

Title	Pathways to Science, Randolph-Macon College	08/01/2023
	by April Marchetti in Impact 100 Richmond Grant Application 2023	id. 41525297
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Original Submission	08/01/2023
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1. Name of Organization	Pathways to Science, Randolph-Macon College
2. 501C3 Number	54-0505940
3. Geographic Area(s) Served:	Chesterfield County City of Richmond Hanover Henrico Goochland
4. Application Contact Name:	April Marchetti
5. Application Contact Phone Number:	+18044121309
6. Application Contact Email:	amarchet@rmc.edu
7. Organization Website (if applicable):	http://Pathwaystoscienceva.com
8. Organization Executive Director/CEO Contact:	Robert Lindgren
9. Organization Executive Director/CEO Phone Number:	+18047527211

10. Organization Executive Director/CEO Email:	rlindgren@rmc.edu
11. What is your highest rating on GuideStar (we recommend at least Gold):	Silver
Provide a link to your GuideStar organizational profile, if applicable.	https://www.guidestar.org/profile/54-0505940
12. Please confirm that the following grant criteria are met by the applicant:	Organization has an annual operational budget above \$250,000. Organization has been in existence for 36 months or longer, and is currently in good standing in the state where the entity was formed. Project will serve needs in the City of Richmond and/or the surrounding counties (Chesterfield, Goochland, Hanover, Henrico, and Powhatan). Funds will be utilized within 12 - 18 months, and the program/project has demonstrated sustainability following the use of Impact 100 Richmond funds.
13. Select ONE of Impact 100 Richmond's focus areas where your proposed work best aligns:	Education
14. Summary: Provide 1-2 sentences that summarize your specific funding request and the goal of this project or program effort?	Pathways to Science engages with high school Latinas in central VA to promote high school graduation, college attendance, and entry into STEM fields.

15. Organization:
Briefly describe the history and mission of the organization.

Pathways to Science was established at Randolph-Macon College in 2017 by a group of female faculty members who were passionate about equity in education. After exploring barriers faced by populations in our area, we decided to focus on Latinas, who have elevated high school dropout rates, lower college attendance rates and low participation in STEM compared to their white counterparts. In partnership with organizations including the Science Museum of Virginia, Lewis Ginter, Maymont, Dominion Energy, and Westrock, we created a program that begins engaging with Latinas starting in the summer after the first year of high school and continues through matriculation to college. It includes summer camp experiences hosted on our campus, where participants participate in STEM-focused activities, meet with Latina scientists, travel to our partner organizations, and participate in team-building activities to form a cohort that is excited about learning, STEM, and higher education. The program continues with mentoring during the academic year, college-readiness workshops, and scholarship support for each year of participation. To date we have served 92 Latinas, mostly from the Richmond, Chesterfield, Henrico, and Hanover areas,. Not a single one of our participants has dropped out of high school, compared to around a 15% drop out rate for this population. Furthermore, more than 90% of our girls has gone on to attend post-high school education.

16. Community Need:
Describe the community need(s) that the program/project will address.

Latinx students high school dropout rates that are highest of any group: a 2014 study showed 24% of Latinx students drop out, versus 12% for Black, non-Latina students and 7% for White, non-Latina students. Latinas suffer higher rates of high school attrition than their male counterparts, and lower rates of college attendance, as well as lower rates of participation in STEM careers. .In a study of 4,000 college students at 28 institutions, Latinas had the lowest percentage declare STEM majors their first year of any sex and ethnicity (14%), and the second highest attrition from STEM majors as seniors (44%). Given that Latinas currently comprise the largest group of women workers in the US and also account for 16% of the female labor force, the numbers suggest there is a significant pool of talented, young Latinas who could contribute significantly to the STEM workforce in the U.S. if they persisted in STEM fields.

We seek to address the marginalization of Latinas in central Virginia, particularly in regard to inequalities in access to college education, affordability of postsecondary education, and persistence in STEM fields for Latinas who show interest and promise in STEM during the high school years. To this end, we created our program to engage with Latinas and their families beginning in the summer after the first year of high school and continue through matriculation to college, providing financial support, mentorship, and community for this population.

17. Community Need: Describe how a \$100,000 Impact 100 Richmond grant for this program/project would be transformational for your organization and/or the community.

As word has spread about our program we consistently receive many more qualified applicants than we can financially handle - sometimes up to 5x the number of spots we have available. Participants, who are often English Language Learners and new arrivals to the US, are referred to us by guidance counselors, ELL coordinators, social workers, parents and siblings of former participants, pastors, and other adults who want these young women to be successful. Our model is working, which makes it very difficult to turn away deserving young women who want to participate. A \$100,000 Impact 100 Richmond grant would allow us to continue our programming for the next year and increase the number of participants we can accept into the program, creating an even greater impact on the RVA Latinx community.

It is our hope that as our students complete our program and enter the workforce, the increase in the number of Latinx STEM professionals in the central Va region will be transformational both to our Latinx citizens and to our community as a whole. Also, the model we have developed, tested, and proved successful could be reproduced in other metropolitan areas in the country, providing economic and educational advantages to those areas as well.

18. Program/Project: Provide a high-level description of the program/project for which you are seeking funding.

Caminos a la Ciencia works with ELL coordinators, guidance counselors, STEM teachers, & Latinx-serving organizations to identify Latinas during their first year of high school. We especially consider the student's need for our program – students who are new arrivals to the US, who seem to be at risk for high school dropout, who are living in poverty and who might not be able to afford other similar programs, and students with other similarly compelling situations are given priority. Once students are accepted to the program, they participate in multiple facets throughout the academic year. Each participant attends a 6-day, 5-night residential program which occurs on Randolph Macon's campus during each summer after the freshman, sophomore, and junior year of high school. The program is free for participants. The first day of the program includes college-bound workshops for parents and their children, sibling activities, a campus tour, a guest speaker, and a tour of the dormitory where participants will stay. All activities are conducted in both English and Spanish, with multiple interpreters present throughout the day. During the camp, participants explore STEM disciplines with faculty and take multiple trips off-campus for STEM and mentorship activities. Each residential experience includes mentoring by college students, Latina and female STEM professionals; workshops on leadership, college preparation, and college application; and team-building experiences. In years 1 and 2 (following freshman year and following sophomore year), participants explore STEM fields in a combined instruction/laboratory format, and in year 3 (following junior year) each participant is assigned to one discipline to tackle a mini-research project with an RMC faculty member.

During the camp each participant is matched with a Randolph-Macon College student (usually a Latina STEM major) who serves as their mentor throughout the school year. This fosters inclusion, creates a sense of community among participants, provides near-peer level support for academics and the college application process, positively affects school attitudes, enhance self-confidence, and provides a person outside their school or family to reach out to as they consider options for higher education and careers.

A significant barrier to higher education for our population is finances. To help alleviate this burden, Caminos a la Ciencia provides each student with a small scholarship to attend the college of her choice for each year of participation in the project; this scholarship is held by Caminos and disbursed to the institution at the time of enrollment. This modest amount is impactful to their ability to pursue and persist in higher education. Many of our students choose to enter community college for two years to earn an associate degree before transferring to a 4-year college, and the money earned from this program covers most of the cost of a two year Associates Degree.

19. Program/Project: What challenges are you likely to encounter? How will your organization address them?

The COVID-19 pandemic of 2020 resulted in the complete cancellation of the summer 2020 program, as the College and all our partner organizations were closed to the public. While the mentorship program continued during this time, it became more difficult to engage with our participants, all of which who were in full-time virtual school and many of whom experienced changes in their housing situation or financial situation. In 2021, the program was able to be offered on a limited basis, with a one-day in person experience with participants and their families, which occurred entirely outdoors with increased safety protocols. The cancellation and subsequent limitation of in-person activities illustrated the importance of being face to face and the program returned to a full residential camp starting in summer of 2022, with appropriate COVID protocols in place.

The loss of two years of activities with our students affected our program greatly, and we have been working to reestablish the close-knit relationships we had with our cohort prior to the pandemic. We have seen much success in this area.

In addition, the need to constantly seek funding to continue the program has been a difficulty we've encountered. This program was first funded by an NSF INCLUDES grant and then an NSF ITEST grant, but as governmental priorities have changed it has become challenging to find continuing funding for our mission. We are funded entirely by grants and donations from our partner organizations.

20. Program/Project: Will you collaborate with any other organizations? If so, who will be your partners, and what will they contribute?

The partners for this work include several non-profit entities located in Richmond, Virginia. Our non-profit partners include the Science Museum of Virginia, Lewis Ginter Botanical Garden, Maymont. CodeVA and the Sacred Heart Center, a Latinx serving organization located in Richmond.

In addition to partnering with non-profits, we engaged with two large, STEM-focused industrial corporations in the greater Richmond area - WestRock and Dominion Energy.

Our partners serve as members of our Advisory Board, host our students for yearly visits during our summer residential experience, provide funding to support some of our summer activities, help to identify students for our program, and send their Latina and Latino employees to interact and engage with our students.

<p>21. Program/Project: Using metrics appropriate for your program/project, describe your goals, indicators of success, and plan for achieving success (i.e., people served, dollars raised, community outcomes, etc.).</p>	<p>Through the summer of 2023, 87 participants have taken part in the Caminos a la Ciencia Program. In order to be counted as a participant, they must have attended the summer experience and had at least two interactions with their mentor. . Of these, 92% of participants have continued in the program for every year they are eligible. No participants have dropped out of high school (expected dropout rate is approximately 20-25%), and greater than 90% of participants intend to pursue higher education (associate degree, bachelor's degree, or professional certificate).</p> <p>Of the 50 Caminos a la Ciencia participants who have completed high school, 11 have enrolled in community college, most with the intention to transfer to a 4-year program, and 29 are attending 4-year institutions. These institutions include Randolph-Macon College, the University of Richmond, Virginia Commonwealth University, College of William and Mary, Sweetbriar College, Tufts, University of Southern California, Cornell University, Virginia Tech, Fordham University, and Belmont University. Typical community colleges attended by our participants include Reynolds Community College and Brightpoint Community College. Data analysis, as collected through surveys of our participants and their families, shows that this project has a significant impact on participants' attitudes about STEM, inclination to attend college, and college attendance rates.</p>
<p>22. Program/Project: Is there a specific timeline for your program/project, or will it be ongoing? If ongoing, describe the metrics used to evaluate it in the long term.</p>	<p>We hope that our program can be an ongoing addition to central Virginia's outreach toward the Latinx community. We continually evaluate our program to determine which of our interventions are most effective for our population, allowing us to run the most effective and financially efficient program that we can. To determine the effectiveness of this work, data is collected by the project's Program Coordinator yearly and submitted to an external evaluator. Our external evaluator provides a comprehensive assessment of the program which is reviewed by the Program Coordinator, Program Director, and the Advisory Board. The assessment is used to make improvements and adjustments to the program to enhance its effectiveness, and to make determinations about scalability of the work. Assessment pathways include several proprietary and program-generated instruments.</p> <p>Future hopes for this project include scaling up to impact more women, as well as including men in our program - Latinos in central Virginia are equally disadvantaged as their Latina counterparts, and to our knowledge there are no programs in the entire US which specifically focus on Latinos in STEM (and very few, in fact, which focus on men in STEM in general). There is a large population of Latinos in central Virginia that we could reach, if we had the funding and staffing to do so.</p>

23. Funding: Describe your organization's financial position, including current financial state, cash flow, endowments, annual fundraising, and goals related to revenue.

The College maintains an excellent financial position, having achieved a balanced budget for 43 consecutive years and maintaining a Standard and Poor's A Stable rating. The College ranks #17 in the nation in percentage of alumni making gifts to the College amongst all Colleges and Universities.

24. Funding: What is the total program/project budget request? Have you raised any other funds to date to support the program/project? If awarded, how will a \$100,000 grant from Impact 100 Richmond be used?

We request \$99,717 from the Impact 100 grant. This would allow us to fund the program for a full year, servicing our current participants (32) and accepting approximately 40 new participants into the program with no loss of services or program staff. In the interim we are seeking other methods of funding to continue the program, including funding from the National Science Foundation, matching grants from our partner organizations, and donations from private citizens.

25. Funding: How will you fund ongoing expenses associated with the program/project if awarded the Impact 100 Richmond grant? If funding is for a capital project, what are the anticipated ongoing expenses (maintenance, utilities, etc.), and how will you sustain these expenses?

The requested amount will fund our entire program for one year with no loss of services. Faculty members who run the program are volunteers who are not compensated for their work. We receive no internal funding from our institution nor do we have guaranteed funding from our partners, although we do receive discounts on housing and food while students reside on our campus and we are not charged for overhead, utilities, etc for the residential programming.

Upload: Organizations 501c3 Letter

[Randolph-Macon_College_IRS_501c3REV.pdf](#)

Upload: Organization Budget for this Current Fiscal Year (showing annual budget of \$250K or greater)

[FY23_Budget_Summary.pdf](#)

OPTIONAL Upload: n/a
Partner Budget for
Current Fiscal Year
(showing annual
budget of \$250K or
greater), if applicable

Upload: Detailed Program/Project Budget in a template of your choice (limit one page)

[pathways_cost_for_1_year.pdf](#)

Upload: List of Organization's Board of Directors

[Board_of_Trustees_RMC.pdf](#)

OPTIONAL Upload: n/a
Letter of Commitment
or MOU from Partner
Organizations (if
applicable)

Thank you for taking n/a
the time to apply for
the Impact 100
Richmond grant!
Once you submit you
will receive a
confirmation email.
