Overview: In 2008, the Merck Foundation made an initial investment of $4 million in the National Alliance for Hispanic Health to support the next generation of scientists. The Foundation recognized that with one in five college students being Hispanic, the future of health discovery was closely tied to today’s Hispanic college students completing STEM degrees. The Ciencia (Science) Scholars model has been an extraordinary success with 80% of Scholars obtaining STEM degrees. The rate of STEM degree completion for Ciencia Scholars is five times higher than the national average of 16% for Hispanic college students that begin college in a STEM major.

The Challenge: While 42% of Hispanic college students enter college with the intent to major in a STEM field only 16% of Hispanics who began college as a STEM major complete a STEM degree. Without improving STEM degree completion we will not see movement in the current labor profile of Hispanics representing one in six persons in the labor force, but only one in fourteen persons in the STEM workforce. The Hispanic STEM degree completion rate represents a loss of talent to the nation and presents a challenge to maintaining a robust pipeline of scientific discovery.

The Response: Alliance analysis identified three key issues to support Hispanic student hardiness in completing a STEM degree and moving on to advanced degrees and work in STEM fields. Addressing these priorities formed the basis of the Alliance/Merck Ciencia Scholars model.

1. Meet unmet financial need. Hispanic undergraduates (61%) are more likely than non-Hispanic white students (44%) to have unmet financial need. Furthermore Hispanic students borrow more than non-Hispanic white students to pay for college and are more likely to have unmet financial need after reaching maximum federal borrowing limits. This unmet financial need has an impact on hardiness in obtaining a STEM degree. Based on an Alliance assessment of National Postsecondary Study Aid Study data, the Ciencia program established a scholarship award of up to $5,000 for each of the four years of college to meet unmet financial need of each Ciencia Scholar. It is support that Scholars and their families have emotionally told us made their college dream possible.

2. Create a community of professional and peer mentorship. About half (48.5%) of Hispanic undergraduates are the first in their family to attend college and two-thirds of Ciencia Scholars are first generation undergraduates. A broad range of research has shown that unfamiliarity with navigating college in general and a STEM path specifically as well as a lack of early connection to mentors creates challenges for Hispanic STEM majors to successfully
complete a degree. To address this challenge Ciencia conducts an annual summer symposium that convenes Scholars for career and educational skills classes, to expand their vision of career opportunities in sessions with senior scientists, and to promote peer mentorship including Scholar presentation of current research and summer experiences. The symposiums have provided extraordinary opportunities where Scholars have sat down with scientists like Dr. Francis Collins to talk one to one about their passion for science and had first hand accounts of cutting edge endeavors like the NASA Mars mission and advanced molecular imaging at the Howard Hughes Medical Institute. Over 100 mentors and institutions are a part of the Ciencia network and Scholars are now developing an alumni network to support the next groups of Scholars that are following in their footsteps. It is an extraordinary community of support and mentorship that is fostering a new generation of discovery.

3. Support early STEM field experience. Lack of access to early STEM lab and field experience compromises Hispanic STEM students' future ability to compete for graduate slots in STEM fields. This is particularly true for Hispanic students in their first years of college when most opportunities are unpaid. Ciencia provides up to $7,500 each of the three summers of college to support Scholars in being able to accept summer internships in their field. The success of this early field experience has been shown both in surveys of Scholars that point to the internships as helping to shape their career paths and the success of many Scholars in their second and third summers not to need the financial support as they have been able to successfully compete for paid positions. Scholars have studied and worked in Nobel prize winner labs, attained coveted positions at the NIH and FDA, and worked in leading academic and private sector research institutions. The program has expanded opportunities for Scholars by developing new relationships with leading research institutions including a first of its kind agreement with the FDA that opens all FDA labs for placement of Ciencia Scholars and provides blanket approval for any FDA scientist to serve as a mentor. The Alliance also reached agreement with the NIH that allows Ciencia Scholars that are not U.S. citizens or permanent legal residents but have received Deferred Action for Childhood Arrivals (DACA) work permits to be eligible for NIH summer internship placements. Perhaps most encouraging is the experience that once a research group has had a Scholar they ask for future placements and the paths that Scholars create once they have been in a summer placement to ensure Scholars that follow them have an open door.

To date, under its initial grant from the Merck Foundation, the Alliance has awarded five classes of ten Ciencia Scholars each (drawing from the eligible cities of Brownsville, TX; Elizabeth, NJ; and Los Angeles, CA) for a total of 50 Ciencia Scholar awards and the first two of the five classes graduating. Under the program, the Alliance has also awarded 125 one-time $2,000 scholarships to Hispanic students pursuing a STEM degree.
To broadly provide the benefit of the mentor network and resources built by the *Ciencia* effort, the program is developing a website for launch the first quarter of 2015 that will provide searchable databases of scholarships, internships, fellowships available for Hispanic students in STEM fields; make available *Ciencia* and partner resources on successfully pursuing a STEM career; support connection between students and *Ciencia* network scientists willing to serve as mentors; and inspire with the stories of *Ciencia* Scholars and follow their careers. Furthermore, the program is developing both peer-review journal articles and policy audience briefs on the lessons learned from *Ciencia* and solutions to expanding the STEM pathway.

**The Next Phase:** At the 8th Annual Dupont Summit 2015 on Science, Technology, and Environmental Policy, The Alliance will discuss the *Ciencia* Scholars model, as well as how this platform would support a pipeline of Hispanic students successfully completing a STEM undergraduate degree and carrying forward to an advanced degree and postdoctoral research transforming the STEM landscape.

**PANEL BIOGRAPHIES**

**Adolph P. Falcón, MPP - George Mason University**

**Mr. Falcón**, Senior Vice President, provides leadership and management for the Alliance’s program portfolio and development efforts. He also oversees the science and policy portfolio of the Alliance, including serving as Director of the Alliance’s Healthy Americas Institute at the University of Southern California Keck School of Medicine. A nationally recognized expert on health policy, he played a leading role in the landmark Disadvantaged Minority Health Improvement Act of 1990 and most recently has been active in the Children’s Health Insurance Program Reauthorization Act, Sugar-Sweetened Beverages Tax Act, Personal Care Products Safety Act, and regulatory efforts to improve quality of care.

Mr. Falcón currently serves as principal investigator for the Alliance/Merck Ciencia (Science) Hispanic Scholars Program, a $4 million scholarship and internship program to increase Hispanic participation in science, technology, engineering, and math (STEM) careers. He also serves as principal investigator of Nuestros Tesoros (Our Treasures), funded by the Kresge Foundation, working in 10 cities to support the sustainability of Hispanic-serving multi-service organizations.

He previously served as principal investigator for initiatives funded by the Atlantic Philanthropies, Centers for Disease Control and Prevention, Food and Drug Administration, National Institutes of Health, Newman’s Own Foundation, and the Robert Wood Johnson Foundation among others. Mr. Falcón is a board member of the National Human Services Assembly (Treasurer) and a founding steering committee member of the Partnership to Improve Patient Care. He previously served on the Boards of the Children’s Safety Network, Public Finance Project, U.S. Programs Committee of Save the Children, and the Welfare Information Network among others.

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In a career committed to the policies and services that serve the aspirations of Hispanic communities, prior to joining the Alliance Mr. Falcón was editor-in-chief of the Harvard Journal of Hispanic Policy, a Ziegler Fellow in Civil Rights and Human Liberties, a senior associate at the Boston Redevelopment Authority, and a family services program director at the Hill Health Center. He received his Masters of Public Policy from the John F. Kennedy School of Government at Harvard University and his Bachelor of Arts from Yale University.

Marcela Gaitán M.P.H., M.A. - National Alliance for Hispanic Health

Marcela Gaitán, M.P.H., M.A., is Senior Director for External Relations at The National Alliance for Hispanic Health in Washington, D.C. Ms. Gaitán serves as Project Director for a portfolio of initiatives at the Alliance including the Alliance/Merck Ciencia (Science) Hispanic Scholars Program, a partnership to improve Hispanic student access to higher education and degrees in science, technology, engineering and math (STEM); the Anaphylaxis Hispanic Community Health Initiative that supports implementation of state and local policy work to increase access to emergency response for anaphylaxis in schools and workplace settings. Ms. Gaitán also served as Project Director of Proyecto Informar FDA Hispanic Outreach Initiative to improve access for Hispanic consumers to FDA information; Proyecto Ciencia® National Hispanic Outreach Initiative, an NIAID/NCMHD funded program that promoted the dissemination of information on research opportunities for Hispanic scientists and students at multiple career levels to foster interest in health sciences and research careers; an AoA/RTI funded Alzheimer’s outreach initiative that aimed to identify community models of service that successfully implemented culturally proficient programs for Hispanic/Latino elders with Alzheimer’s; and, the National Hispanic Leadership Network for Tobacco Control (The Network), a tobacco control program funded by the CDC that aimed to establish a national Hispanic leadership movement for tobacco control grounded in community-based priorities and needs.

The Alliance is the premier science-based and community-driven organization that focuses on improving the health and well being of Hispanics and works with others to secure health for all. Community-based members provide services to more than 15 million Hispanic consumers throughout the U.S. every year and national organization members provide services to more than 100 million annually. As Senior Director for External Relations, Ms. Gaitán advises the Alliance on national health and human services policy and leads efforts to create leadership networks to improve the health and well-being of Hispanic communities. Focused on its health mission, the Alliance refuses funding from tobacco and alcohol companies, their parent companies, and subsidiaries.

Before joining The Alliance, Ms. Gaitán was an Associate Consultant with the International Health Training Program at the Pan-American Health Organization (WHO/PAHO). Ms. Gaitán received her Bachelor’s Degree from Amherst College, in Amherst, MA; a Master’s Degree in Latin American Studies from The American University in Washington, DC, and a Master’s Degree in Public Health from George Washington University also in Washington, DC.

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Emorcia V. Hill, PhD - Independent Evaluation Consultant

**Emorcia V. Hill**, PhD, Independent Evaluation Consultant, has substantial design, implementation, evaluation and research experience and expertise in the areas of diversity, inclusion and access, human capital and workforce development, institutional and system change. Dr. Hill’s evaluation and research work is framed within a multi-level, capacity-building, systems approach and has focused on the high demand science, technology, engineering and mathematics as well as biomedical and behavioral sciences. She is involved in research and evaluation activities that span the educational continuum and into the workforce. Dr. Hill has significant experience in the conceptualization and design of evaluation and research projects as well as quantitative and qualitative data analysis. She has worked as a consultant on a portfolio of educational and human resource development programs that is supported by federal and local agencies, as well as foundations and not-for-profit entities.

Oscar Gonzalez - Alliance/Merck Ciencia Scholar

**Oscar Gonzalez** is currently working with Verizon in his second year as a member of the company’s three-year Leadership Development Program. In his first role, he studied the radio frequency patterns at wireless cell towers and determined where more capacity was demanded. In his current role, Mr. Gonzalez works as a supervisor for the Verizon Telecom group that provides him with the opportunity to get exposure to and learn about the corporate and management dynamics of the company. Mr. Gonzalez is pleased to be part of a leadership program that aims to increase workplace diversity.

As a recipient of the Alliance/Merck Ciencia Scholars award, Mr. Gonzalez is committed to serve as a role model for younger generations of Hispanics who want to pursue professional careers in the science, technology, engineering, and math (STEM) fields. As an Alliance/Merck Ciencia Scholar, he returned to his former high school in Elizabeth, N.J., to speak to the senior classes about his college experience as a STEM major and to encourage them to apply to the scholarship program. As a Verizon employee, Mr. Gonzalez participated in the company’s mentorship program Pathways to Technology, where he was paired with a high school in North Carolina to raise awareness among the students about STEM-related career opportunities at different corporations and various career paths students can pursue. He has also volunteered with elementary school children in New Jersey to introduce students to the concepts of solar energy and how solar heating techniques and solar panels can be used to collect electricity.

Mr. Gonzalez received his undergraduate degree in Computer Engineering from the New Jersey Institute of Technology in 2013 and is currently pursuing a master’s degree in Telecommunications Management from Stevens Institute of Technology, also in New Jersey.