



2010 • ANNUAL REPORT

PUERTO RICO | Science, Technology
& Research Trust

October 28, 2010

Message from Executive Director of the Puerto Rico Science, Technology & Research Trust



It has been little over one year since moved to Puerto Rico. I am honored to be here to be in a position to make a difference in Puerto Rico's economic future through research and the commercialization of research.

I would like to extend my thanks to the previous Executive Director, the employees and the Board of Trustees. The Trustees have selflessly provided their valuable assistance to the Trust and to me. I particularly would like to thank the Chair of the Board of Trustees, the Honorable Secretary Jose R Perez Riera whose support and guidance at any hour of day or night have been remarkable.

Since I came to the Island, virtually daily I have learned about a new, interesting early-stage technology companies or a new significant research project. I knew there was much entrepreneurial and research talent but I did not know we have such an extraordinary amount of activity. In order to make those in and outside of Puerto Rico more aware of the immense research talent and cluster of entrepreneurial activity, one of the Trust's activities will be to quantify on a regular basis the strength of these assets. I am certain that such a cataloguing will result in a better understanding of Puerto Rico's high potential as a center for research and development.

But where would such an introduction be without a paragraph that begins with a qualification? There are also immense challenges in building the bridge to a rapidly growing technology oriented economy. I do know, from having started companies in Boston, San Diego, Dallas and San Francisco that those locations, now vibrant technology centers, also faced similar significant challenges. And most of the time we thought that it was nearly unachievable to transform our situation. I emphasize the word "nearly" and let a review of history finish this sentence.

I am personally committed to making a significant positive contribution in Puerto Rico's economic development. I feel confident that with the initiatives in progress by the Trust and WITH the assistance of the many organizations and agencies with which the Trust collaborates, Puerto Rico can be a powerhouse in research and the commercialization of research.

Cordially,

Thomas Forest Farb
Executive Director

THE TRUST'S THREE YEAR FRAMEWORK FOR THE ADVANCEMENT OF RESEARCH & TECHNOLOGY

It is important that the resources of the Trust be deployed with the right focus and with the right plan. Given the mission of the Trust to propel research and commercialization of research, it is imperative that the Trust strategically select the most important areas as the focus of its programs. Thus, the Trust during fiscal year 2010 developed a Three Year Framework to guide its activities during fiscal years 2011, 2012 and 2013. The Framework is the result of discussions and feedback from well over 150 individuals, conversations which continue and will continue. Although the majority of these individuals are from Puerto Rico, the Trust seeks the best ideas and the best practices from around the world and adopts and adapts them to Puerto Rico if they can have significant impact.

Focus on Applied Technology & Commercialization of Technology

The principal focus of the Trust's Framework is to significantly contribute to the economic development of Puerto Rico through developing and supporting programs and infrastructure that (1) increase the quantity and quality of applied and clinical research and (2) increases the commercialization of technology through technology transfer and the formation of new ventures.

To have an impact in the near term on the economy of Puerto Rico, the Trust's efforts focus primarily on the practical application of research and the commercialization of research. The conduct of research in itself is a good business and provides stimulus for Puerto Rico and is thus a priority of the Trust. However, the steps to commercialization can have an even more important impact on Puerto Rico's economy. Those steps include the development of research into products and the extension of research and products into entrepreneurial companies, particularly locally owned and operated, rapidly-growing technology companies.

Focus on Inclusive Collaborations

To succeed in its focus on research and commercialization of research, the Trust has supported in Fiscal Year 2010 and will support in Fiscal Year 2011 a variety of organizations in a collaborative approach. It is a high priority of the Trust to work with organizations that are located throughout Puerto Rico and not just organizations in San Juan. Research and the commercialization of research occur in many locations and not just in one or two metropolitan areas. The work that is being done by many of the municipalities and regional development organizations is very impressive.

As is the case in many successful technology centers around the world, the effort is the most successful when it is inclusive of many types of institutions, organizations, agencies and entities. Thus, the Trust is dedicated to collaborating closely with, for example, public and private educational institutions, government agencies, industry, hospitals, non-profits and individuals, among others.

As part of our decision-making regarding which entities and programs to support, one of our most important criteria is that the effort be transferable to organizations other than the initial

recipient. As a result, we expect to see leverage from each successful program as we support its adoption within Puerto Rico.

The Trust is working broadly and collaboratively to help strengthen other organizations in Puerto Rico that are involved in the conduct of research, the application research and in the development of new ventures. There are many organizations that have been providing impressive programs and having successful results, not always with optimal resources. We have assisted and will assist those organizations with additional resources. In Fiscal Year 2010 we have provided support or committed to support such organizations as INDUNIV, PRTECH, The Intellectual Property Law Institute at the Universidad de Puerto Rico Law School, Colegio de Químicos de Puerto Rico, the Center for Innovation & Technology at Universidad Interamericana de Puerto Rico and the Institute for Neurobiology at the University of Puerto Rico. There are also organizations that are struggling or are missing a needed ingredient and we have been of assistance there, as well. For example, in Fiscal Year 2010, we committed to assist a fledgling research organization with the costs to hire an executive director.

Focus on Multiple Fields of Technology

Although the life sciences fields are the largest recipients of the research and commercialization of research funds that the Trust provides, it is critical that the Trust aggressively encourage other fields of technology. And of course, life sciences itself contains many segments each with potentially very different opportunities for Puerto Rico. During Fiscal Year 2010, the Trust initiated development of its Research Strategic Plan, a process that it plans to continue in 2011, also as part of its Public Policy effort. An example of a field the Trust will support is computer science and informatics -- fields where there is already research expertise in Puerto Rico and where the capital requirements and training requirements are relatively low.

THE PROGRAMS OF THE TRUST

The Three Year Framework defines five program areas of focus by the Trust with the same five programs being the focus of the Trust's work plan and budget for fiscal year 2011:

- Research -- Programs to improve the quality and quantity of applied and clinical research in Puerto Rico;
- Commercialization of Technology -- Programs to increase the commercialization of technology through technology transfer and the formation of new ventures;
- Science City -- Development of two clusters of buildings that integrate with the Trust's other programs;
- Data -- Collection of data and benchmarking of activities in Puerto Rico related to the amount and type of research and the extent of commercialization; and,
- Public Policy -- Definition of an appropriate and implementable public policy in Puerto Rico for technology-based research and commercialization of research.

Research Programs

Grants and Foundations Support Office

In Fiscal Year 2010, the Trust performed an analysis of the receipt of research funds in Puerto Rico, interviewed numerous researchers and met with several Federal government agencies and private foundations to assess the potential for researchers in Puerto Rico to receive additional grant funding. The conclusion was that there are significant grant opportunities within Federal government agencies that are not being accessed by Puerto Rican researchers. Also, an immense opportunity for Puerto Rico lies in focusing on and attracting grants from private foundations. This latter opportunity is demonstrated by the fact that whereas approximately 10% of non industry research in the United States is funded by private foundations, that amount is less than 1% in Puerto Rico. These facts have led the Trust to view support to institutions with the purpose of increasing the amount of grants for research to be an important project.

In Fiscal Year 2010 the Trust's newly formed Grants & Foundation Support Office became the financial supporter and a partner with the Universidad Interamericana de Puerto Rico, the Puerto Rico Small Business Technology Development Corporation and the Center for Innovation and Technology in the application to the Small Business Administration for funding for a very important and needed program in Puerto Rico – seed funding for technology companies. In October, the Office of Technology of the Small Business Administration awarded \$100,000 of funding to Puerto Rico, which combined with a minimum commitment of funding of \$50,000 from the Trust will provide seed funding to early stage technology companies. One of the main programs to be implemented in this project is to provide financial and managerial assistance to start-up companies to assist them in applying for Small Business Innovation Research (SBIR) grants from the Federal government.

This above collaboration is an important example of the types of program that fit the Trust's Framework for the following reasons:

- The project is a collaboration of institutions that include a private university, a non-profit organization and an organization licensed by the Small Business Administration;
- The program is available throughout Puerto Rico. One of the partners in this project, the Small Business Technology Development Corporation has strong outreach capabilities through its nine centers located in Puerto Rico;
- The focus for the seed funding is on technology companies from any of the fields of technology, based on the merit of the start-up concept; and,
- This project furthers several of the Trust's programs – (1) providing financial and managerial assistance to companies to apply for SBIR grants (a grant area where Puerto Rico has been under-represented) and (2) providing seed capital to help with the formation of new technology ventures.

Looking to Fiscal Year 2011, the Trust's budget provides for the staffing of the Grants and Foundations Support Office to provide assistance to public and private educational institutions, hospitals, non-profit organizations, early stage technology-based companies, and local government entities to increase the amount of funding and increase the most optimal type of funding received for research and the commercialization of research in several fields.

Direct Grants for Researchers

Based upon discussions with many of Puerto Rico's top researchers to understand where the Trust can be an enabler to increase research and the commercialization of research, the Trust defined three research grant programs by which it will provide amounts averaging approximately \$100,000 for the following types of research projects:

- Extension Grants Program -- Direct grants to senior researchers to support their hiring of post doctoral and/or graduate student(s) to extend current research into an area that both is likely to receive additional public or private funding and makes a solid step towards commercialization. Besides furthering research, the Extension Grants are targeted to fill another need identified by researchers -- funding for advanced degree students to work under the mentorship of a senior researcher.
- Multi Grants Program -- Direct grants to researchers at a variety of career stages to encourage multi-disciplinary and/or multi-institutional research projects both among Puerto Rico's research community and also between Puerto Rico's research communities and research communities other geographic areas (particularly, Latin America, China and the United States);
- Strategic Research Grants Program -- Direct grants in for the purpose to further areas of research that the Trust and its advisors view to be particularly in need of resources or that provide a unique and positive opportunity for Puerto Rico.

In September 2010, the Trust announced at the reading of the "Proclama de la Semana de la Biotecnología", the first of several fields of research to be addressed by its Strategic Research Grants Program. The Trust announced its conclusion regarding the importance of Puerto Rico investing in research in bioinformatics and related areas of informatics such as health care informatics. The field of bioinformatics is both an opportunity as well as a defensive need for Puerto Rico. Increasingly, Federal agencies are requiring that life sciences research includes a bioinformatics component in the research plan. Therefore, it is important that Puerto Rico has that capability available.

During Fiscal Year 2011, the Trust will finalize the details of the direct grant programs, establish best practices grant committees and conduct broad outreach to researchers in Puerto Rico.

Recruitment and Retention of Accomplished Researchers

The Trust manages the Centenary Fund, which provides financial support to the Universidad de Puerto Rico on a matching basis for several projects including the Bioprocessing and Technology Development Center in Mayaguez and the Molecular Sciences Complex in Rio Piedras as well as a very important program for the recruitment and retention of accomplished researchers. In Fiscal Year 2010 the Trust provided matching financial support of \$600,000 as part of recruitment packages of two very senior medical researchers and will do so again in Fiscal Years 2011 and 2012 for those two researchers. In addition, the Trust has agreed to provide in Fiscal Year 2011 and 2012 support totaling \$800,000 as part of the recruitment packages for two neuroscientists who recently joined the Universidad de Puerto Rico. The Trust will continue to work in Fiscal Year 2011 all of its campuses to identify recruitment and retention opportunities.

Commercialization Programs

Multi-Client Technology Transfer Office (TTO)

Among the programs of greatest importance to be initiated in Fiscal Year 2011 is the formation of a multi-client technology transfer office. In keeping with the Trust's Framework, the TTO will be a resource available to a wide variety of public, private, non-profit and governmental entities throughout Puerto Rico and will assist technology transfer in multiple industries. The Trust has had discussions with several educational institutions in Puerto Rico who are potential users of the TTO and has received significant enthusiasm for working with the Trust and finalizing arrangements in the coming year.

The principal services of the Technology Transfer Office will include the following:

- Training of researchers & administrators related to the patent and trademark process and the patentability of the inventions;
- The evaluation through patent searches and due diligence of the technology and the market of inventions;
- Licensing of the patents to corporations;
- Grants for additional research, the development of prototypes and for special projects to help increase the value of the patents; and,
- Company formation, where appropriate and possible to maximize the value of the patents.

In September 2010, at the annual meeting of PRTECH, a regional economic development organization in western Puerto Rico, the Trust announced its first significant support of a program in the area of technology transfer. The Trust has committed to fund a two year program to be provided by PRTECH and the Research & Development Center of the Universidad de Puerto Rico Mayaguez to train and mentor researchers regarding patents and the formation of ventures around those patents. This program is another example of the Trust's commitment to collaborating with regional economic development organizations and the Universidad de Puerto Rico. The Mayaguez area is an important area for technology development and transfer and has accounted for approximately 40% of the patents received within Puerto Rico.

Unfortunately, Puerto Rico received only 81 patents for the four years through 2009. By virtually any measure, Puerto Rico is at the low end of the scale for generation of patents. There is a significant amount of patentable intellectual property in Puerto Rico, but there has not been organizational and financial resources dedicated to patenting that intellectual property. The Trust has budgeted for its Technology Transfer Office to provide training and financial resources for such an effort with the goal of significantly increasing the number of patents filed on intellectual property in Puerto Rico. Such protection is a necessary step in the technology transfer process.

In line with the need for greater patents protecting inventions in Puerto Rico, in Fiscal Year 2010 the Trust agreed to provide multi-year support to a program at Universidad de Puerto Rico Law School to train students in the many facets of intellectual property, to provide them with practical experience while at the same time assisting small businesses.

As mentioned earlier, the Trust will use grants as a tool for encouraging technology transfer. In September the Trust announced at the Primer Simposio Industria-Academia sobre Energía Sustentable 2010 at the Universidad del Turabo, which it sponsored with Merck and other local organizations, that the Trust will provide research grants totaling up to \$125,000 in the area of energy smart technologies. Such technologies represent an interesting opportunity for Puerto Rico because they can utilize a broad range of engineering, computer science, environmental and other technologies. The Trust believes that the results of these grants will provide many further opportunities for successful technology transfer.

Venture Development through In-Kind Commercial Services & Investment Capital

Whereas the Technology Transfer Office will focus on providing services principally to educational institutions, research institutes, hospitals and non-profit organizations, the Trust will be implementing in Fiscal 2011 as part of its Commercialization Programs, a suite of services available on an in-kind basis to early stage companies that meet certain criteria. Numerous early stage companies that exist in Puerto Rico do not have the resources to protect their inventions and so patent legal services will be an important part of the program. The development of entrepreneurial ventures is one of the fastest ways to advance the application of research and it can come with additional benefits to the local economy. Upon receiving certain minimum amounts of in-kind services, there will be a requirement for future repayment to the Trust and a requirement that the company maintain operations within Puerto Rico. A failure to comply will result in a significant penalty.

The Trust also plans to initiate programs to encourage angel investment networks within Puerto Rico as well as to make direct equity investments in qualifying companies by the Trust. The Trust will also work collaboratively and broadly to encourage attraction of sources of seed capital to Puerto Rico. These sources of early stage financing are important to the ultimate success of the development of new ventures.

Science City

Science City is being developed to directly support the Trust's mission to be an engine for economic development through research and commercialization of research. When asked what is being built at Science City, the answer is -- human capital. The buildings are a means to economic development through research and the commercialization of research.

Science City is located in a 67.88 acre land parcel to be developed as a state of the art center with research and development facilities, commercial laboratories and significant amenities. Science City will ultimately include 1,000,000 square feet of laboratory and incubator space, a hotel and conference center; office space; a civic center with school facilities; a museum and library; commercial space; residential buildings and recreational areas. In addition, there will be landscaped open spaces and that will connect Science City to the Río Piedras Medical Center, the Cancer Research Center, the Botanical Gardens and the Molecular Sciences building (presently under construction). All these features, when combined with the existing cultural and social amenities of the San Juan Metropolitan Area and its accessibility, will make Science City very attractive to both researchers and investors. Construction of the

Science City project will take place in stages over 20 years, as is typical for such an endeavor, but it will also have tangible development milestones achievable over the next two years.

The Science City Development Goals

The Trust established in its Framework, a set of goals for Science City's Development Plan which include:

- Near term results;
- Capital efficient development;
- Tight integration with the Trust's programs;
- Partnership with neighboring entities; and,
- Environmentally responsible development combined with using Science City, itself, as a test bed for locally developed products.

In order to meet the objective of "near term" results (two to eight years in the context of research park development) the Trust will follow these implementation strategies, among others:

- Develop several smaller clusters each with a handful of research related and support buildings;
- Develop these clusters in collaboration with neighbors of Science City and with joint efforts with government, private sector, academia and non-profit organizations;
- Near term results will also be obtained in a capital efficient manner through the creative rehabilitation and reuse of existing buildings and infrastructure already available at Science City.
- Focus on finding tenants as soon as possible through a marketing strategy that recognizes the need for differentiation from the thousands of research parks that already exist worldwide.

Collaboration with the Universidad de Puerto Rico Comprehensive Cancer Center

In Fiscal Year 2010, the Trust made tangible progress in collaborating with its neighbors. These neighbors are and will be a source of uniqueness and differentiation for Science City. The best

example of this is the partnership that the Trust has forged with the Universidad de Puerto Rico Comprehensive Cancer Center, a combined inpatient and clinical research center being developed in conjunction with the MD Anderson Cancer Center based in Houston, Texas. The Cancer Center is being built contiguous to Science City and the two organizations have collaborated this year to plan for the building of a Science Boulevard that will connect Science City with the Cancer Center and will connect the Cancer Center with its neighboring Centro Medico and Recinto Ciencias Medicas. This Boulevard will provide the type of accessibility that enables the sharing of research resources that are successful ingredients for a successful cluster.

The accessibility to the Cancer Center will attract researchers to Science City who value research collaborations and the Cancer Center, too, will benefit from resources at Science City. The conceptual design for this boulevard was completed in Fiscal 2010 at a cost of \$420,000 and the Trust has initiated the development of the final construction drawings which will be complete by mid Fiscal Year 2011 with a cost of approximately \$630,000. Subject to final approvals of the Trust and the Cancer Center, it is possible to break ground on the Science Boulevard in the first half of calendar year 2011. The cost of this phase of Boulevard construction is estimated to be approximately \$5,500,000. As discussed below, the Trust is in the process of evaluating the use of an existing bridge to connect the Boulevard to Science City.

Assessment of Science City Infrastructure

Identification & utilization of existing assets at Science City is an important part of the Trust's development strategy. During Fiscal Year 2010, the Trust initiated and identified existing buildings and infrastructure at Science City that can be used in the near term. Reusing and repurposing of assets are both capital efficient and can lead to faster development. Specifically, The Trust is evaluating the following existing assets at Science City that can be utilized in the near term:

- Bridge – a major asset that a technical assessment conducted by the Trust showed has the structural integrity to be utilized;
- "Rehab" of three to four existing buildings which the Trust is in the process of evaluating;
- The Trust is close to completing an evaluation of the infrastructure available and needed.

Development Plan

The Trust will continue the efforts of finalizing its development plan in Fiscal Year 2011. This plan contains three major components as outlined below.

Permitting Process

On October 1, 2008, the Trust submitted a Land Use Consultation (Consulta) for the consideration by the Puerto Rico Planning Board (PRPB). This document is necessary to complete the permitting process of certain land development or construction projects in Puerto Rico. The Trust has responded to all requests for information and is hopeful that it will receive approval of the Consulta in Fiscal Year 2011.

Marketing Plan

In Fiscal 2010, the Trust made contact with approximately 20 potential "anchor tenants" and site selectors to discuss the advantages of Science City as a location for conducting research. In addition, the Trust utilized the services of five very experienced development and marketing consultants to develop the initial marketing plan for Science City. The results were very positive and the Trust is in the process of developing a full plan for the marketing of research facilities at Science City.

Financing Plan

The Trust has been working with the assistance of the Departamento de Desarrollo Económico y Comercio de Puerto Rico, whose Secretary, José R. Pérez Riera, is Chairman of the Board of Trustees and with the Banco Gubernamental de Fomento para Puerto Rico, whose President, Carlos M. García Rodríguez, is a Trustee, to develop financing strategies for the development of Science City. Their advice and expertise has been instrumental in the development of the Science City financing plan.

Collection of Data and Formation of Public Policy

In Fiscal 2011, the Trust will be assuming a more active role in public policy making. In order to do so, the Trust will be working closely with government agencies as well as with opinion makers and industry leaders and officials.

Also, the Trust has identified a need for the gathering, analysis, and distribution of data related to research and the commercialization of research. Databases that will be gathered, analyzed and made available on a regular basis starting in Fiscal Year 2011 will include the following:

- Governmental and private grants;
- Technology-based companies;
- Research projects and interests; and,
- Annual "Status of the Knowledge-based Economy."

Administrative Matters

The Trust is in the process of creating a well-planned and lean administrative structure, adopting relevant modern best practices. Currently three employees under the leadership of the Executive Director and the Trustees perform all the duties assigned to the Trust.

The Trust anticipates the expansion of its staff in Fiscal Year 2011, including, among other positions, an internal auditor and a finance director, as well as staff for the Technology Transfer Office, Grants and Foundations Office and Research Programs to complement the work currently performed by the Executive Director and his staff. For the development and marketing of Science City, the Trust is also in the process of engaging professional specialized services and potentially full time staffing.

Exhibits

- A- Audited Financial Statements for the Fiscal Year Ending June 30, 2010
- B- Trustees
- C- Contracts for the Fiscal Year Ending June 30, 2010
- D- Media Clippings for the Fiscal Year Ending June 30, 2010
- E- Biography of the Executive Director

Puerto Rico Science, Technology and Research Trust

P.O. Box 363475
San Juan, Puerto Rico 00936-3475

info@prsciencetrust.org
www.prsciencetrust.org