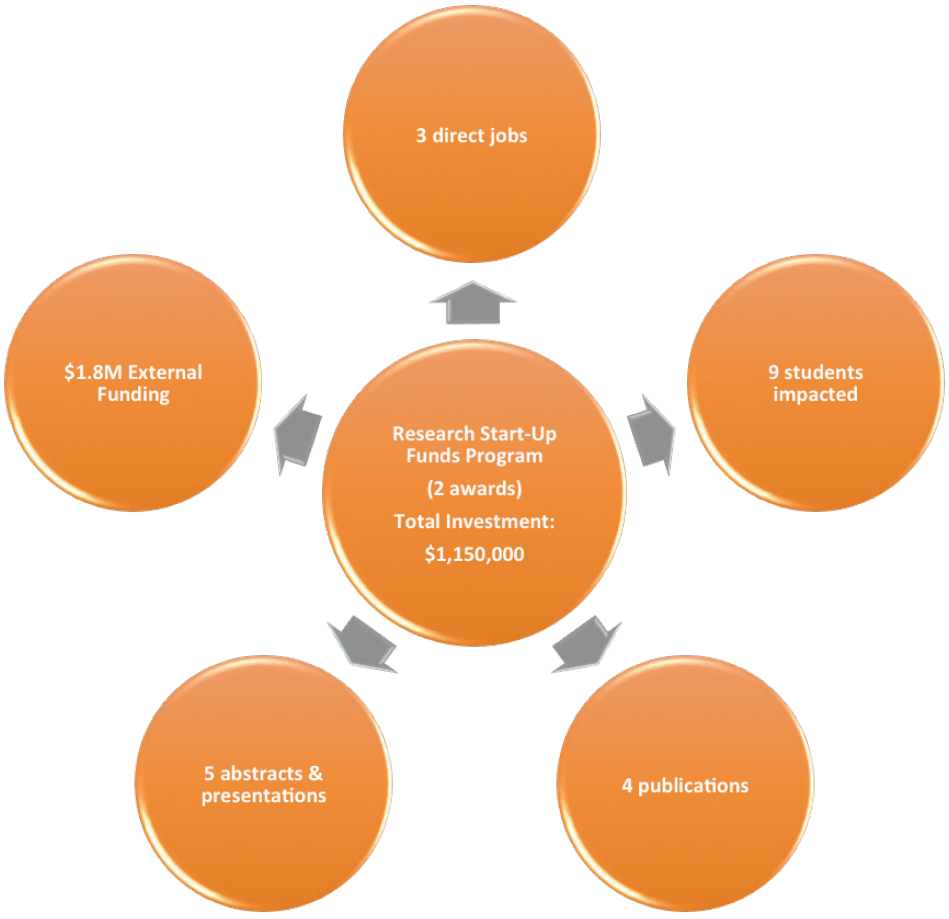


Figure 16: Research Start-Up Funds Program Achievements from 2015 to present.

A. Programmatic (Funding and Training Initiatives)

1. Funding

1.2 Non-competitive Funding

SBIR/STTR Matching Fund Program (Phase I)

Enacted in the 1980s, the Small Business Innovation Research (SBIR) and the Small Business Technology Transfer (STTR) are highly competitive programs that encourage domestic small businesses to engage in federally sponsored Research and Development (R&D) activities that have the potential for commercialization. Through a competitive awards-based program, SBIR/STTR enables small businesses to explore their technological potential and provides incentives to profit from commercialization. By including qualified small businesses in the nation's R&D arena, high-tech innovation is stimulated and the United States gains entrepreneurial spirit as it meets its specific research and development needs.

The Trust implemented the **SBIR/STTR Matching Fund Program for Phase I** to incentivize local technology-oriented small business firms and researchers to compete for SBIR/STTR Phase I grant awards. The objective of Phase I is to establish the technical merit, feasibility, and commercial potential of the proposed R&D efforts and to determine the quality of performance of the small business awardee organization prior to providing further Federal support in Phase II. SBIR Phase I awards normally do not exceed $150,000 total costs for 6 months.

The program benefits SBIR/STTR Phase I recipients by providing a matching grant from The Trust of up to $100,000 to foster technology commercialization efforts and/or enhancing research activities. The benefits of this program for technology ventures include: (1) Provides attractive financial incentives to apply for Federal SBIR/STTR Phase I grants; (2) Enhances the competitiveness of proposal submitted for approval by Federal agencies because of matching funds; (3) Closes the funding gap between Phase I and Phase II contract awards; and (4) Provides additional capital to accelerate R&D and/or commercialization efforts.

The SBIR/STTR Matching Fund Program is one of several initiatives implemented by The Trust with the goal of increasing the number of SBIR/STTR Phase I awards in Puerto Rico. The Trust also offers an SBIR/STTR Proposal Preparation Workshop (see further details below) to assist participants in preparing competitive proposals for the SBIR/STTR Phase 1 program.

To apply, the researcher must complete an application to The Trust prior to submitting a SBIR/STTR Phase I proposal to a federal agency. The Trust must receive the application at least 15 days prior to the SBIR/STTR Phase I deadline submission due date. Within 5 days prior to SBIR/STTR deadline submission due date, applicants will receive a letter of support from The Trust, to be included with the SBIR/STTR proposal. If the applicant is successful in obtaining an SBIR/STTR award, it must submit to the Research Grants Program proof in the form of an executed SBIR/STTR contract, grant, or cooperative agreement between the federal agency and the applicant. Upon receiving the required documents from the applicant, The Trust sends a Matching Fund Award Agreement.

Through the assistance and incentives provided through the series of workshops and the SBIR/STTR Matching Fund Program, The Trust has made a significant contribution to the high-tech business community by attaining an unprecedented number of five active SBIR/STTR projects in Puerto Rico, as follows:

- BS Caribe/UPR Mayaguez - SBIR Phase I NSF; $225,000
- CDI Laboratories Inc./Ponce Health Sciences University - STTR Phase I NIH; $154,596
- CDI Laboratories Inc./Rockefeller University - STTR Phase I NIH; $294,320
- STTR with UPR Mayaguez - STTR Phase I NASA; $125,000
- Protein Dynamics Solutions - SBIR Phase II NSF; $750,000

The total number of SBIR/STTR grants in Puerto Rico **increased to 31**, representing an **increase of 25%** and over **$1 million** in additional federal funding since the inception of the SBIR/STTR Matching Fund Program.

2. Research Grants Program Training and Outreach

2.1 Training

SBIR/STTR Proposal Preparation Workshop

Since FY2014-15, The Trust offers an SBIR/STTR Proposal Preparation Workshop to assist participants to prepare competitive proposals for the SBIR/STTR Phase 1 program. These workshops are offered by former Program Managers and experts of the SBIR/STTR Phase 1 program at the National Science Foundation (NSF), the National Institutes of Health (NIH) and the US Department of Energy (DOE). These workshops are being offered by Dr. Juan E. Figueroa, a former SBIR Program Manager along other experienced SBIR Program Managers from the National Institutes of Health (NIH) and the US Department of Energy (DOE). Through these workshops, The Trust has impacted over 20 companies and their teams, facilitating the submission of over 24 proposals since the inception of the initiative.

2.2 Outreach

The Research Grants Program constantly encourages and provides many opportunities to its grantees to participate in internal and external outreach activities. Internal activities include the Research and Innovation Meetups, the Forward Grantees Symposium and the Forward Research & Innovation Summit. Since 2016, the cooperative agreements include an obligation for all grantees of The Trust to participate in the Forward Summit. The level of participation varies, depending on the status of their work and relevance of the topic. Other internal activities provide opportunities for the grantees to engage with The Trust and broader science, technology and research community. In addition, The Trust sponsors external outreach activities in which grantees are usually invited to participate.

Figure 17: Research & Innovation in Agriculture Meetup

Figure 18: Research & Innovation in Bioinformatics Meetup

Figure 19: Forward Summit- Paul Bayman, RFP 2015-2016

Figure 20: Forward Summit- Lianabel Oliver, RFP 2014-2015

PROGRAM INITIATIVES AND ACHIEVEMENTS

B. Operational

1. Program Guidelines and Bidder Briefings
2. Communications and Outreach
3. Reviewer's Database
4. Applicants and Grantees Databases
5. Application/Review Online platform
6. Peer-review process
7. Research Grants Program grantee evaluation process
8. Assessment process for grantees by the Technology Transfer & Commercialization Office
9. Internships


Partial Application (PA)

II. Program Initiatives and Achivements

B. Operational

1. Program Guidelines and Bidder Briefings

The orientation and outreach processes for potential applicants and grantees of our program, was optimized. For this, several resources were developed. First, the guidelines for the Science and Technology Grants Program (RFP), the Small Research Grant Program (SRGP), the Researchers Startup Funds Program (RSFP) and the SBIR/STTR Matching Fund Program were modified. Second, new materials were prepared to be used in booth presentations and bidder briefings to potential applicants, with emphasis on the processes and use of the new online platform. Third, the Research Grants Program created specific e-mail listings for applicants and grantees that are used to effectively share relevant information. Currently, the program listings total more than 1,500 contacts.

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2. Communications and Outreach

Since 2016, the cooperative agreements include an obligation to participate in the Forward Research and Innovation Summit as an outreach commitment from the grantees. Additionally, in coordination with The Trust's Communications and Marketing office, the Research Grants Program creates content and activities that emphasize the grantees, their teams and their work. The program monitors all of its media coverage, and the media coverage of its grantees to create a list that allows evaluation of the program's media presence, and analysis of the best media tools for dissemination and outreach (see appendix 6, for press coverage). Finally, the program's information on The Trust's website was updated and is still undergoing optimization.

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3. Reviewer's Database

The Research Grants Program maintains and is constantly adding to a database of external reviewers that are scientific and technical experts in various strategic sectors. This database is critical for efficient and rapid identification and selection of reviewers in each review process, and for raising the quality level of the reviewers. Presently, the database contains information from 279 potential reviewers from all over the world. Of these, more than 120 have contributed to completed review processes. The creation of the reviewer's database now allows the program to recruit 3 reviewers per proposal, something that was not possible for the first round of the RFP.

4. Applicants and Grantees Databases

The Research Grants Program created two databases: one containing relevant information about all applicants and the other containing the grantees' details (contact information, cooperative agreements, reports, evaluations and metrics, among others). The information contained in these new tools will be crucial to understanding the profile of the applicants to our program and for the subsequent evaluation of the Research Grants Program impact.

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5. Application/Review Online platform

In July 2015 the company WizeHive was contracted to design an online system (e-platform) for the grant application and review processes. This company was selected because it specializes in simplifying grants, fellowships, awards and other similar procedures. They offer services to entities such as George W. Bush Presidential Center, UCLA, Petco Foundation, Carson Scholars Fund, Texas A&M, among many others. The Research Grants Program's staff worked closely with the WizeHive team to design the e-platform which went live in October 2015. The e-platform allows for direct submission of the applications, automatic email confirmation to the applicant when a proposal is submitted, archive of the proposals received, reports of the results and other statistical data of the applicants, among other things. The platform also contains a reviewer's' portal that provides the reviewers with access to the reviewer's agreement, assigned proposal(s) and review forms. The e-platform was used for the whole RFP 2015-2016 process, from submission of the letters of intent to the final review and evaluation of the full proposals received. The system was used for a second time with the SRGP 2016-2017 application and review processes. The use of an e-platform offers reliability, has simplified the management of multiple applications, and has increased our capability to accept more applications and use more reviewers per application. Reports of results and applicant information can be easily generated and downloaded from the e-platform which has resulted in more efficient data management and monitoring of the review process. It is important to highlight that, despite the positive advantages of using an e-platform, significant effort is required by the Grants Team. Close collaboration with the WizeHive team, representing significant time and management investment, is needed to customize the e-platform for our needs. For example, reviewers need to be added to the system individually and be assigned each application separately.

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6. Peer-review process

Since its launch in 2014, the peer-review process has been under continuous optimization. Several resources have been developed, such as new orientation materials for the external reviewers, the review score sheet and other review documents. Also, all the review processes were integrated into the e-platform.

7. Research Grants Program grantee evaluation process

The grantees evaluation process has been established and undergoes continuous optimization. A report template for grantees was developed, and as part of the evaluation process, a site visit system that coincides with the delivery of the reports (2 visits in a year) was established (see appendix 5, for the schedule of visits). This visit system is currently being evaluated for future changes. The Research Grants Program developed a template to summarize the evaluation of the grantee progress report and site visit, which is submitted as evidence to the finance office to request the disbursement of funds (as applicable). As part of the development and optimization of the evaluation processes, the program also has established an internal policy and process for requesting no-cost extension and changes to the approved budget., The cooperative agreement has also been updated, and is under constant examination for future improvements.

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8. Assessment process for grantees by the Technology Transfer & Commercialization Office

Beginning with the 2016 RFP grantees, the Research Grants Program established a new grantee obligation in the cooperative agreement that consists of one entry and one exit interview with Dr. David Gulley, director of The Trust's Technology Transfer Office (TTO). The goal of this requirement is to provide early advice on the potential for creation of intellectual property, commercialization, technology transfer, and other related aspects. Dr. Gulley was responsible for the preparation of assessment and counseling materials. Once the interviews are conducted, the TTO provides access to the documents, which are archived as part of the grantee record. We are still working on optimizing this process, which is now required for all grantees. The previous grantees, whose cooperative agreement did not contain this obligation, were offered the opportunity to receive this advice from the TTO.

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9. Internships

In 2015, The Trust signed an agreement with the UPR-Río Piedras to recruit talented students as interns under a UPR program called "Mi primera experiencia laboral". During this reporting period, a total of five science students have been interns in our Research Grants Program. The main goal has been to provide diverse training experiences within the area of science and give exposure to various career opportunities. Students have the opportunity to learn about administrative activities that support and strength research activities and institutions. In addition, the interest is to make The Trust a place of preference among students to perform their internships. To complete these goals, the Research Grants Program uses a model of empowerment in which interns are assigned a specific projects and increasing responsibilities during the semester, while collaborating on other assignments of the Research Grants Program and outreach activities (see appendix 8, for testimonies). Based on the success of the Research Grants Program's internships, other programs of The Trust have begun recruiting students.

III. General Conclusions

In less than 3 years since it was launched, the **Research Grants Program** initiatives have achieved several significant milestones. Probably the most important is that the community of scientists and entrepreneurs conducting research and development activities feel empowered. In addition to providing funds for research and facilitating training activities,

The Trust has been instrumental in bringing together coherent and engaged communities of researchers, entrepreneurs, investors and industrialists through outreach activities, creating a more robust interdisciplinary community in science and technology.

Since the start of the **Research Grants Program**, local researchers have shown a lot of interest in its initiatives and consider this program to be important and necessary for the progress of science on the island (see appendixes 7 and 8, for survey and testimonies). Although it is too early to assess the impact on the Puerto Rico's research ecosystem over the long-term, the grantees in the short-term have already obtained very positive results and in many cases are transforming their projects thanks to the support of The Trust. Since the granting of these funds, most of the projects have accelerated considerably and have benefitted from greater exposure and interactions with other programs and collaborators of The Trust. In addition to generating additional external funds, patents, scientific publications, presentations in local and international forums and direct jobs, these funds have impacted hundreds of students in training and have contributed significantly to the retention of scientific talent on the island such as graduate students and postdoctoral researchers.

Although there is more work to do, the **Research Grants Program** has made significant progress in its programmatic and operational areas, and has established its credibility to win the support of the scientific community in general. It will be very important to ensure the continued growth and improvement of the Research Grants Program for the remainder of 2017 and beyond to ensure the development of the R&D

IV- Plan of action for 2017-2018

General

1. Complete Staffing: Research Grants Program Director and Research Grants Program Specialist (2017-18).
2. First Forward Grantees Symposium (May 2017; annual event)
3. Establishment of an External Advisory Grants Committee (2017)
4. Work in an external funding strategy to expand the program (2017-18)
5. Continue to optimize and update processes and guidelines of all initiatives (2017-18)

Research & Technology RFP

1. A call per year

Small Research Grant Program

1. A call per year

Researcher Startup Funds Program

1. On hold.

SBIR/STTR Matching Program

The Research Grants Program will continue to offer both programs to keep providing assistance and incentivize local aspiring entrepreneurs and researchers seeking SBIR/STTR Phase 1 awards. It also plans to expand its offering by providing a SBIR/STTR Matching Fund Program mechanism for Phase II awardees, and an initiative to proactively match researchers and companies.

External Grants Advisory Committee

The Board of Trustees approved the creation of an External Grants Advisory Committee that will replace the actual Board of Trustees Grants Committee. The new advisory committee will be composed of top researchers and entrepreneurs that will make recommendations to the Board of Trustees after the peer-review processes. This committee also will give strategic advice for future initiatives.

Strategy for External Funding

The Research Grants Program has achieved sufficient milestones and measurements of impact to justify new efforts underway to identify and cultivate potential external funding partners to continue the work of the Program. The Research Grants Program staff will be responsible for identifying private philanthropic organizations, corporate partnerships and individual donors who share the mission and vision of The Trust to build the R&D capacity and capabilities of Puerto Rico's science and technology communities. The Research Grants Program is charged with seeking collaborative funding opportunities in support of basic and applied research, building a diverse scientific workforce, and promoting the knowledge economy in Puerto Rico.

V. Recommendations

Application Process

1. The current RFP Commercialization track is very similar to an SBIR phase I. Evaluation of whether the RFP Commercialization track is the best mechanism for funding these types of projects is needed. The Research Grants Program has an important opportunity to better integrate The Trust's SBIR/STTR experts to guide and facilitate grantee applications.
2. Consider changes to the RFP such as awarding less money per year (e.g. 100K) or extending the grant period to two years.
3. Consider creating our own CV format with a maximum of 5 pages. Additional publications and funding can be requested to the finalists only.
4. Make Letters of Intent shorter.
5. Consider expanding the allowable costs in each grant
6. In the RFP commercialization track, provide for a small allocation for marketing costs only in the case of well justified projects.
7. Allow indirect cost in SRGP (at least a small percent), to enhance investigators' ability to receive more institutional resources.
8. Ask applicants who are resubmitting the same proposal to include a cover letter where they explain how the comments of the previous peer-review process were addressed as well as any other changes or progress in the project.
9. SRGP-New topic should include a justification on why this is a new topic for them.
10. Decide whether the SRGP should implement a process for triage because given there are very specific guidelines and too many applications to send for review. An "elimination sheet" could be used to identify and eliminate applications without review that do not meet specific criteria. This information should be in the application guidelines so applicants know what to expect.
11. Re-evaluate which grants qualify for the SRGP. There are currently grants that do not fall under law 101 that are highly competitive (e.g., R15) that should be considered for eligibility.
12. SRGP- Consider a better definition of junior faculty such as the definition used by the National Institutes of Health (NIH): Within 10 years of terminal degree and with no previous R01 funding, or faculty with 5 years of their first appointed faculty position, and with no previous R01 funding.
13. Ask applicants to submit a CV where the current and pending funding sources are clearly listed. Applicants should also include evidence of proposals and summary statements of any other efforts to obtain federal funding.
14. Discuss and decide specific deliverables that are expected from the commercialization proposals. (e. g. submission to SBIR programs or similar funding sources).
15. Discuss and decide whether basic research grantees should be expected to apply for external federal or private funding based on the findings of the funded research.
16. Include a limit for the amount of salary that could be requested in the proposals, particularly for the PIs who already have tenure or tenure track positions.
17. RSFP should also have specific deadlines designed in coordination with universities to determine what a reasonable timeline for faculty recruitment is. It could be only one per year and highly competitive.

Review Process

1. Assign a lead reviewer for each RFP application or have the panel chair (provide additional remuneration as needed) to compose a summary of the panel discussion for each application. This is commonly done in NIH/NSF and may save significant time/effort for the Grants Team and improve accuracy of the comments.
2. Provide a complete roster of reviewers at the end of each year.
3. Consider doing a review panel for the SRGP. Having a review panel where it is possible to engage in open discussion of the proposals can improve the confidence and veracity of the review results. In addition, there are reviewers that are "hard graders", meaning that they give bad scores even though they are recommending the proposal for funding (this will probably require doing the SRGP in a different year of the RFP (biannual programs) or hire one more person to coordinate this)

Grantee Obligations

1. Create a short manual for grantees with the Research Grants Program's procedures and regulations in addition to the contract.
2. Provide grantees with clear expectations of their work and provide feedback from the reports and visits.
3. Consider having a subject expert visit the grantees with the Grants Team to make sure their projects are moving forward and provide specific technical feedback.
4. Consider giving a few renewal awards (2-3 per cohort) for a maximum of 2-3 years to very successful RFP grantees whose projects we would like to see completed, for example a phase 2 SBIR, targeting commercial development of the project.
5. Decide if we will allow grantees to have two grants with us at the same time. They might be co-PIs but not PIs.
6. Request mandatory service activities to the Research Grants Program. These could include the following: participate in outreach activities, serve as mentors to other grantees, provide orientations to students/faculty, attend briefings with Grants Team, hire Puerto Rican talent, etc.
7. Provide more media coverage of the grantees and their projects.
8. Consider mandatory I-Corps or SBIR/STTR training for the commercialization grantees. Consider a less intensive training for the basic research grantees to introduce commercialization concepts.
9. Consider development and implementation of a post-award e-platform for the grantees mid and final reports.
10. Some grantees have asked if payment of their personnel/purchasing could be done through The Trust since UPR takes too long.

APPENDIX

1. Procedures for the Research Grants Program
2. List of Reviewers (all initiatives)
3. Proposals approved for funding (all initiatives)
4. Grantees Publications
5. Laboratory Visits
6. Research Grants Program Press Coverage (TV coverage not included)
7. Research Grants Program General Survey
8. Testimonies

1. Procedures for the Research Grants Program

i. Science and Technology RFP – Application, Review and Selection Process

a. The Research Grants Program Director and Management Specialist will announce the call for proposals and coordinate Bidder Briefings in The Trust Headquarters and other locations.

b. The Science & Technology RFP application process consist of two phases: Letter of Intent (LOI) and Full Proposal. The LOI phase is open to all eligible applicants while the Full proposal phase is by invitation only.

Letters of Intent

a. Letters of intent (LOIs) are received through the electronic platform

b. All LOIs are checked for completeness and responsiveness by the Research Grants Program staff.

c. An External Review committee is recruited to evaluate the LOIs. The reviewers must have general knowledge of the topic but do not need to be experts in the field.

d. Potential reviewers are officially invited but no economic compensation is offered.

e. After their acceptance, information about the review process, guidelines, instructions, and electronic certification forms are provided to the reviewer.

f. After reviewers confirm no conflict of interest on the assigned LOIs, the Research Grants Program staff provide electronic access to LOIs and scoring forms.

g. Once the review process is completed, the Research Grants Program staff rank the LOIs based on the score provided by the reviewers.

h. The LOIs with the best scores and that go in accordance with the program guidelines and priorities are invited to submit a Full Proposal.

Full Proposal

i. Selected applicants are invited to submit a Full Proposal through the electronic platform. Proposals are accepted until a pre-determined deadline.

j. All proposals are checked for completeness and responsiveness by the Research Grants Program staff.

k. To facilitate the assignment of reviewers based on their expertise and the future panel discussion, proposals are grouped by related topics and re-assigned to temporary field categories.

l. Three potential qualified reviewers (experts in the field) are officially invited per proposal and an honorarium of $250 is offered for their services.

m. After their acceptance, information about the review process, guidelines, instructions, and electronic certification forms are provided to the reviewers.

n. After reviewers confirm that there is no conflict of interest on the assigned proposal, the Research Grants Program staff provide electronic access to proposals and scoring forms.

o. Reviewers assign an Overall Quality Score for each proposal evaluated.

p. After all reviewers evaluate their assigned proposal (s), the overall Quality Score average is calculated in order to rank the applications for panel discussion.

q. A teleconference panel meeting (2-3 hours each) is scheduled for each field category. Each panel is composed of the Research Grants Program Director, the Grants Management Specialist, a Panel Chair, and Panel Reviewers.

r. Only the most competitive applications, based on the average Overall Quality Score, are discussed by the full panel at the panel meeting.

s. Once the peer-review process is completed, the Research Grants Program staff generates a list of the top ranked proposals to be presented to the Board of Trustee's Grant Committee for their consideration.

t. The Board of Trustee's Grant Committee and the Research Grants Program Director discuss the final rank and additional aspects of the candidates such as funding history, publication record, patents and others.

u. The Board of Trustee's Grant Committee generates a final list of proposals to be recommended for funding.

v. The Research Grants Program staff presents the final list to the Board of Trustees for final approval.

w. Notification letters are sent to the applicants.

ii. Small Research Grants – Applications, Review and Selection Process

a. The Research Grants Program Director and Management Specialist will announce the call for applications and coordinate Bidder Briefings in The Trust Headquarters and other locations.

b. Applications are accepted through the electronic platform until a pre-determined deadline.

c. All applications are checked for completeness and responsiveness by the Research Grants Program staff.

d. Three potential qualified reviewers (experts in the field) are officially invited per application and an honorarium of $150 is offered for their services.

e. After their acceptance, information about the review process, guidelines, instructions, and certification forms are provided to the reviewers.

f. After reviewers confirm no conflict of interest on the assigned proposal, the Research Grants Program staff provide electronic access to applications and scoring forms.

g. Once the review process is completed, the Research Grants Program staff generates a list of the top ranked applications to be presented to the Board of Trustee's Grant Committee for their consideration.

h. The Board of Trustee's Grant Committee and the Research Grants Program Director discuss the final rank and additional aspects of the candidates such as funding history, publication record, patents and others.

i. The Board of Trustee's Grant Committee generates a final list of applications to be recommended for funding.

j. The Research Grants Program staff presents the final list to the Board of Trustees for final approval.

k. Notification letters are sent to the applicants.

iii. Reviewers' Honoraria

a. Once the reviewers evaluate all their assigned proposals, information about their preferred payment method is requested.

b. The Grants Management Specialist request the payment for reviewers to the accounting office. The following documents are provided as evidence of the completed assignment

i. **Reviewers' payment info** – table that contains list of reviewers, payment information and amount to pay.

ii. Print Screen evidence - word document with the print screens of the WizeHive reviewers' platform showing evidence that the reviews were submitted electronically by each reviewer.

iii. **Reviews Summary** - excel document generated by the electronic platform with a summary of the reviews submitted by proposal and reviewers.

iv. **Link to reviewers' appointment letters**

c. The accounting staff verify the information provided and process the payment.

d. Payment is passed to The Trust CEO and COO for approval and signatures.

e. Accounting staff do payments by wire transfer and the office clerk send the payments requested as checks by mail.

f. The Grants Management Specialist follow-up on the payments and notify the reviewers.

iv. Cooperative agreement and Award Disbursements:

a. Signing of the Cooperative Agreement and First Disbursement

i. After the PI is notified about the award, a draft of the Cooperative Agreement is sent to the PI.

ii. The agreement must be carefully revised by the PI and signed by an authorized representative of the legal entity receiving the award. In the case of universities, the Chancellor is the designated person. For private companies, the designee is the President of the company.

iii. The original signed agreement must be sent to The Trust Headquarters

iv. The Office Clerk will receive the signed agreement; will notify the Research Grants Program that the agreement was received and will pass it to the CEO for her signature.

v. After the agreement is signed, it will go back to the Office Clerk who will register it, create an electronic copy and pass copies to accounting and the Research Grants Program.

vi. The Research Grants Program staff will send an electronic copy to the grantees within 15 days of the signature date.

vii. The Accounting office will generate a check for the amount of the first disbursement.

viii. The check will be passed to The Trust CEO and COO for the necessary signatures.

ix. The signed check will be received by the Office Clerk who will notify the Research Grants Program that the check is ready and ask how to proceed.

x. The Research Grants Program staff will notify the grantee the payment is ready and ask for the preferred delivery method.

xi. The Office Clerk will send the checks by mail or will deliver the checks personally to the PIs.

b. **Second Disbursement** - The second disbursement will be processed after evaluation of the midterm report and the first visit to the facilities. If approved, the funds will be available by the date stated in the cooperative agreement.

i. A progress report and laboratory visit will be performed by the Research Grants Program staff to evaluate

the progress of the project.

ii. If the progress is considered satisfactory, the Research Grants Program Director will approve the second disbursement.

iii. The Research Grants Program staff will request the accounting office to process the second disbursement. The grantees progress report as well as the written evaluation will be submitted as evidence of the grantees compliance.

iv. The Accounting office will generate a check for the amount of the second disbursement.

v. The check will be passed to The Trust CEO and COO for the necessary signatures.

vi. The signed check will be received by the Office Clerk who will notify the Research Grants Program that the check is ready and ask how to proceed.

vii. The Research Grants Program staff will notify the grantee the payment is ready and ask for the preferred delivery method.

viii. The Office Clerk will send the checks by mail or will deliver the checks personally to the PIs.

v. Grantees Evaluation Process – The Grants Team evaluates the grantees progress through progress reports and site visits to the research facilities.

a. **Progress Reports:** As part of the Cooperative Agreement with The Trust, grantees are required to submit two progress reports; one at 6 months and a final report that is due one month after the expiration date of the Cooperative Agreement. The dates for both reports are stipulated in the contract. A template of the report is prepared by the Grants Team and is sent to the grantees at least one month prior the due date of the first report. As part of each report all grantees submit an official financial statement that shows a record of purchases and expenses paid with Trust funds. For academic institutions this report should be generated by the purchasing office or sponsorship program office. For private companies, the report should be generated by an authorized accountant and should include evidence of the expenses (e. g. receipts, invoices, credit card statements, etc.).

b. **Visits to the Grantees Laboratory/Research Facilities:** At least two follow-up site visits will be done during the award period. One after the midterm report is received and the other after the final report is received. One or more members of the Research Grants Program will visit the laboratory/company to meet the research team and get to know the research facilities. The visits are coordinated ahead of time according to the availability of the grantee, his/her research team and the Research Grants Program representative (s).

vi. **Budget Changes:** Significant changes in the approved use of funds require the approval of The Trust. Changes within the same category do not need previous approval. Steps to request a budget change are as follow:

a. The grantee should send a letter to the Research Grants Program Director describing and justifying the necessary changes. The petition should be accompanied by a new budget table, comparing the original budget with the new budget proposed.

b. The request is evaluated by the Research Grants Program Director and additional information may be requested.

c. If approved, the Research Grants Program Director sends an authorization letter to the grantee and the Institution can proceed with the necessary changes.

d. Once the process is completed, the Grants Management Specialist must sent the request letter, new budget and approval letter to the Office Clerk to be added to the grantee's Cooperative Agreement.

vii. **No-Cost Extensions:** A no-cost extension can be requested for 6 or 12 months after the original expiration date of the agreement. No-cost extensions will be granted only if necessary for the successful completion of the project, do not required an additional funding, and does not change the original scope of the project. The request must be made at least one month before the expiration date of the agreement. **The process must be completed before the expiration date of the Cooperative Agreement.** If a contract expires and unexpended funding remains that was not used during the award period, the money must be returned to The Trust. Steps to process a no cost extension are as follow:

First No Cost Extension

a. To obtain a first no-cost extension the grantee should send a letter to the Research Grants Program Director requesting and justifying the no-cost extension and stating the period of time needed.

b. The request is evaluated by the Research Grants Program Director and additional information may be requested.

c. If approved, the Research Grants Program Director sends an authorization letter accompanied by an addendum to the grantee to be signed by the Chancellor or authorized person of the company (same one who signed the original agreement).

d. The original copy must be sent to The Trust to be signed by The Trust CEO before the expiration date of the Cooperative agreement.

e. Request letter, approval letter and amendment must be sent to the Office Clerk to be added to the grantee's Cooperative Agreement.

Second No-Cost Extension – Second no cost extensions are managed similar to the process described above. However, additional information is required:

· The PI must submit a request letter explaining in detail why the project could not be finished within the originally approved end date. The letter should also contain a scientific rationale for continuing the project, the amount of funds remaining and the level of effort for Key Personnel during the extended period.

· The letter should be accompanied by a detailed budget and budget narrative describing the proposed plans to use the remaining funds during the extension.

· If requesting a third extension, the PI should explain how will finish the project in this final extension and a plan to continue the project without funds if it is not completed on time.

· Third extensions are rarely approved and only under extraordinary circumstances. If approved, this would be the FINAL extension for the grant.

viii. **Meeting with Technology Transfer Office:** All of grantees should have an entry and exit meeting with Dr. David Gulley to discuss the potential for technology transfer or intellectual property discussions of their research. During this meeting they will sign a pre-Disclosure form.

2. List of Reviewers (all initiatives)

Reviewer	Affiliation
Aaron Beeler, PhD	Boston University
Abraham Rodríguez, PhD	Savannah River National Lab
Alberto Cruz, PhD	Boston University
Alberto Rivera, PhD	National Institutes of Health (NIH)
Alejandro Caro Quintero, PhD	Corporación Colombiana de Investigación Agropecuaria, Bogotá, Colombia
Aleksei Aksimentiev, PhD	University of Illinois, Urbana-Champaign, IL
Alessandro Catenazzi	Southern Illinois University, Carbondale, IL
Ali Andalibi	George Mason University
Andres Garcia	Georgia Institute of Technology
Anindo Choudhury	St. Norbert College, Wisconsin, USA
Anna Cinzia Squicciarini	Pennsylvania State University, Pennsylvania, USA
Annika Fitzpatrick Barber	University of Pennsylvania, Philadelphia, PA
Aseneth Herrera	Universidad Autonoma de Baja California
Augusto E. Valderrama Aguirre	Universidad Libre de Colombia, Bogotá, Colombia
Baoshan Huang	University of Tennessee
Boris Stoeber	University of British Columbia, Vancouver, Canada
Brian Murphy	Queen's University Belfast, Belfast, UK
Carlos A. Mejias-Aponte	NIH National Institute on Drug Abuse, Bethesda, MD
Carlos A. Urrea Florez	University of Nebraska-Lincoln, Lincoln, NE
Carlos C. Martinez Rivera	Philadelphia Zoo, Philadelphia, PA
Carlos Crespo	Case Western Reserve University
Carlos Cruz Noguez	University of Alberta
Carlos Mejías	NIH National Institute on Drug Abuse
Carlos Molina	Montclair State University
Carlos Rinaldi	University of Florida
Carol Prentice	USGS Hazard Earthquake Program, Menlo Park, CA
Ce Yang	University of Minnesota, St. Paul, MN
Chinedum Osuji	Yale University, New Haven, CT
Christian R. Goldsmith	Auburn University, Auburn, AL
Daniel Leznoff	Simon Fraser University, Burnaby, CA

Daniel Mooradian	University of Minnesota, Minneapolis, MN
Daniel Salkeld	Colorado State University, Fort Collins, CO
David Allred	University of Florida, Gainesville
David Cormode	University of Pennsylvania, Philadelphia, PA
David Fannon	Northeastern University
David Salas	University of Pennsylvania
David Salas	Rutgers University
David Shapiro	US Department of Agriculture
Dawn W. Dowding	Columbia University School of Nursing, New York, NY
Deborah Delaney	University of Delaware, Newark, DE
Deepa Bedi	Tuskegee University, Alabama, USA
Edgar Díaz	Belmont University, Tennessee, USA
F. C. Thomas Allnutt	BrioBiotech LLC, Glenelg, MD
Felix N. Castellano	North Carolina State University, Raleigh, NC
Fernando A de Torres Jr.	EcoSafe Environmental Management System, Ocala, FL
Frances Santiago Schwarz	Farmingdale State University
Francisco Agosto	Cornell University
Frank Hunte	North Carolina State University
Gary Vallad	University of Florida, Gainesville, FL
Giovanna Guerrero	Yale University
Graciela Brelles-Mariño	Universidad Nacional de La Plata, Buenos Aires, Argentina
Haiqing Lin	State University of New York at Buffalo, NY
Harbinder Singh Dhillon	Delaware State University, Dover, DE
Hongbo Ma	University of Wisconsin, Milwaukee, WI
Horacio Olivo	University of Iowa
Hugo Ruben Arias	California Northstate University, Elk Grove, CA
Ioannis Kymissis	Columbia University, New York, NY
Jacob Berlin	Beckman Research, City of Hope, Duarte, CA
James C. Fell	NORC, University of Chicago, Chicago, IL
James Coffman	Mount Desert Island Biological Labs, Bar Harbor, ME
Jeroen Pollet	Baylor College of Medicine, Houston, TX
Joan Curry	University of Arizona
Joaquin Dopazo	Centro de Investigación Príncipe Felipe, Valencia, Spain

Jocelyn Biagini Myers	Cincinnati Children's Hospital Medical Center, Cincinnati, OH
John Tooker	Pennsylvania State University, Pennsylvania, USA
Jos. J. Schall	University of Vermont, Burlington, VT
José E. Vidal	Amgen, Puerto Rico
José Jiménez	University of North Florida
Jose Mur	Franklin W. Olin College of Engineering
José Torres	University of California at Davis
Joseph Hale	Technological Leadership Institute
Juan Figueroa	Abenaki Connect Inc.
Juan L. Suarez	The University of Western Ontario
Julia Díaz	University of Georgia
Julia Neilson	University of Arizona
Karl A. van Bibber	University of California, Berkeley
Karl Miletti	Delaware State University
Ken Dawson-Scully	Florida Atlantic University, Boca Raton, FL
Keykavous Parang	Brown University
Kristina Bailey	University of Nebraska-Medical Center, Omaha, NE
Ksenija D. Glusac	Bowling Green State University, Bowling Green, OH
Lars Oddsson	Technological Leadership Institute-University of Minnesota, Minneapolis, MN
Le Song	Georgia Institute of Technology, Atlanta, GA
Leah McHale	Ohio State University, Columbus, OH
Lian Duan	Missouri University of Science and Technology, Rolla, MO
Luis Martínez	New York Institute of Technology
Lumarie Pérez	The Ohio State University
Manuel Leal	University of Missouri
Manuel Navedo	University of California at Davis
Manuel Pérez	Virginia Tech University
Marcelo Febo	University of Florida
Marcos López	Fundación Cardiovascular de Colombia
Maribel Rios	Tuft University
Marirosa Molina	USEPA/Office of Research and Development, Athens, GA
Marvi Matos	The Boeing Company
Melany P. Puglisi-Weening	Chicago State University, Chicago, IL

Michael Duffey	George Washington University
Michael Leibowitz	University of California at Davis
Michael P. Cummings	University of Maryland, College Park, MD
Michael R Hamblin	Harvard Medical School, Boston, MA
Michael Ramage	University of Cambridge
Mihaela Balu	University of California, Irvine
Mildred Acevedo	University of South Florida
Moraima Reyes	University of Washington
Morton A. Barlaz	North Carolina State University, Raleigh, NC
Mukesh Limbachiya	Kingston University
Nelson Sepúlveda	Michigan State University
Nichole Broderick	University of Connecticut, Storrs, CT
Nicolae Barsan	University of Tübingen, Tübingen, Germany
Nripesh Dhungel	Stanford University
Olav Rueppell	University of North Carolina, Greensboro
Oné Pagán	West Chester University
Paul Sikkel	Arkansas State University, Arkansas, USA
Qihai Gu	Mercer University, Macon, GA
Ramphis Castro	Simple Engineering Corporation
Raul Bayoan Cal	Portland State University, Portland, OR
Raúl Cal	Portland State University
Raymond B Huey	University of Washington, Seattle, WA
Rebecca A. Cole, PhD	US Geological Survey, Wisconsin, USA
Reinier Hernández	University of Wisconsin-Madison
Reyna Martínez	Upstate Medical University
Richard (Cole) Brokamp	Cincinnati Children's Hospital Medical Center, Cincinnati, OH
Ritu Aneja	Georgia State University, Atlanta, GA
Robert Berger	Small Innovation Research
Robert C Pierce	University of Pennsylvania, Philadelphia, PA
Robert King	Independent consultant
Robert R. Díaz	GMP & Analytical Development Consultant
Roger C. Lo	California State University, Long Beach
Sarah Penniston-Dorland	University of Maryland, College Park, MD

Scott Boitano	University of Arizona, Tucson, AZ
Scott Schaus	Boston University
Sergio Morales	University of Otago (New Zealand)
Serhat Hosder	Missouri University of Science & Technology, Rolla, MO
Shandra Justicia	Arcadis, PR
Sharilyn Almodóvar	University of Colorado, Denver
Stephen Richards	Baylor College of Medicine
Steven Justiniano	Ohio State University
Steven M Drew	Carleton College, Northfield, MN
Susan G Ernst	Tufts University, Medford, MA
Tanya Furman	Pennsylvania State University, State College, PA
Tara Kelley-Baker	University of Chicago, Chicago, IL
Thomas Ebert	Oregon State University, Corvallis, OR
Thomas Jaramillo	Stanford University
Thomas Marcotte	University of California, San Diego, CA
Thomas Vetter	University of Manchester, England
Timothy Iwao Miyashiro	Pennsylvania State University, State College, PA
Tyrone Rooney	Michigan State University, East Lansing, MI
Valerie Bar	Union College, New York, USA
Valerie Barr	Union College
Víctor Maldonado	University of Texas at San Antonio
Víctor Torres	New York University
Warren Foster	McMaster University
William Ja	The Scripps Research Institute, Jupiter, Florida
Wilson Francisco	Arizona State University
Won Suk Lee	University of Florida, Gainesville, FL
Xiaoke Chen	Stanford University, Stanford, CA
Yajaira Sierra	US Department of Treasury
Yarimar Carrasquillo	NIH
Yih-Horng Shiao	United States Patent and Trademark Office, Alexandria, VA
Ying Diao	University of Illinois at Urbana-Champaign, USA
Yufang Jin	University of California, Davis, CA
Yujui Yvonne Wan	University of California, Davis, CA

3. Proposals approved for funding (all initiatives)

Science & Technology Request for Proposals (RFP)

1st cycle

1. Novel inhibitors of the malarial GST protein - from bench to a marketable drug.
PI: Adelfa Serrano, PhD, University of Puerto Rico-School of Medicine
Strategic Sector: Biotechnology and Natural Sciences

2. NEWPUNCH Biopsy Device.
PI: José Méndez, MD, Tailwind Medical Devices
Strategic Sector: Medical Devices
The principal investigator of this project passed away. A process is currently being followed to determine the continuity of the project and steps to follow.

3. OBA: An Innovative, Online Learning Solution for the 21st Century.
PI: Lianabel Oliver, MBA, Pathways PR Inc. dba OBA
Strategic Sector: Information and Communications Technology

4. A Scientifically Justified Interface and Sample Reduction System for Powders.
PI: Rodolfo Romanach, PhD, University of Puerto Rico- Mayagüez
Strategic Sector: Biotechnology and Natural Sciences

5. Photosensitized generation of nitric oxide.
PI: Antonio Alegría, PhD, University of Puerto Rico- Humacao
Strategic Sector: Biotechnology and Natural Sciences

6. Hybrid Mechanical/Electronic Steerable Antenna Array for Beyond Line of Sight Communications for UAS Applications
PI: Rafael Medina, PhD, University of Puerto Rico- Mayagüez
Strategic Sector: Aerospace

7. Development of Advanced Unmanned Aerial Vehicle with Vertical Takeoff or Landing Capabilities for Commercial Civil Markets.
PI: Juan Cruz, MS, ComQuest Ventures LLC
Strategic Sector: Aerospace

8. Development of a Biosensor Microchip for the Detection of Microorganisms and Cancer Cells at the Point-of-Care.
PI: Carlos Cabrera, PhD, University of Puerto Rico-Río Piedras
Strategic Sector: Biotechnology and Natural Sciences

9. Inertial sensors development for Space Weather and Planetary Research.
PI: Jonathan Friedman, PhD, Universidad Metropolitana
Strategic Sector: Aerospace

10. Novel Ionic Polymer Nanocomposite Membranes for Advanced Water Purification
PI: David Suleiman, PhD, University of Puerto Rico- Mayagüez
Strategic Sector: Biotechnology and Natural Sciences

11. Endocytic Regulation of the Adhesion G protein- coupled receptors (GPCRs), BAI1 and EMR2, during Pediatric Retinoblastoma (Rb) Optic Nerve Invasion.
PI: Jaqueline Flores, PhD, University of Puerto Rico - Medical Sciences Campus
Strategic Sector: Biotechnology and Natural Sciences

12. Development of EHop-016 as an anti-metastatic cancer therapeutic.
PI: Suranganie Dharmawardhane, PhD. University of Puerto Rico- Medical Sciences Campus
Strategic Sector: Biotechnology and Natural Sciences

2nd cycle

Basic Research
1. Uncovering the role of adrenergic activated macrophages on the tumor microenvironment of Puerto Rican patients with breast and ovarian cancer.
PI: Guillermo N. Armaiz-Peña, PhD, Ponce Research Institute
Strategic Field: Biotechnology and Natural Sciences

2. Recycled glass as beach nourishment material to mitigate Puerto Rico erosion problems: An integrated effort between scientists, engineers and citizens
PI: Sylvia Rodríguez-Abudo, PhD, University of Puerto Rico – Mayagüez
Strategic Field: Other-Environmental Sciences

3. Bioprospecting for plant protection: biocontrol of the coffee berry borer (broca del cafe) with local strains of the pathogenic fungus Beauveria bassiana.
PI: Paul Bayman-Gupta, PhD, University of Puerto Rico - Río Piedras
Strategic Field: Agriculture

4. Enabling technology for Puerto Rican Apiculture: Genetic SNP databases for timely identification of honey bee subspecies.
PI: Tugrul Giray, PhD, University of Puerto Rico - Río Piedras
Strategic Field: Agriculture

5. The Endometriosis Proteome: Diagnostic and Therapeutic Target.
PI: Idhaliz Flores, PhD, Ponce Research Institute
Strategic Field: Biotechnology and Natural Sciences

6. Role of microglia in glioma tumor relapse after surgical resection.
PI: Lilia Kucheryavykh, PhD, Universidad Central del Caribe
Strategic Field: Biotechnology and Natural Sciences

7. A high throughput method to measure DNA repair levels and estimate breast cancer risk.
PI: Jaime Matta, PhD, Ponce Research Institute
Strategic Sector: Other

8. Bridging towards commercialization of a technology to prevent Decompression Sickness.
PI: Silvina Cancelos, PhD, University of Puerto Rico – Mayagüez.
Strategic Sector: Biotechnology and Natural Sciences

9. 3-D Femur orthopedic femoral drill guide for anterior cruciated ligament replacement.
PI: Carlos Alvarado, PhD, Novel Biomedical Devices Corporation
Strategic Sector: Medical Devices

Commercialization

1. Project Wearables
PI: Norman Ortiz, MS, iDev LLC
Strategic Sector: Information and Communication Technologies

2. Targeting Integrin Linked Kinase in Ovarian Cancer with Liposomal-Gold-Small Interference RNA
PI: Pablo Vivas-Mejía, PhD, University of Puerto Rico - Medical Sciences.
Strategic Sector: Biotechnology and Natural Sciences

3. Development of a soil microbial consortium to enhance plant nutrient uptake and control soil-borne parasitic nematodes in plantain and banana (Musa spp.) farms
PI: Elizabeth Padilla-Crespo, PhD, Agro Tropical, Inc.
Strategic Sector: Agriculture

4. A novel field remote sensing system for rapid determinations of total suspended solids in surface waters.
PI: Roy Armstrong, PhD, Roy A Armstrong dba Remote Sensing Consultants
Strategic Sector: Environmental Sciences

5. Development of a novel anti metastatic cancer drug.
PI: Suranganie Dharmawardhane, PhD, University of Puerto Rico - Medical Sciences
Strategic Sector: Biotechnology and Natural Sciences

Small Research Grant Program (SRGP)

1st cycle-a

Senior Faculty (resubmission)

1. Association of gut bacterial genes and diet to colorectal neoplasia.

PI: Marcia Cruz-Correa, MD, PhD, University of Puerto Rico- Medical Sciences Campus

Strategic Sector: Biotechnology and Natural Sciences

This project was not funded as it receives alternative funding and was dropped.

Junior Faculty

1. Development of metal-catalyzed, step and atom economical methods toward N-, and O-heterocycles. PI: Wildeliz Torres-Irizarry, PhD, University of Puerto Rico- Mayagüez

Strategic Sector: Biotechnology and Natural Sciences

2. Mesenchymal modulation and abundance of active Hh signaling in triple negative breast cancer.

PI: Maribella Domenech, PhD, University of Puerto Rico- Mayagüez

Strategic Sector: Biotechnology and Natural Sciences

3. Agricultural Lab-on-a-chip device for point-of-care pathogen detection using a disposable microfluidic device and open source tools for optical detection.

PI: Pedro Resto-Irizarry, PhD, University of Puerto Rico- Mayagüez

Strategic Sector: Biotechnology and Natural Sciences, Medical Devices

4. Biocompatible fluorescent graphene oxide quantum dots for cancer biosensing and selective bioimaging.

PI: Lisandro Cunci-Pérez, PhD, Universidad del Turabo

Strategic Sector: Biotechnology and Natural Sciences, Medical Devices

5. Osteoinductive integrin-containing biomaterials for bone repair.

PI: Jorge Almodóvar, PhD, University of Puerto Rico- Mayagüez

Strategic Sector: Medical Devices

1st cycle-b

Junior Faculty

1. Polymorphic control of small organic semiconductor materials using thioaromatic self-assembled monolayers on gold.

PI: Vilmalí López, PhD, University of Puerto Rico- Río Piedras

Strategic Sector: Electronics

2. Development of purification and formulation processes for manufacturing of personalized medication. PI: Torsten Stelzer, PhD, University of Puerto Rico- Medical Sciences Campus
Strategic Sector: Biotechnology and Natural Sciences, Medical Devices

3. Dimensions of biodiversity in pathogens of Puerto Rican wildlife.
PI: Sean Locke, PhD, University of Puerto Rico- Mayagüez**
Strategic Sector: Biotechnology and Natural Sciences

4. Butterflies for bioprospecting: The use of evolutionary theory to direct drug discovery.
PI: Catherine M. Hulshof, PhD, University of Puerto Rico- Mayagüez**
Strategic Sector: Biotechnology and Natural Sciences

** The applications of Dr. Catherine Hulshof and Dr. Sean Locke were recommended subjected to receive a support letter from their institution indicating that they have the necessary laboratory space and equipment to carry out the research proposed.

Application approved from cycle 1-a
Senior Faculty (new topic)
1. Robustness of developmental trajectories to varying temperatures in a tropical vertebrate.
PI: Carla Restrepo, PhD, University of Puerto Rico- Río Piedras
Strategic Sector: Biotechnology and Natural Sciences

2nd cycle (The SRGP grantees of this cycle will report for the first time in November, 2017)

Resubmission

1. Microbiota role in intestinal regeneration.
PI: José E. García-Arrarás, PhD, University of Puerto Rico- Río Piedras
Strategic Sector: Biotechnology and Natural Sciences

2. Subtropical bee longevity and response to seasonal changes.
PI: Tugrul Giray, PhD, University of Puerto Rico- Río Piedras
Strategic Sector: Biotechnology and Natural Sciences

3. Role of Metadherin in inflammatory breast cancer progression.
PI: Michelle Martínez-Montemayor, PhD, Universidad Central del Caribe
Strategic Sector: Biotechnology and Natural Sciences

New Topic

1. Investigating if unregulated mitotic kinases mediate the aggressive behavior of breast cancers in Puerto Rican women.
PI: Harold Saavedra*, PhD, Ponce Research Institute
Strategic Sector: Biotechnology and Natural Sciences

*Conditioned: Ponce Research Institute is recipient of a Researchers Startup Fund (RSFP) award to recruit Dr. Saavedra. The award establishes a first disbursement of $250K for the first year. For the remaining years, the disbursement was conditioned to Dr. Saavedra get a R01 grant during the first period. The recommendation is that if Dr. Saavedra accomplishes this using the SRGP award, and the RSFP funds are approved for the remaining years, the amount of the SRGP award will be discounted from the RSFP.

2. PAR-2 Variants: A Step Forward to Individualized Medicine in Asthma.
PI: Edu Suarez-Martinez, PhD, University of Puerto Rico- Ponce
Strategic Sector: Biotechnology and Natural Sciences

Junior Faculty

1. Spatial complexities in vector-borne disease dynamics: theory and applications in lizard and human malaria.
PI: Miguel Acevedo, PhD, University of Puerto Rico- Río Piedras
Strategic Sector: Biotechnology and Natural Sciences

2. Nanocellulose-based nanocomposites for the removal of contaminants of emerging concern: a water remediation strategy.
PI: Eduardo Nicolau, PhD, University of Puerto Rico- Río Piedras
Strategic Sector: Environmental Sciences

3. Towards the design of heterogeneous catalysts for the production of bio-based polymer building blocks.
PI: Yomaira Pagán-Torres, PhD, University of Puerto Rico- Mayagüez
Strategic Sector: Clean Technologies and/or Renewable Energy

4. Timing and Style of Fault development in western Puerto Rico: Integration of Stratigraphic, Geomorphic, and Isotopic approaches.
PI: Kenneth Hughes, PhD, University of Puerto Rico- Mayagüez
Strategic Sector: Environmental Sciences

Researchers Startup Funds Program (RSFP)

1- Approval of funding to support the recruitment of Dr. Devin Mueller as requested by PHSU. FY1: $300,000 FY2: $300,000 FY3: $150,000 FY4: $150,000 Total: $900,000

2-Approval of $250,000 of funding for a first year to support the recruitment of Dr. Harold I. Saavedra by the PHSU. Approval of funds in subsequent years will depend on the candidate's progress.

4. Grantees Publications

RFP 2014-2015

Rodolfo Romañach

- Pinzon-De la Rosa C., Rodriguez V., Hormaza M.., Romanach R. J. (2017) "Theory of Sampling meets the National Science Foundation I-Corps program". Proceedings del World Conference on Sampling and Blending, 8, Pages 9-11
- Romañach R. J.; Esbensen, K. H., (2016) "Theoy of Sampling (TOS)". Development of Spectroscopic Calibration Models American Pharmaceutical Review, 19 (6), Pages 138-139.
- D. Mateo-Ortiz, R. Mendez, Microdynamic Analysis of Particle Flow in a Confined Space Using DEM: The Feed Frame Case. Advance Powder Technology, July 2016, Volume 27, Issue 4, Pages 1597-1606

Antonio Alegría

- Sanchez-Cruz P., Alegria A. E. (2016) "Photosensitized production of nitric oxide and peroxynitrite from a carbon-bound diazenium diolate and 2-methyl-2-nitrosopropane". Journal of Photochemistry and Photobiology A: Chemistry, 330 (1), Pages 79-85

Suranganie Dharmawardhane

- Castillo-Pichardo, L, Borrero-Garcia, L, Forrestier-Roman, I, Martinez-Ferrer, M, Hernandez-O'Farrill, E, Vlaar, C, Cubano, LA, Dharmawardhane, S. "Antibreast cancer effects of the Vav/Rac inhibitor EHop-016 in the tumor microenvironment", February 2016 Molecular Cancer Research 14(2 Supplement):B29-B29

SRGP 2015-2016

Cycle 1-a

Maribella Domenech

- Domenech, M., Polo-Corrales, L., Ramirez-Vick, J. E., Freytes, D.O. (2016) "Tissue Engineering Strategies for Myocardial Regeneration", Tissue Engineering Part B, 6, Pages 438-458.

Jorge Almodovar

- Castilla Casadiego D., Maldonado M., Sundaram P., Almodovar J. (2016) "Green electrospinning of a collagen/hydroxyapatite composite nanofibrous scaffold", MRS Communications, 6(40), Pages 402-407.
- Castilla Casadiego D., Ramos Avilez H. V., Herrera-Posada S., Calcagno B., Loyo L., Shipmon J., Acevedo A., Quintana A., Almodovar J. (2016) "Engineering of a stable collagen nanofibrous scaffold with tunable fiber diameter, alignment, and mechanical properties", Macromolecular Materials and Engineering
- Ramos Avilez H.V., Castilla Casadiego D.A., Vega A.L., Perales O.J., Almodóvar J. (2016) "Production of Chitosan Coatings on Metal and Ceramic Biomaterials". Chitosan-based biomaterials Fundamentals, 1, Pages 255-294. Print

Cycle 2-b

Sean Locke

- Caffara M§, Locke S.A.§, Cristanini C., Davidovich N., Markovich M..P., Fioravanti M.L. (2016) "A combined morphometric and molecular approach to identifying metacercariae of Euclinostomum heterostomum (Digenea: Clinostomidae)". Journal of Parasitology 102(2),Pages 239-48 (§=contributed equally)
- Marcogliese DJ, Locke SA, Gélinas M, Gendron AD (2016) "Variation in parasite communities in spottail shiners (Notropis hudsonius) linked with precipitation". Journal of Parasitology 102(1), Pages 27-36

Carla Restrepo

- Colón, Z., L. Rosario, and C. Restrepo. "Retrofitting rodent housing for captive breeding of the direct developing frogs Eleutherodactylus coqui and E. antillensis: from troubleshooting to monitoring". Herpetological Review. In press

RFP 2015-2016

Guillermo Armaiz-Peña

- Previs R.A., Armaiz-Pena G.N., Ivan C., Dalton H.J., Rupaimoole R., Hansen J.M., Lyons Y., Huan J., Haemmerle M., Wagner M.J., Gharpure K.M., Nagaraja A.S., Filant J., McGuire M.H., Noh K., Dorniak P.L., Linesch S.L., Mangala L.S., Pradeep S., Wu S.Y., Sood A.K.. "Role of YAP1 as a Marker of Sensitivity to Dual AKT and P70S6K Inhibition in Ovarian and Uterine Malignancies.". J Natl Cancer Inst 2017; 109 (7): djw296.

Paul Bayman

- Mariño, Y. A., Vega, V. J., García, J. M., Verle Rodrigues, J. C., García, N. M., & Bayman, P. (2017) "The Coffee Berry Borer (Coleoptera: Curculionidae) in Puerto Rico: Distribution, Infestation, and Population per Fruit". Journal of Insect Science, 17(2), Page58

Tugrul Giray

- Avalos A, Pérez E, Vallejo L, Pérez ME, Abramson CI, Giray T. Social signals and aversive learning in honey bee drones and workers. Biol Open. 2017 Jan 15;6(1):41-49. doi: 10.1242/bio.021543

Suranganie Dharmawardhane

- Humphries-Bickley T., Castillo-Pichardo L., Hernandez-O'Farrill E., Borrero-Garcia L.D., Forestier-Roman I., Gerena Y., Blanco M., Rivera-Robles M.J., Rodriguez-Medina J.R., Cubano L.A., Vlaar C.P., Dharmawardhane S. (2017) "Characterization of a Dual Rac/Cdc42 Inhibitor MBQ-167 in Metastatic Cancer". Molecular Cancer Therapeutics; 16(5), Pages 805-818
- De La Parra C., Castillo-Pichardo L., Cruz-Collazo A., Cubano L., Redis R., Calin G.A., and Dharmawardhane S. (2016) "Soy isoflavone genistein-mediated downregulation of miR-155 contributes to the anticancer effects of genistein". Nutr. Cancer, 68(1), Pages 154-64
- Rivera-Rivera A., Castillo-Pichardo L., Gerena Y., Dharmawardhane S. (2016) "Anti-breast cancer potential of quercetin

via the Akt/mTOR/AMPK/Mammalian Target of Rapamycin (mTOR) signaling cascade". PLoS One

- Tessa Humphries-Bickley, Linette Castillo-Pichardo, Eliud Hernandez-O'Farrill, Luis D. Borrero-Garcia, Ingrid Forestier-Roman, Yamil Gerena, Manuel Blanco, Michael J Rivera-Robles, José R Rodriguez-Medina, Luis A Cubano, Cornelis P Vlaar, Suranganie Dharmawardhane. Characterization of a Dual Rac/Cdc42 Inhibitor MBQ-167 in Mol Cancer Ther. 2017 May; 16(5):805-818.

RSFP 2015

Devin Mueller

- Otis, J.M., and Mueller, D. Reversal of cocaine-associated synaptic plasticity in prefrontal cortex eliminates drug-associated memory retrieval. Neuropsychopharmacology. 2017 May 3. doi: 10.1038/npp.2017.90. [Epub ahead of print]
- Hafenbreidel, M., Rafa Todd, C., and Mueller, D. Infralimbic GluN2A-containing NMDA receptors are necessary for the reconsolidation of cocaine self-administration memory. Neuropsychopharmacology. 2017 Apr;42(5):1113-1125. doi: 10.1038/npp.2016.288. Epub 2017 Jan 2.

Harold Saavedra

- Lee, MY, Oprea-Ilies, G and Saavedra, HI. Silencing of E2F3 suppresses tumor growth of Her2+ breast cancer cells by restricting mitosis. Oncotarget. 2015 Nov 10;6(35):37316-34
- Rivera-Rivera, Y and Saavedra, HI. Centrosome - a promising anti-cancer target. Biologics: Targets and Therapy Biologics. 2016 Dec 13;10:167-176. doi: 10.2147/BTT.S87396. eCollection 2016. Review.

5. Laboratory Visits

RFP 2014-2015

Grantee	Midterm Visit	Final Visit
Adelfa Serrano	Feb 8, 2016	-
Antonio Alegría	Dec 4, 2015	Aug 18, 2016
Carlos Cabrera	Dec 4, 2015	Apr 11, 2017
David Suleiman	Dec 8, 2015	-
Jacqueline Flores	Dec 11, 2015	Feb 16, 2017
Jonathan Friedman	Dec 11, 2015	Aug 15, 2016
Juan Cruz	Dec 14, 2015	Aug 18, 2016
Lianabel Oliver	-	Aug 16, 2016-
Rafael Medina	Dec 8, 2015	Feb 16, 2017
Rodolfo Romañach	Dec 11, 2015	Feb 16, 2017
Suranganie Dhramawardhane	Dec 9, 2015	Nov 21, 2016

RFP 2015-2016

Grantee	Midterm Visit	Final Visit
Pablo Vivas	Jan 10, 2017	-
Suranganie Dharmawardhane	Jan 10, 2017	-
Guillermo Armaiz	Jan 12, 2017	-
Idhaliz Flores	Jan 12, 2017	-
Elizabeth Padilla	Jan 16, 2017	-
Lilia Kucheryavykh	Jan 17, 2017	-
Sylvia Rodriguez	Jan 18, 2017	-
Tugrul Giray	Jan 19, 2017	-
Paul Bayman	Jan 24, 2017	-
Norman Ortiz	Jan 18, 2017	-
Carlos Alvarado	Feb 8, 2017	-
Silvina Cancelos	Feb 16, 2017	-
Jaime Matta	Feb 14, 2017	-
Roy Armstrong	Mar 8, 2017	-

SRGP 2015-2016

Grantee	Midterm Visit	Final Visit
Lisandro Cunci	Jul 19, 2016	-
Maribella Domenech	Jul 18, 2016	-
Pedro Resto	Jul 15, 2016	-
Jorge Almodovar	Jul 15, 2016	-
Wildeliz Torres	Jul 15, 2016	-
Catherine Hulshof	Sept 15, 2016	-
Sean Locke	Sept 15, 2016	-
Vilmali López	Sept 12, 2016	-
Torsten Stelzer	Sept 12, 2016	-
Carla Restrepo	Sept 2016	-

Research Startup Funds Program (RSFP)

Grantee	Visit
Devin Mueller	Jan 12, 2017
Harold Saavedra	Jan 12, 2017

6. Research Grants Program Press Coverage (TV coverage not included)

CIENTÍFICOS QUE APUESTAN AL EMPRENDIMIENTO

Cinco proyectos auspiciados por el Fideicomiso de Ciencia ponen el ojo en la comercialización de medicamentos y tecnología desarrollados en Puerto Rico

Marie Custodio Collazo

Grupo de investigadores, desde la izquierda: Adelfa Serrano; Lisanibel Oliver, Ricardo González; Rodolfo Romañach; Carlos Cabrera y Dharmaveerdhaw Suranganie.

La principal ejecutiva del Fideicomiso de Ciencia, Lucy Crespo junto al director José Rodríguez Orengo, y el principal oficial de operaciones del Fideicomiso, Iván Ríos.

"El problema de la malaria es que el parásito se ha vuelto resistente a la mayoría de los medicamentos. Estamos tratando de encontrar un medicamento nuevo"

DRA. ADELFA SERRANO

La innovación no es algo que vayas a producir de la nada, conlleva un proceso de desarrollo, y la inversión del país en la investigación fundamental es bien importante"

CARLOS CABRERA

REVISTA NEGOCIOS

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AA Says Good-bye to SJU-JFK Flights

Orr Unveils Restructuring Truths

Plenty of Questions About Congenital Zika Cases

Labor Department Silent on Medical Cannabis at Work

COVER STORY

Weird Science?

Science Trust Chases Patent Dollars

TOP STORY

AGC Panel: Critical Infrastructure Projects Could be at Risk if Confidence Jeopardized

Sofitel Hotel in Washington D.C.

40+ local Rotary clubs in Puerto Rico local community projects great company!

Rotary Puerto Rico

PUERTORICO

COVER STORY

Betting on Innovation to Jumpstart the Economy

Science Trust Aims to Promote R&D in Puerto Rico

"We have this vision for Puerto Rico to be recognized as a center for global innovation that is capable of developing, attracting and retaining scientists, technological entrepreneurs and world-renowned businesses."

$150k
Amount the Science & Technology Grant Gives to Recipients

Science Trust Achievements 2015-2017

"If we do not obtain these grants once and for all, it doesn't matter how much research we do, we won't be able to elevate [an institution's] ranking."

Paso al frente en la investigación científica

Doce proyectos de investigación reciben "grants" del Fideicomiso de Ciencias, Tecnología e Investigación

El Nuevo Día 22 Apr 2015 Andrea Martínez amartinez@elnuevodia.com Twitter: @amartinezdejesus

Una docena de proyectos científicos fueron los acreedores de la primera entrega en Puerto Rico de fondos a investigadores de parte del Fideicomiso para Ciencias, Tecnología e Investigación (FCTI).

El principal oficial de operaciones del FCTI, Iván Ríos Mena, indicó que los candidatos no seleccionados recibirán información para que sepan las áreas de la evaluación en las que fallaron para que puedan volver a competir.

En esta primera entrega, los 12 seleccionados recibieron subvenciones de $150,000 cada uno para el desarrollo de sus investigaciones.

De una asignación global de $4 millones, que el FCTI destinó para el programa, en esta ronda se habrían asignado unos $2.4 millones, dijo Ríos Mena. Entre los proyectos seleccionados hay temas que incluyen el desarrollo de nuevas drogas contra la malaria y el cáncer; la creación de tecnologías híbridas para adelantar las comunicaciones y la aviación; así como avances biotecnológicos para purificar el agua.

"Con esta entrega se reafirma la misión del Fideicomiso", indicó Ríos Mena.

Lucy Crespo, principal oficial ejecutiva del FCTI, dijo que de los 12 proyectos seleccionados, nueve son de la Academia (de la Universidad de Puerto Rico y la Universidad Metropolitana) y tres de entidades con fines de lucro (Tailwind Medical Devices, Pathways PR, y ComQuest Ventures).

"Es un momento histórico para Puerto Rico, pues con estos proyectos validamos ante la comunidad científica internacional que, como país, tenemos una enorme capacidad para la investigación y que hemos creado los recursos para convertirnos en una sede internacional de innovación, comercialización y desarrollo de la ciencia y la tecnología", indicó Crespo.

La principal oficial ejecutiva del Fondo de Ciencias, Tecnología e Investigación (FCTI), Lucy Crespo, explicó que en la primera convocatoria del Programa de "Grants" del FCTI, se recibieron 234 cartas de intención, de

Desde la izquierda, Alberto Bacó, secretario de Desarrollo Económico; Lucy Crespo, CEO del Fideicomiso de Ciencia; y Jonathan Friedman de la Universidad Metropolitana.

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By Caribbean Business on July 22, 2016

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The 14 awardees of the Science, Technology and Research Trust grant program and Trust executives. (José R. Madera photo)

SAN JUAN – The search for new forms of diagnosis and therapy for endometriosis, the development of genetic tools to help preserve bees, new methods to mitigate coastal erosion and a remote sensing system to detect the presence of contaminants in water are some of the projects that got funding from the Science, Technology and Research Trust.

endi

Negocios

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Premium ES

Nueve científicos ganan $630,000 para avanzar proyectos

El Fideicomiso para Ciencia, Tecnología e Investigación anunció ayer los ganadores de su programa de subvenciones

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Y EL MEJOR SERVICIO

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LLAME AHORA 787.869.0668

Nueve investigadores obtuvieron ayer impulso para sus proyectos, al salir airosos en la ronda del programa de subvenciones del Fideicomiso para Ciencia, Tecnología e Investigación (FCTI), anunció la doctora Gretchen Díaz, directora del programa.

La subvención es de $70,000 para cada investigación, entre las que figuran estudios sobre cáncer de mama, terapia individualizada contra el asma, remediación de agua y resiliencia de las abejas.

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Exitoso puente para las ciencias vivas

Como país sede de Bioasian, Puerto Rico conectó a líderes de la industria en la región

Esa diferencia en lo que nos hace valiosos.

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Programa de subvenciones adelanta 33 proyectos de investigación

Durante el evento también se discutió el impacto de este programa para la Academia y la comunidad de investigación y Desarrollo (R&D) del país.

Por: Metro Puerto Rico

Un total de 33 proyectos de investigación en diferentes sectores estratégicos han recibido subvenciones (*Grants*) por parte del Fideicomiso para Ciencias, Tecnología e Investigación de Puerto Rico (FCTIPR).

Se indicó en una comunicación escrita que una selección de investigadores que han sido subvencionados por el Research Grants Program del FCTIPR, se presentó en el *Forward Grantees Symposium*, un evento celebrado en la Universidad del Este, en Carolina. El propósito del simposio fue delinear y conocer el alcance y progreso de estos proyectos de investigación y el impacto a corto y largo plazo que han representado las subvenciones otorgadas por este programa en el ecosistema de investigación del país.


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PANAMERICANO

iGenApps levanta capital para crecer

Mediante la plataforma WeFunder, esta startup boricua tiene el potencial de alcanzar $1 millón, a cambio de acciones futuras

REGRESÓ EL BUFFET

$9.99

$124


Negocios

Llega al mercado OBALearn

Proyecto subvencionado por el Fideicomiso para Ciencia y Tecnología se lanza comercialmente

Science, Technology & Research Trust

Fideicomiso para Ciencia, Tecnología e Investigación de Puerto Rico

Más en Negocios


Inicio»

Ahora

Nota publicada hace más de 60 días.

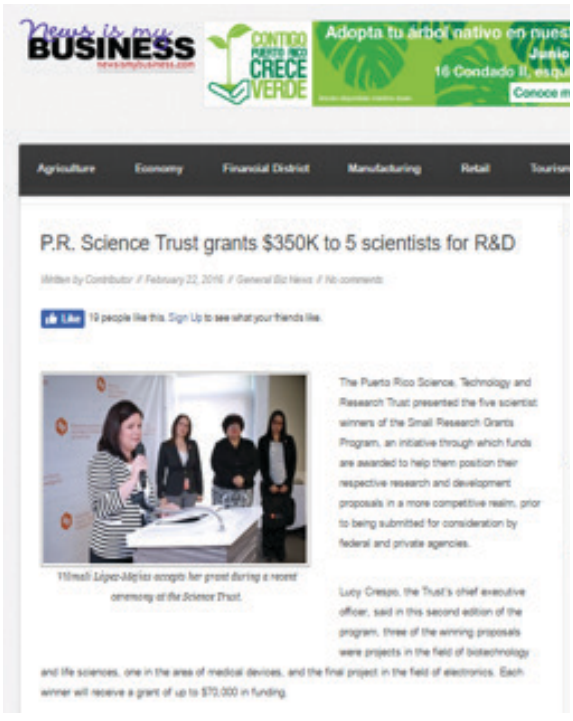
Cinco científicos abren ruta hacia fondos de alta competencia

Grupo de ganadores junto al equipo del FCTI (Suministrada)

NotiCel

02/12/2015 08:57 pm

El Fideicomiso para Ciencia, Tecnología e Investigación de Puerto Rico (FCTI) presentó el miércoles a los cinco ganadores de una subvención de fondos de inversión, fruto del programa Small Research Grant Program (SRGP), que ayudará a la creación de propuestas de investigación para obtener fondos federales para proyectos de gran escala.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P.R. Science Trust grants $350K to 5 scientists for R&D

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The Puerto Rico Science, Technology and Research Trust presented the five scientist winners of the Small Research Grants Program, an initiative through which funds are awarded to help them position their respective research and development proposals in a more competitive realm, prior to being submitted for consideration by federal and private agencies.

Lucy Crespo, the Trust's chief executive officer, said in this second edition of the program, three of the winning proposals were projects in the field of biotechnology and life sciences, one in the area of medical devices, and the final project in the field of electronics. Each winner will receive a grant of up to $70,000 in funding.

Date (mm/dd/yyyy)	Title	Media
6/4/2017	iGenApps levanta capital para crecer	El Nuevo Día
5/30/2017	Programa de subvenciones adelanta 33 proyectos de investigación	Diario Metro Puerto Rico
5/14/2017	Dr. Eduardo Nicolau: Creating Solutions With Nanoparticle Chemistry	CienciaPR
4/19/2017	Nueve científicos ganan $630,000 para avanzar proyectos.	El Nuevo Día
4/19/2017	Investigadores de universidades ponceñas reciben importantes subvenciones	Voces del Sur
4/18/2017	Nine Researchers Receive Science Trust Grant	CienciaPR
4/18/2017	9 Local researchers receive Science Trust Grants	News is my business
4/18/2017	Nueve Investigadores reciben subvenciones del Fideicomiso	Sin Comillas
3/23/2017	Eligen a científica ponceña como parte de la junta de directores de organización internacional	Periódico La Perla del Sur
3/21/2017	Científica Boricua se distingue en el ASM	El Nuevo Día
3/20/2017	Cientifica Puertorriqueña en Junta de Sociedad Americana para Microbiolgía	Sin Comillas
3/20/2017	Reconocen a científica puertorriqueña enla Sociedad Americana para la Microbiología	Caribe Tecno
3/20/2017	Egresada de CROEM y el RUM a la junta de la Sociedad Americana de Microbiología	Mayaguez sabe a mango
2/11/2017	Centro de Ciencias Moleculares, casa de la experimentación	Noticel
1/31/2017	Carla Restrepo: Leaving a Mark with Ecological Studies	CienciaPR
1/31/2017	Labor cientifica por la cura del retinoblastoma en Puerto Rico	Revista Medicina y Salud Pública
1/27/2017	Save the date: Forward Mentoring Day	CienciaPR
1/25/2017	Oportunidad de mentoría para estudiantes	El Nuevo Día
1/23/2017	Oportunidad de mentoría sobre el mundo laboral para los estudiantes	Diálogo UPR
12/1/2016	Exitoso puente para las ciencias vivas	El Nuevo Día
12/1/2016	Puerto Rico unites the Latin American Scientific Community at Biolatam 2016	Caribbean Business
12/1/2016	Puerto Rico unites the Latin American Scientific Community at Biolatam 2016	FOX8 New Orleans
11/30/2016	Puerto Rico unites the Latin American Scientific Community at Biolatam 2016	PR Newswire
11/30/2016	Puerto Rico unites the Latin American Scientific Community at Biolatam 2016	Market Watch

10/28/2016	PROMO: Viento en popa la innovación científica boricua	Laboratorio de Comunicaciones Científicas
10/20/2016	Científicos unen esfuerzos en Ponce para combatir varios tipos de cáncer	Diario Vegabajeño
10/12/2016	Vislumbran materiales fotovoltaicos económicamente accesibles	Laboratorio de Comunicaciones Científicas
9/28/2016	Investigación en Ponce sobre endometriosis con repercusiones a nivel mundial	Voces del Sur
8/17/2016	Junte inédito de ciencia, empresa e inversión	El Nuevo Día
8/9/2016	Investigadores del RCM ganan premio por estudio	El Nuevo Día
8/10/2016	Ponce Health Sciences University invierte $1.4 millones en investigaciones de neurociencias	Sin Comillas
7/26/2016	Investigadores de institución educativa de Ponce reciben ayuda para sus proyectos	Voces del Sur
7/22/2016	FCTIPR entrega subvenciones a nuevos investigadores	Caribbean Business
7/22/2016	14 projects split $2.1M in P.R. Science Trust grants	News is my Business
7/22/2016	Science Trust Grants $2.1 Million in Research Funds	Caribbean Business
7/22/2016	Greetchen Díaz, ponceña que se destaca en el Fideicomiso de Ciencia, Tecnología e Investigación	Laboratorio de Comunicaciones Científicas
7/21/2016	Entregan subvenciones a investigadoreshttp://sincomillas.com/entregan-subvenciones-investigadores/	Sin Comillas
7/21/2016	Catorce proyectos recibirán subvenciones del “Science & Technology Grants Program” del FCTIPR	Agro Tropical INC
7/7/2016	OBALearn nabs national business certification	News is my Business
7/7/2016	FCTI’ Financed Project Receives Certification from Women’s Business Enterprise	Caribbean Business
6/26/2017	Oportunidad de fondos para investigadores locales	Ciencia PR
6/22/2016	Oportunidad de fondos para investigadores locales	Diálogo UPR
6/9/2016	Abren convocatoria de becas proyectos locales de ciencia y tecnología	Diálogo UPR
6/7/2016	The front pages of “El Nuevo Dia” highlighted Professor Cabrera and Professor Nicolau’s innovative work	College of Natural Sciences UPR-RP News
5/26/2016	Vínculo entre el estrés y el cáncer	El Nuevo Día
4/17/2016	Completan primera fase del proyecto de posible vacuna contra el VIH	El Nuevo Día
4/13/2016	Dispositivo facilitará complicada operación de rodilla	El nuevo Periódico de Caguas

4/8/2016	Rodolfo Romañach: Improving Production Of Pharmaceutical And Food Products Through Scientific Research	CienciaPR
3/14/2016	Estrés empeora los síntomas de la endometriosis	El Nuevo Día
3/5/2016	Llega al mercado OBALearn	El Nuevo Día
3/4/2016	Llega al mercado OBALearn	Guayacán
2/24/2016	FCTI comprometido con la economía del conocimiento	Diálogo UPR
2/24/2016	FCTI comprometido con la economía del conocimiento	CienciaPR
2/24/2016	Buscan ampliar la economía del conocimiento en Puerto Rico	Diario Metro Puerto Rico
2/22/2016	P.R. Science Trust grants $350K to 5 scientists for R&D	News is my Business
2/22/2016	Prof. Restrepo ha ganado la beca del Fideicomiso para Ciencia, Tecnología e Investigación de Puerto Rico (FCTI)	College of Natural Sciences UPR-RP News
2/19/2016	2da Edición Pequeñas Subvenciones- Fideicomiso de Ciencias	Revista Medicina y Salud Pública
2/19/2016	Entregan fondos a nuevos investigadores para fortalecer la economía del conocimiento	Revista Medicina y Salud Pública
1/25/2016	Subvención del programa Small Research Grant Program	Foro Colegial
12/10/2015	Colegiales brillan en diversos foros	Biblioteca Colegial UPRM
12/7/2015	Four UPRM Faculty Members Awarded PRSTRT Small Grants!	CID UPRM
12/3/2015	UPR investiga: uso de polímeros en la guerra, la energía y el agua	Dialogo UPR
12/3/2015	Científico de la UT recibe subvención	Turabo Noticias
12/3/2015	Science Trust grants $350K to fund new research	News is my Business
12/2/2015	Boricua busca un medicamento que evite la metástasis	El Nuevo Día
12/2/2015	Fideicomiso para Ciencia y Tecnología impulsa propuestas de investigación federal	Empresarios
12/2/2015	Cinco científicos abren ruta hacia fondos de alta competencia	Noticel
11/12/2015	Ponce Health Sciences University Attracts Top-Tier Medical Researchers to Address Growing Health Disparities Among Hispanics	Market Wired
10/19/2015	PRSTRT Science and Technology Grants RFP	CID UPRM
10/7/2015	Ofrecen becas para innovación científica en Puerto Rico	Indice
10/2/2015	Puerto Rico: convocan científicos a desarrollar 15 proyectos de investigación	NodalTec
10/2/2015	Se entregarán becas para innovación científica en Puerto Rico	Universia
9/25/2015	Otorgan “grants” de investigación para adelantar la agenda científica del país	La Voz Hispana NY
9/22/2015	Scientists Bet on Entrepreneurship	El Nuevo Día

9/20/2015	Otorgan "grants" de investigación para adelantar la agenda científica del país	Diario de Puerto Rico
9/14/2015	Puerto Rico's New Promise: Science City	El Nuevo Día
7/22/2015	Puerto Rico: Investigadores diseñan microchip capaz de detectar cáncer de manera rápida y económica	Nodal
7/8/2015	Puerto Rican researchers get grant for cancer-detecting microchip	Agencia EFE
7/8/2015	Científicos de Puerto Rico avanzan en un microchip para detectar el cáncer	Agencia EFE
7/7/2015	Crean un microchip que permite detectar el cáncerhttp://www.immedicohospitalario.es/noticia/6088/crean-un-microchip-que-permite-detectar-el-caacutencernbsp	IM Medico
7/7/2015	Científicos de la Universidad de Puerto Rico crean un microchip que permite detectar el cáncer	El Economista
7/7/2015	Científicos de la Universidad de Puerto Rico crean un microchip que permite detectar el cáncer	Saludemia
7/2/2015	Crean un microchip que permite detectar el cáncer	El Nacional
7/2/2015	Científicos de la Universidad de Puerto Rico crean un microchip que permite detectar el cáncer	Hoy Digital
5/27/2015	Microbióloga ambiental boricua recorre el mundo gracias a la ciencia	El Nuevo Día
5/25/2015	Microchip boricua para detectar el cáncer	El Vocero
5/24/2015	Científicos de la UPR crean microchip para detectar cáncer	Indice
5/22/2015	Cáncer: científicos de UPR crean microchip para detectar la enfermedad	Universia
5/22/2015	Puerto Rico: investigadores desarrollan microchip capaz de detectar cáncer	NodalTec
5/21/2015	Diseñan microchip en UPR Río Piedras para detectar cáncer	El Nuevo Día
5/21/2015	Diseñan microchip en UPR Río Piedras para detectar cáncer	Diario Dom Digital
5/20/2015	Investigadores de la UPRRP diseñan microchip para detectar cáncer	UPRRP
5/20/2015	Investigadores de la UPRRP diseñan microchip para detectar cáncer	UPRRP
5/6/2015	Profesor de Ciencias Naturales recibe importante "Grant del Fideicomiso para Ciencias, Tecnologías e Investigación	UPRRP
4/30/2015	Puerto Rico Science & Technology Trust grants groundbreaking funding as it ushers in new leadership	Black Engineer (blog)
4/27/2015	Duo boricua abren campaña en Kickstarter con el fin de lanzar un dron híbrido, el Vertex Hybrid UAV	Digitalika
4/22/2015	Paso al frente en la investigación científica	El Nuevo Día
4/22/2015	Science Trust grants $1.8M to 12 local scientific projects	News is my Business

4/22/2015	Impulso a la Investigación	Indice
4/21/2015	Primera entrega de fondos del FCTI para el desarrollo de proyectos científicos (documento)	Noticel
4/21/2015	Primera entrega en Puerto Rico de fondos a investigadores para el desarrollo de 12 proyectos científicoshttp://www.peoplemusic.com/primera-entrega-en-puerto-rico-de-fondos-a-investigadores-para-el-desarrollo-de-12-proyectos-cientificos/	People Music La Revista
3/20/2015	Former HP exec Crespo to lead P.R. Science & Tech Trust	News is my Business
3/20/2015	Empresaria dirigirá Fideicomiso Ciencia-Tecnología	Wapa TV
3/7/2015	En su fase final la evaluación de propuestas de "grants" para la investigación científica	N-punto
2/23/2015	Crean beca para científicos en Puerto Rico	holaciudad!
2/3/2015	Science Trust poised to grant $2.2M for R&D projects	News is my Business
1/26/2015	Fideicomiso destinará un millón de dólares para fomentar el desarrollo científico en Puerto Rico	Universia
1/23/2015	Fideicomiso de Ciencias ofrece becas para investigación y atraer científicos	Noticel
1/22/2015	Science Trust announces availability of $1.4M in grants	News is my Business
1/21/2015	Fideicomiso de Ciencias, Tecnología e Investigación da impulso a investigadores	Foro Noticioso
8/21/2014	Anuncian $5 millones para proyectos de ciencias e investigación	Periódico Visión
8/19/2014	Science Trust opens RFP for $5M innovation grant cycle	News is my Business
8/14/2014	Abre convocatoria competitiva para propuestas de innovación	El Nuevo Día
7/8/2014	Convocatoria para investigadores y cientificos locales	El Nuevo Día
7/8/2014	Fondos para investigadores y científicos	Noticel
7/8/2014	Fideicomiso de Ciencias, Tecnología e Innovación anuncia programa de subvenciones	Microjuris (blog)

7. Research Grants Program General Survey

This Survey was created with the purpose of knowing the general opinion about The Trust's Research Grants Program. A Google Form with 11 questions was sent to The Trust's contact list and we received a total of 153 answers. The following are the questions that were sent and the answers analysis. Answers of question 11 (additional comments) are not shown.

1. Choose the position that best describes you.
   a. Researcher (PI, Technician, Postdoc)
   b. R&D administrator
   c. Entrepreneur
   d. Student

2. Do you know about the Grants Program at the Puerto Rico Science, Technology and Research Trust?
   a. Yes
   b. No

3. How did you find out about the Program?
   a. Social Media
   b. Media (Press, TV)
   c. Email
   d. Through a colleague or student
   e. Trust's Website
   f. Orientation given by The Trust
   g. N/A (If you answered NO in #2)

4. Have you applied for a grant through this Program before?
   a. Yes
   b. No
   c. N/A (If you answered NO in #2)

5. Whether you received the funding or not, would you consider reapplying to the Grants Program? *
   a. Yes
   b. No
   c. Maybe
   d. N/A (if you answered NO in #4 and #2)

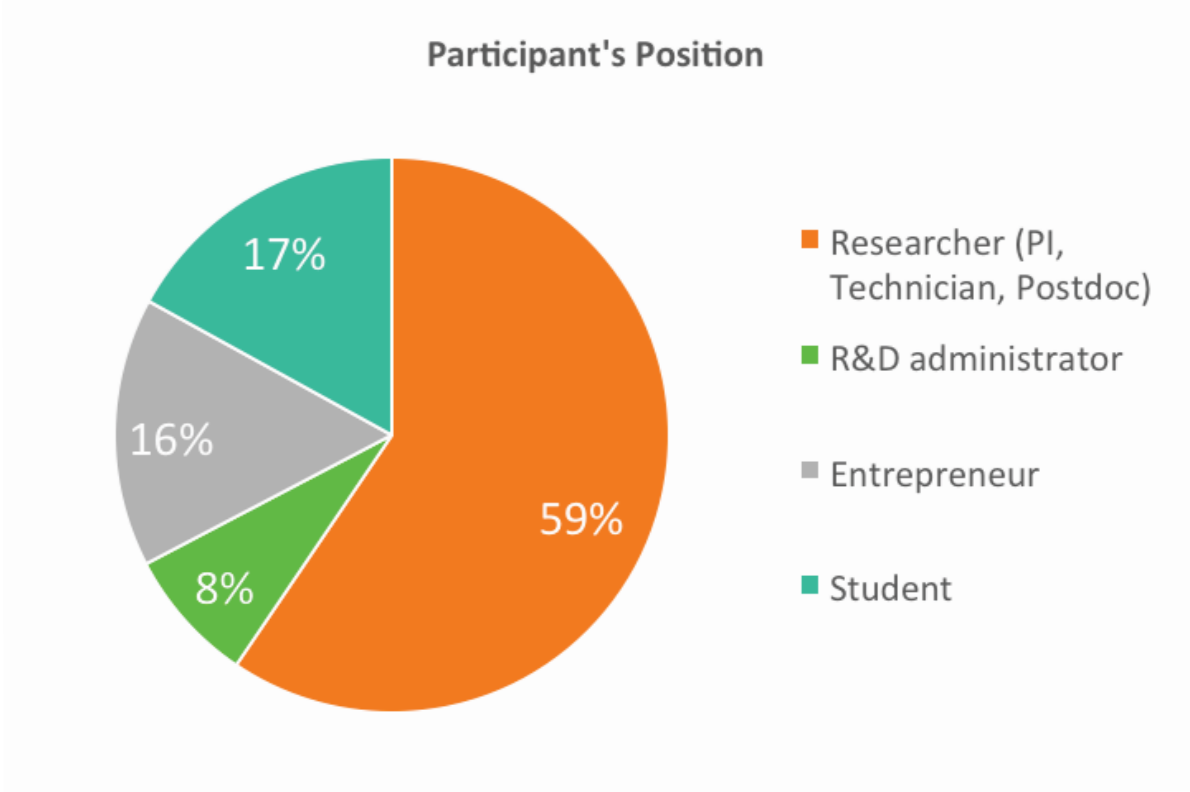
6. Would you recommend the Program to your colleagues?
   a. Yes
   b. No
   c. Maybe
   d. N/A (If you answered NO in #2)

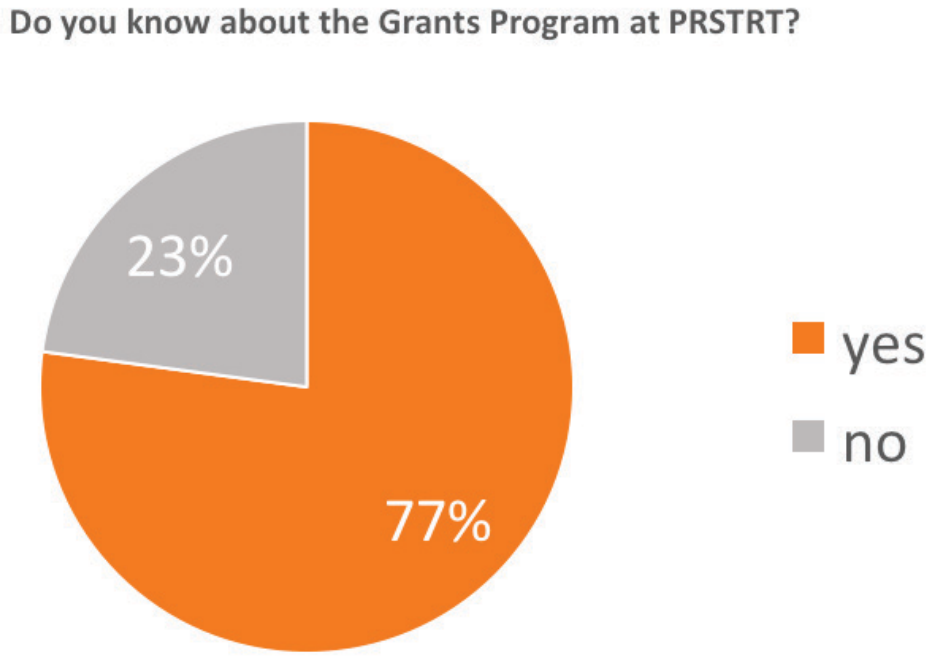
7. Do you consider that it is important for Puerto Rico to have a local Grants Program?
   a. Yes
   b. No

8. Why do you think it is important to have a local Grants Program? (Check all that apply)
   a. It helps to strengthen the research ecosystem in Puerto Rico
   b. It allows the prioritization of the most relevant research topics for Puerto Rico
   c. It provides help for the advancement and development of a research project
   d. It helps the principal investigator to obtain external funding
   e. It helps to incite more research in the Private Sector
   f. N/A (If you answered NO in #7)
   g. Other

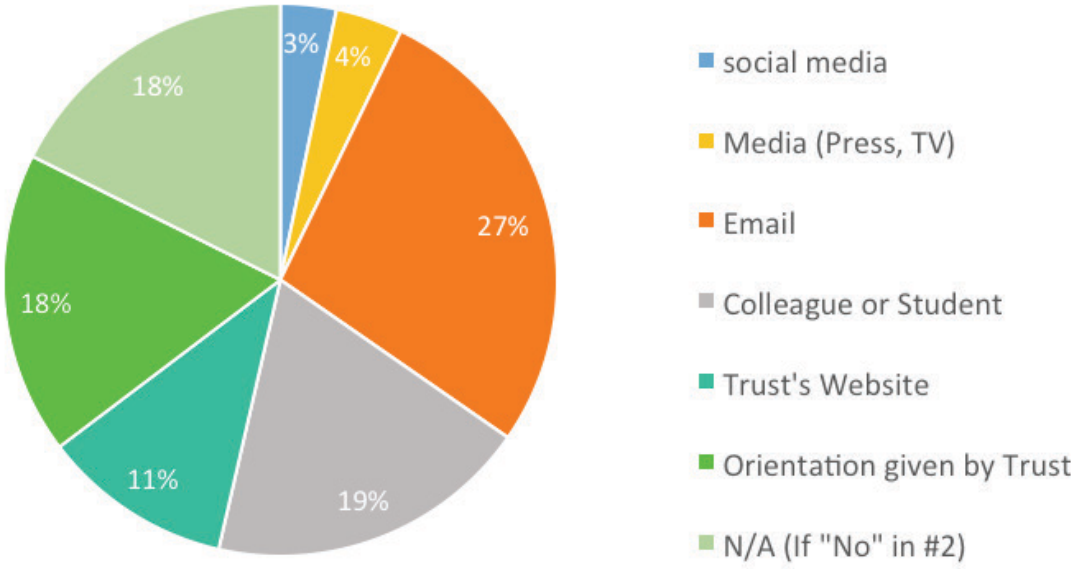
9. The Trust's strategic plan establishes that one of its priorities is to expand the Grants Program. Do you agree with this statement?
   a. Strongly agree
   b. Agree
   c. Neutral
   d. Disagree
   e. Strongly Disagree

10. In addition to the existing grants, which type of funding do you think is more necessary in Puerto Rico? (Choose one)
   a. Grants for postdocs
   b. Matching/Supplementary Funds
   c. Seed Money Grants
   d. Travel Awards
   e. Undergraduate/Graduate Fellowships
   f. Grants for Equipment/Infrastructure
   g. Other
11. Additional Comments (Not Included in this document)

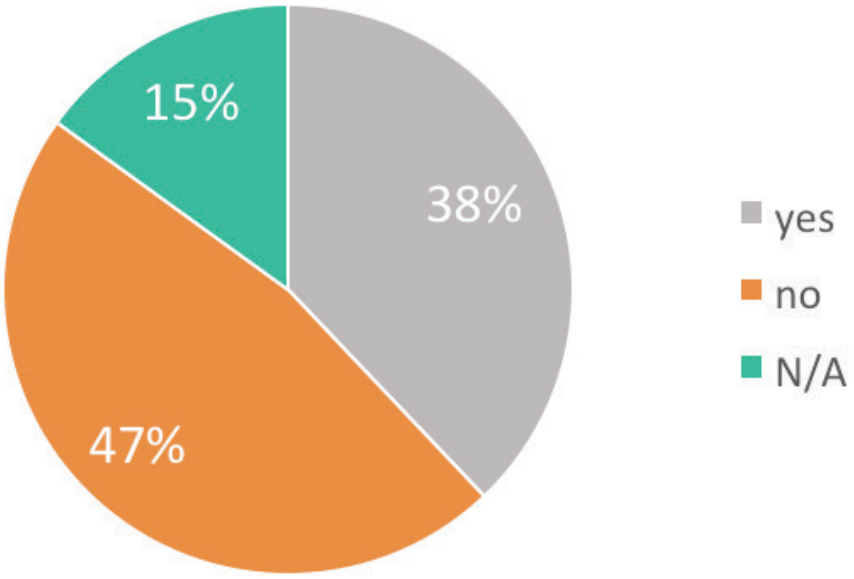

Participant's Position
17%
16%
59%
8%
Researcher (PI, Technician, Postdoc)
R&D administrator
Entrepreneur
Student


Do you know about the Grants Program at PRSTRT?
23%
77%
yes
no

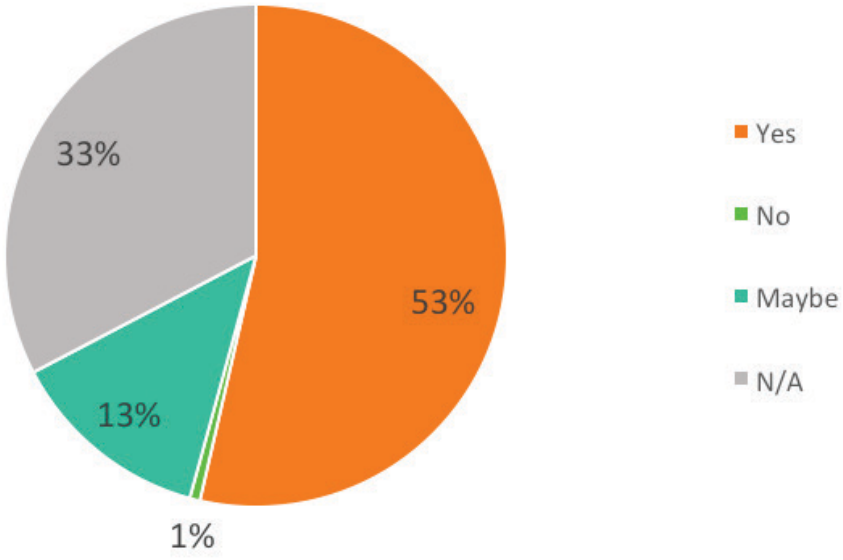
How did you find out about the Program?



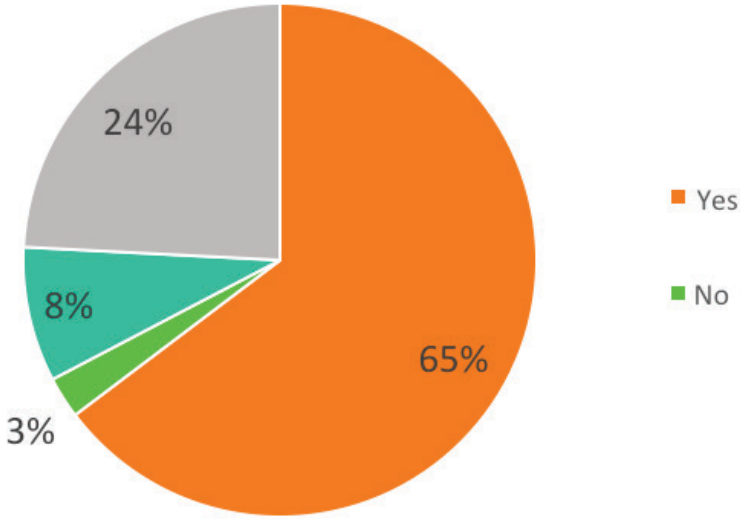
Have you applied for a grant through this program before?



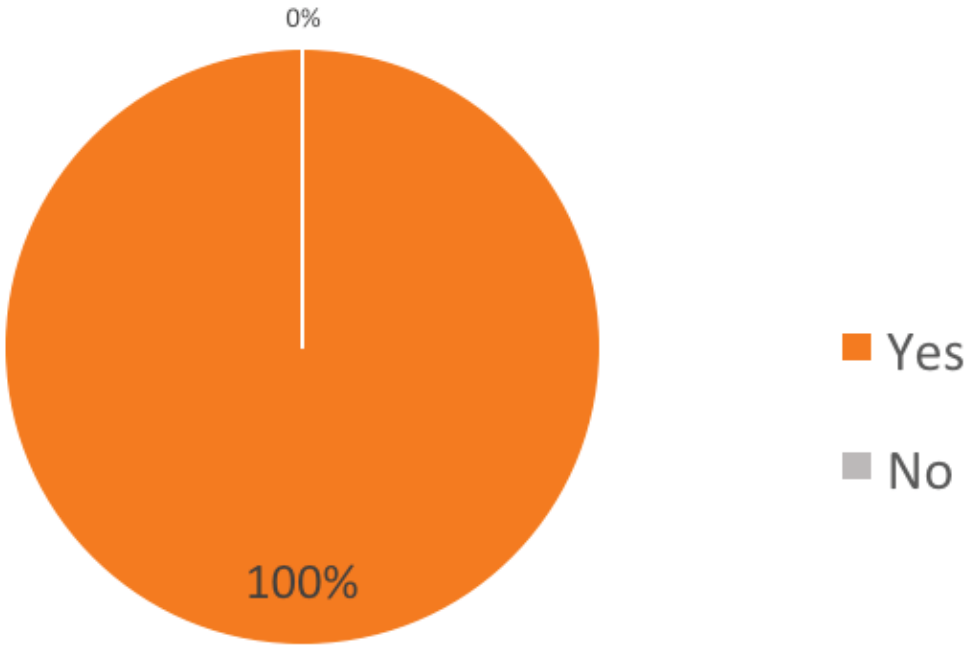
Whether you received the funding or not, would you consider reapplying to the Grants Program?



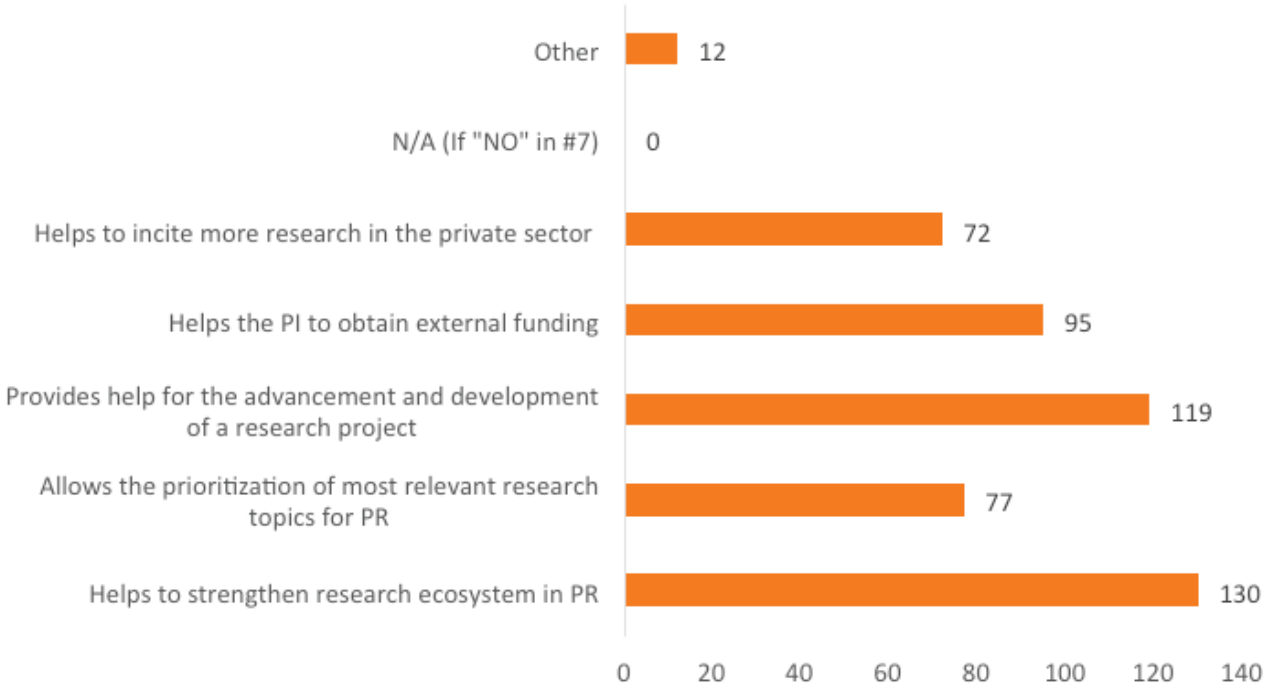
Would you recommend the Program to your colleagues?



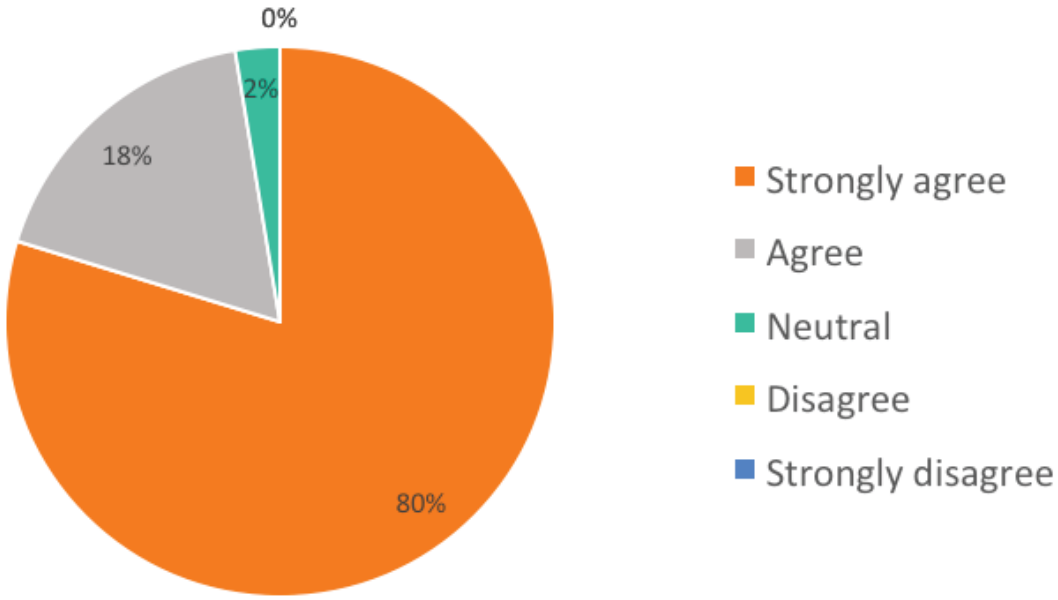
Do you consider that it is important for Puerto Rico to have a local Grants Program?



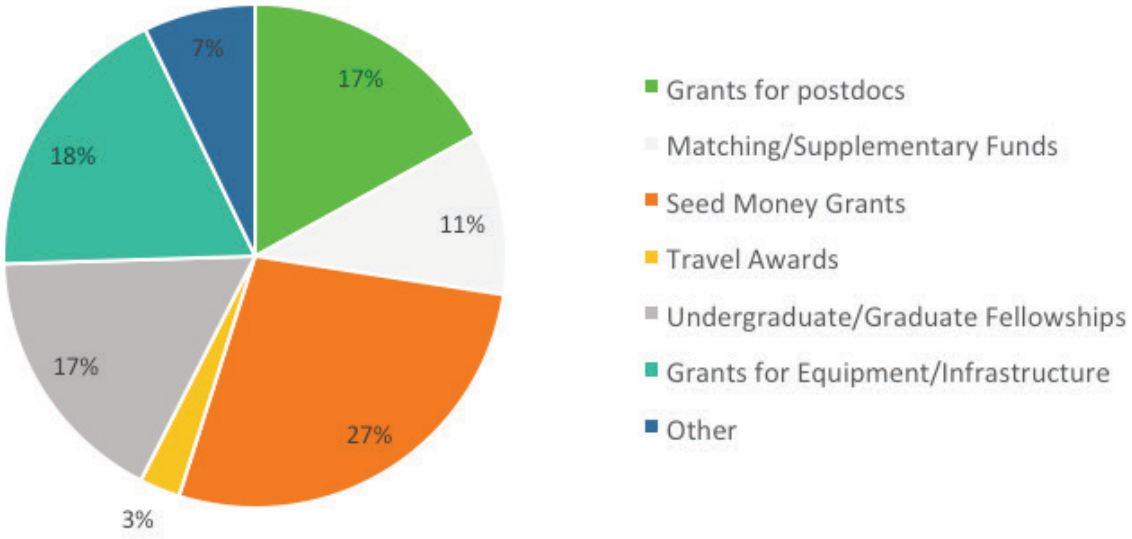
Why do you think it is important to have a local Grants Program? (Check all that apply).



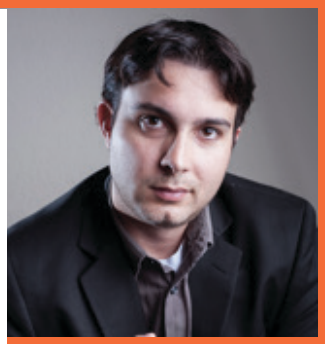
The Trust's strategic plan establishes that one of its priorities is to expand the Grants Program.



In addition to the existing grants, which type of funding do you think is more necessary in Puerto Rico?



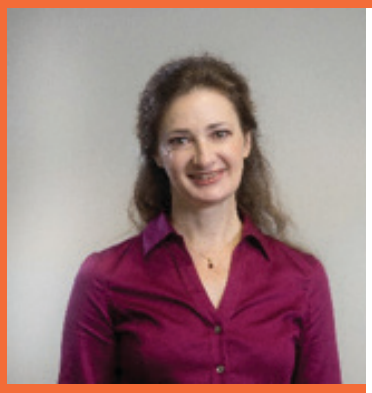
TESTIMONIES
Grantees' Testimonies



"For the last 3 years, the Science and Technology Trust has helped us with the legal costs of patenting our unique methods of mobile app creation. The Trust have also welcomed us with open arms to do events and conferences using their office space, which has been one of the best places to do activities and events. With the support of the Trust, and the recent grant we have obtained for R&D, it has helped us tremendously in exploring new ways of doing things within our industry, becoming more competitive and at the forefront of technology".

Norman Ortiz
Founder/CEO iGenApps™ Inc.
Project Wearables

"Our laboratory is focused on investigation of brain tumors and currently granted with the Trust funding support for the study, aimed at the development of new treatment approaches for the prevention of tumor recurrence after surgical resection. Trust provided us with the unique mechanism of efficient short-time funding allowing composition of advanced research group for the extensive study. Results of this study have a potential to serve for further development of the project to the human trails and significantly improve treatment technology for brain tumor patients".



Lilia Kucheryavykh, PhD
Universidad Central del Caribe
Role of microglia in glioma tumor relapse after surgical resection

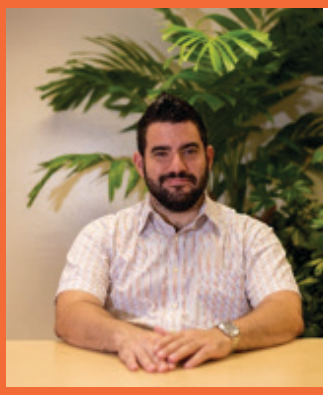
"Novel Biomedical Devices is a company dedicated to the designing of orthopedic instruments and implants. One of the products is a 3d femoral orthopedic drill guide tool to help orthopedists to perform anterior cruciate ligament surgeries more accurately.

The Puerto Rico Science, Technology, and Research Trust has supported the project with the assignment of a $150,000 competitive research grant. This grant is used to aid in the prototype creation, acquisition of artificial model, cadaver testing in partnership with the Medical Sciences Campus of the UPR, support technical and research personnel, and commercialization.

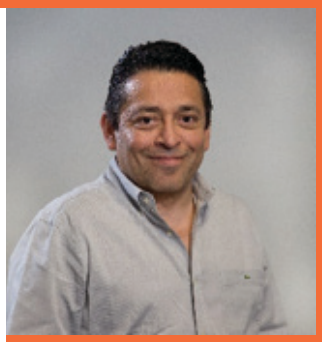
Without this assistance it would have been difficult to execute this project that can potentially impact over 700,000 surgeries of this kind that are performed each year in the U.S. market alone".

Carlos Alvarado, PhD
Novel Biomedical Devices Corporation
A high throughput method to measure DNA repair levels and estimate breast cancer risk

Our group was able to obtain important preliminary data for the submission of competitive proposals using Funds from the Trust. Moreover, our group was able to present this preliminary data in over multiple local, national, and international conferences giving us more exposure within the scientific community. Lastly, some of the preliminary data obtained was recently published".



Jorge L. Almodóvar-Montañez, PhD
University of Puerto Rico – Mayagüez
Osteoinductive integrin-containing biomaterials for bone repair

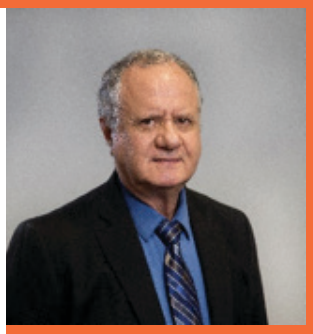


"The Trust funds have greatly helped us to continue working in our research projects and have allowed us to obtain preliminary data to submit stronger proposal to federal agencies (STTR to NCI). At the same time, this funds have allowed us training more graduate students in cancer and nanomedicine-related areas. Similarly this program have allowed me to networking and explore the commercialization potential of the research I'm doing in my laboratory".

Pablo Vivas-Mejías, PhD
University of Puerto Rico- Medical Sciences Campus
Targeting Integrin Linked Kinase in Ovarian Cancer with Liposomal-Gold-Small Interference RNA

"Funding from the Trust has been absolutely critical for maintaining my research laboratory productive during these highly competitive times. Not only have they provided the funds that allowed me to continue researching the molecular signature of endometriosis but also they have contributed to the training of two PhD students, several undergraduate students, and laboratory personnel in research techniques. The Trust has also greatly supported my development in the area of scientific entrepreneurship and has provided support in intellectual property protection, something that we scientists are not usually trained in. I am currently funded through an STTR grant from the NIH; I am grateful to the Trust for providing guidance in the process and tools for improving our grant application".

Idhaliz Flores, PhD
Ponce Research Institute
The Endometriosis Proteome: Diagnostic and Therapeutic Target



"I have been a recipient of a PRST research grant regarding the development of lipid nanoparticles for the photosensitized generation and delivery of nitric oxide, as a means to improve the photodynamic therapy of tumors. Before this grant, I was not successful in acquiring federal funds for this project, mostly due to the lack of preliminary work with tumor cells. The PRST grant provided us funds to start a collaboration with professor Pablo Vivas from the PR Comprehensive Cancer Center. At present, we have positive results regarding the improved toxicity against resistant ovary cancer cells by these lipid nanoparticles and thus we are in better shape when applying for NIH research funds".

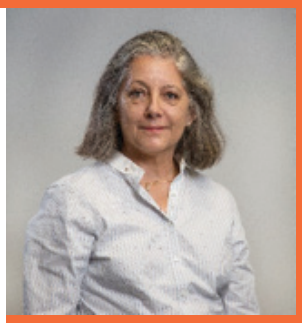
Antonio Alegría, PhD
University of Puerto Rico- Humacao
Photosensitized generation of nitric oxide

"Funding from the PRSTRT has allowed me begin developing a prototype of an instrument to measure turbidity and other water quality parameters. Even though I had the theoretical water optics background I was missing the software and hardware skills that are essential for this innovation. I was able to contract two engineers with the required software and spectroscopy skills to accomplish these goals. We are now working as a team to create the first hand-held, remote sensing device to measure suspended sediments in real-time".

Roy Armstrong, PhD
Roy A Armstrong dba Remote Sensing Consultants
A novel field remote sensing system for rapid determinations of total suspended solids in surface waters

"With the support of PRSTRT we founded a company, Atabei Ecosystems LLC, dedicated to biological products and services for plant health and pest control. The company submitted an SBIR proposal for development of biological control products".

Paul Bayman, PhD
University of Puerto Rico- Río Piedras
Bioprospecting for plant protection: biocontrol of the coffee berry borer (broca del café) with local strains of the pathogenic fungus Beauveria bassiana



"Several years ago we discovered a high prevalence of subtle skeletal abnormalities in coqui frogs. The uniqueness of this finding is that because coqui frogs are direct developers - a small frog rather than a free larva emerges after egg hatching - current hypotheses explaining abnormalities in frogs with indirect development are unlikely to apply. Our intuition tells us that we have something novel in front of us, yet we have to substantiate this with solid data. The small grant from the PR Science Trust is enabling us to produce and analyze such data".

Carla Restrepo, PhD
University of Puerto Rico- Río Piedras
Robustness of developmental trajectories to varying temperatures in a tropical vertebrate

"The Trust grant has been of great help to launch my academic career. It is providing precious resources to develop critical infrastructure at the UPRM Ocean Engineering Laboratory, while supporting fundamental research of potential beach erosion mitigation strategies. Additionally, it has provided great exposure to the research being done by my team, the UPRM Center for Applied Ocean Science and Engineering and CREST".

Sylvia Rodríguez-Abudo, PhD
University of Puerto Rico- Mayagüez
Hydrodynamical assessment of recycled glass cullets as beach nourishment material to mitigate Puerto Rico erosion problems

TESTIMONIES

Interns' Testimonies

"I always had the interest in an internship in Puerto Rico and it was the Trust that gave me the opportunity to do so in my homeland. During my 6-month internship, I worked mostly in the Grants Program and Outreach areas. I learned about ongoing investigations in Puerto Rico and their value to the scientific and engineering communities. I had the unique opportunity to meet high caliber scientists and their work during outreach activities held by the Trust, experience I would recommend to any young scientist. The Forward Summit was one of the most remarking meet-ups I experienced because it compiled the most relevant works done recently in Puerto Rico in the scientific and technology areas. I also had the opportunity to participate in SRGP and RFP cycles, in which I learned to search for qualified reviewers for the applications and proposals received, a skill I had never used before in college. This task helped me to get more involved in recent investigations in the science and technology ecosystems as to match the more appropriate professionals in those areas. The RFP and SRGP award ceremonies that I was part of were a symbol of huge success for Puerto Rico and it showed the hard work done behind the scenes by the Trust staff, which I feel honored to have been part of in the time being. The experience was enriching as a student and future professional. The internship provides a new setting where scientists can excel by contributing in the promotion of science and technology in the island. My perspective changed completely when I learned that a scientist is not always the one behind a bench but the one that with its knowledge can give other professionals the necessary tools to share, commercialize, and contribute to society with their amazing ideas. If I had the chance I would do it all over again and even for a longer time. To all science students out there, I invite you to get more involved in the research made here in Puerto Rico through the PRSTRT! I assure you that an internship in the PRSTRT will help you in all areas as a professional and future scientist".

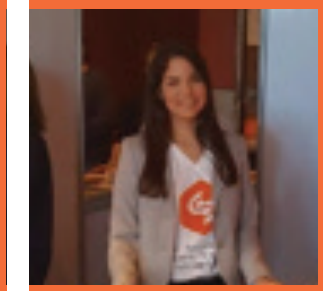
Stephanie M. Soto Kortright
"Primera Experiencia Laboral"
University of Puerto Rico- Río Piedras
Intern January-May 2016

"I first heard about the Puerto Rico Science, Technology & Research Trust thanks to a program from the University of Puerto Rico that gave the opportunity to students to do an internship in one of several companies related to science. The Trust caught my attention because as a science student you often tend to lean towards research or medicine, and the Trust offered something different. During my time at the Trust, I saw a side of science I hadn't considered before. I learned about how an investigation is funded and the hard work behind the process of revision of proposals for grants. I also had the opportunity to work in the Bioprospecting Initiative and learned about the vast potential for biodiversity-based research in Puerto Rico and how important it is to conserve and protect it. Finally, my time at the Trust showed me that is not only important to create science, it's important to communicate it. I learned how vital it is to create connections between the different branches of science and technology to create a better future. The perfect example of this was the Forward Research & Innovation Summit, an event I had the privilege to collaborate with. Overall I loved my experience working with the Trust, and I'm extremely grateful to all the great people I worked with. Every single one of them was a great mentor and role model. I couldn't recommend this experience more to any students considering doing an internship with the Trust. Believe me when I say you won't regret it."

Grace M. Rendón Febles
"Primera Experiencia Laboral"
University of Puerto Rico- Río Piedras
Intern January-May 2016

"With my college graduation fast approaching, I knew I wanted to do an internship that would allow me to apply all that I had learned during the years I spent completing my bachelor's degree in Cell and Molecular Biology. The Program "Primera Experiencia Laboral" at the University of Puerto Rico Rio Piedras Campus provided me the opportunity I was looking for. The Puerto Rico Science, Technology and Research Trust was one of the organizations offering to take students as interns, specifically in their Grants Program. As an undergraduate student I have had hands-on research lab experience, but had little knowledge of the complete process and steps needed to obtain funding for a project. I saw the opportunity of doing an internship at the Trust as a way of expanding and strengthening my knowledge of science and research. Not only that, as a student involved in the STEM fields I believe in the Trust's mission of "continually advancing Puerto Rico's economy and its citizens' well-being through innovation-driven enterprise, science and technology". As an intern, not only have I learned about grants, writing proposals and reviewing, I have also had the chance to visit different research laboratories, participate of interdisciplinary research meet-ups and of the first Forward Research and Innovation Summit. Along the way, I have met brilliant scientists, learned about their research projects and had my eyes opened to all the science and technology innovation that exist in Puerto Rico. I have also enhanced both my communication and networking skills. I believe the Trust's job is very important, not only to help scientists develop their research projects, but also to share and let everyone else know and understand how significant science is in society, in terms of its economy and education, and how vital it is that Puerto Rico takes advantage of all the talent, intellect and capacity of our local scientist.

I will be forever grateful with the Trust's staff for welcoming me and teaching me everything they could. Thanks to this internship I am now sure that I will be including research in my future and if I ever have to write a grant proposal, I know that I will be looking back to everything I learned in this experience. I hope other students will also have this wonderful opportunity and that they will take advantage of all the things they will learn. I will be recommending this internship to my friends and classmates".



Lauren N. Rivera Pagán
"Primera Experiencia Laboral"
University of Puerto Rico- Río Piedras
Intern August-December 2016

RESEARCH GRANTS PROGRAM

IMPACT REPORT

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