

Getting it Right: Strengthening STEM Pathways through Regional Collaboratives

An Achieving the Dream
Opportunity

Request for Proposals

This project is a partnership between Achieving the Dream and Jobs for the Future. Funding comes from the generous support of our investors including The Leona M. and Harry B. Helmsley Charitable Trust.



JOBS FOR THE FUTURE



Achieving the Dream™

Community Colleges Count

Proposal Submission Deadline:

November 22, 2013



Contents

Summary	3
Proposal Background	4
What Successful Applicants Get: Support for Innovation, Technical Assistance, Learning Events	5
Eligibility for STEM Regional Collaboratives	7
Selection Criteria.....	8
Description of Funding Commitments	9
Dates and Timelines.....	10
Review Process	10
Proposal Submission.....	10
Questions.....	10
STEM Regional Collaborative Proposal Narrative	11
Contact Information.....	11
Proposal Narrative Questions.....	11

Summary

Achieving the Dream, Inc. (ATD) and Jobs for the Future (JFF) are pleased to announce an exciting new opportunity for states and community colleges to advance their state and local goals for Science, Technology, Engineering, and Math (STEM) education and employment.

New national research has helped change the national understanding of STEM and the opportunities it presents, drawing attention to the large number of STEM jobs that require less than a Bachelor's degree.¹ The data have also highlighted the critical importance of community colleges as a primary provider of college access for large numbers of low-income, first generation, and students of color. The result is a growing national recognition that, with new approaches and support for reform, community colleges can be a launching pad for many more individuals to high-paying, quality careers in STEM fields, particularly for those from underrepresented groups.

With technical assistance from ATD and JFF, this opportunity features activities designed to strengthen high demand, middle-skill STEM pathways²; improve regional coordination among community colleges and their workforce partners; inform state leaders on policy changes that can support stronger STEM pathways; and foster cross-state learning and collaboration. Overall, this effort will help states and colleges to better align the college completion and middle-skill STEM agendas in practice and policy.

Through this Request for Proposal process, ATD and JFF will engage three community college-led STEM Regional Collaboratives, with engagement and joint leadership from state lead organizations in the Postsecondary State Policy Network, to identify and strengthen robust and highly structured middle-skill STEM pathways to credentials with high value in the labor market and further education. The work of the STEM Regional Collaboratives will contribute to the community college reform field by developing new knowledge on and approaches to engaging regional STEM partners and the design of state policies and institutional practices that help improve access, persistence, and completion for low-income students, students of color, academically underprepared students, and other underrepresented students on STEM pathways.

During the grant year, all state policy teams in the Postsecondary State Policy Network will benefit from convenings and other Postsecondary State Policy Network activities that accelerate their strategies to align STEM and college completion policy agendas and implement scalable, sustainable strategies.³

This Request for Proposals is specifically designed to support four evidence-based principles:

- Improving educational and career opportunities for underrepresented and underprepared students requires regional collaboration that draws on the expertise and resources of community colleges, state policymakers, employers and workforce partners, and other regional community members;
- There are well-paying, middle-skill STEM jobs into which community colleges can create and strengthen more transparent, efficient, and effective pathways;

- Student success can be boosted in the community college through the creation of highly structured pathways with clear academic requirements and comprehensive student supports including educational mapping and frequent advising; and
- Broad adoption of more structured pathways to middle-skill STEM careers requires collaboration and alignment of institutional and state practices and policies.

In the ten-month project period, each participating STEM Regional Collaborative will:

- Build the team for a dynamic regional collaborative focused on middle-skill STEM jobs that provide strong earnings and career opportunities;
- Develop a workplan for strengthening middle-skill STEM pathways, incorporating high-impact interventions;
- Participate in cross-state learning opportunities and activities that contribute to the field's knowledge on effective middle-skill STEM pathways and lead to the development of a state policy framework that identifies high priority state actions that can support and incent more effective, market-responsive STEM pathways; and
- Launch the implementation of their STEM pathways plan in fall of 2014.

Proposal Background

Science, Technology, Engineering and Math (STEM) education is closely linked to our nation's prosperity.⁴ However, the number of students pursuing and completing STEM degrees has stalled, despite predictions of a 17% growth in STEM fields in the next 10 years.⁵

America's community colleges play a critical role for STEM-interested students and in preparing the STEM workforce. Community colleges have been developing STEM pathways to fill the 50% of STEM jobs that are considered middle-skill, and 44 percent of students who receive bachelor's or master's degrees in STEM fields attended a community college at some point in their careers.⁶ Unfortunately, while community colleges are an increasingly important entry point to higher education and STEM careers for underrepresented students, too many community college students fail to complete their chosen program of study, and a surprisingly large number of students never even enroll in a specific major, STEM or otherwise. Fewer than 30 percent of those who enroll in community college succeed in obtaining an Associate's degree within three years, and fewer than half who enter community college with the goal of earning a college certificate or degree have reached that goal six years later.⁷

If underrepresented and academically underprepared students in community colleges are to enroll in, persist in, and complete STEM programs in greater numbers, significant transformation of the way colleges operate and support student success will be needed. It is necessary but not sufficient to focus on incoming student preparation and student financial or life barriers to completion. Fortunately, there is a growing body of research, knowledge, and experience on what it takes to help more students from underrepresented populations succeed in STEM (and other) community college programs of study.⁸

Reform Principles

The following research-based reform strategies are guiding principles for building pathways to middle-skill STEM credentials and jobs⁹:

1. Program design and curriculum is based upon current regional labor market information and analysis that is fine grained, up to date, and informed by employers and regional workforce institutions.
2. Career-focused programs provide a clearly defined and well-structured pathway to jobs and careers that are in demand in the regional labor market.
3. Students entering below the necessary level of proficiency receive basic skills support that is accelerated and contextualized for STEM fields, with the goal of minimizing students' enrollment in stand-alone developmental education courses.
4. Students understand their options through advising upon enrollment and are expected to select a broad pathway of study (e.g., STEM, liberal arts) early in their college experience, so they can move quickly and efficiently to completion.
5. Early warning systems, frequent and ongoing advising, and career guidance are routine components of student supports and college experience.
6. Low-income students are connected to effective academic, social and financial supports that promote retention and persistence through STEM programs.
7. Associate's degree courses and programs are aligned with those of public four-year institutions in the state, so that transfer to senior institutions to pursue higher-skill STEM programs is seamless and credits transfer easily.
8. Student enrollment, persistence, completion, and labor market outcomes are continually monitored—and analyzed by college and major/program—and used for continuous improvement of curricula and support systems.

What Successful Applicants Get: Support for Innovation, Technical Assistance, Learning Events

Sites selected for participation as a STEM Regional Collaborative will benefit from the following services:

- A cross-site kickoff meeting at DREAM 2014 (on February 24, 2014) designed to foster cross-state collaboration and sharing and deliver expert advice and guidance;
- An initial 1-1.5 day in-region kickoff workshop that will assess the latest research and help each collaborative:
 - Confirm the one or two middle-skill STEM pathways the partners want to improve;
 - Specify goals for increases in persistence and completion for each site; and
 - Prioritize reforms (see below for a description of expected evidence-based strategies).

- Assistance with developing plans for reform that will help participating community colleges meet their STEM pathways persistence and completion goals, including consultation, tools and templates, and review and approval of reform plans. We expect the plans to include evidence-based strategies and interventions consistent with the reform principles articulated on page 5. Specific interventions will include but are not limited to:
 - Comprehensive intake processes that include integrated, labor market information (LMI)-informed career advising;
 - Development of highly structured STEM pathways with streamlined and clear academic requirements (including strategies such as career-specific cohort-building and block scheduling where appropriate); built-in stackable and latticed credentials; and clearly articulated routes to completion;
 - Engagement of employers, WIBs and other regional workforce partners in development of pathway goals, curriculum, and work-based learning opportunities;
 - Accelerated basic skills acquisition, with adult basic education and developmental education integrated into on-ramps to highly structured pathways;
 - Development of robust student data systems that allow continuous monitoring of student enrollment, persistence, completion, and labor market outcomes;
 - Comprehensive ongoing supports to keep students on track to completion, including educational planning and degree mapping; early alert systems; and frequent advising; and
 - Professional development for faculty to teach under the new model.
- Help with vetting the workplan with internal and external audiences and obtaining buy-in from key stakeholders;
- Technical assistance support, including:
 - Monthly check-ins (phone or Skype);
 - Phone and email support as needed to address emerging issues and opportunities;
 - Connection to other sites to share progress, challenges and strategies; and
 - A follow-up site visit.
- Participation in JFF and ATD's knowledge development and sharing programs, including:
 - Participation in the Postsecondary State Policy Network's Spring 2014 Cross-State Topics Series meeting and Summer 2014 State Policy Meeting, which will include robust STEM content; and
 - Access to and a role in shaping STEM-related policy publications and other knowledge management products.
- Technical assistance from JFF to identify and prioritize STEM-related state policy changes--funding, rules, incentives and requirements--that can help accelerate and sustain the reforms colleges and their partners are pursuing and spread the ideas to other colleges in the state. Examples of state policy

changes that can help successful middle-skill STEM pipeline efforts grow and become institutionalized include:

- Performance funding formulas that incentivize institutions to improve STEM pipelines;
 - Policies that support the redesign of developmental education to be more integrated into first year coursework and better aligned with the math needed to succeed in particular programs, to increase access to STEM occupational programs for lower-skilled youth and adults;
 - Gubernatorial directive for greater cooperation to break down silos, thereby improving the cooperation of workforce development and postsecondary education agencies;
 - Curricular mapping--and identification of on ramps and specific credentialing pathways--for high demand STEM programs; and
 - Transfer policy that ensures transparency in transfer of credits from two-year to four-year STEM programs and easy access to information on transfer requirements.
- A joint “Reflections Convening” of the participating Collaboratives in Fall 2014 to compare strategies and progress and adapt plans based on what has been learned.
 - Opportunity to co-construct a cross-state concise, clear consensus policy framework related to expansion and sustainability of "hidden" middle-skill STEM pathways.
 - State Lead Organizations will continue to benefit from participation in the Postsecondary State Policy Network, including the semi-annual State Policy Meetings, Cross-state Topics Series meetings, publications, etc.
 - Travel costs for the following meetings are covered by this opportunity:
 - Travel for a 4-person team to attend the 2014 Kick-off meeting: Up to \$800 per person for airfare and one day of hotel and per diem;
 - Travel for a 2-3 person team to attend the Fall 2014 cross-site “Reflections Convening” to share lessons learned: Up to \$800 per person for airfare and one day of hotel and per diem;
 - Remaining travel costs are an in-kind commitment from participating colleges and state lead organizations.

Eligibility for STEM Regional Collaboratives

In order to be eligible for this opportunity state lead organizations in the Postsecondary State Policy Network must partner and complete the application with an Achieving the Dream College within their state. Eligible states are Arkansas, Connecticut, Florida, Hawaii, Massachusetts, Michigan, North Carolina, Ohio, Oklahoma, Texas, and Virginia.

Eligible state lead organizations are those that have participated in the Postsecondary State Policy Network before and can commit to augmenting travel subsidies in order to send a dynamic team to Network meetings such as the semi-annual State Policy Meetings and Cross-state Topics Series Meetings.

Preference will be given to states where middle-skill STEM pathways are a clear system/state priority.

Please note the five states in the Postsecondary State Policy Network supported by Achieving the Dream (Connecticut, Hawaii, Massachusetts, Oklahoma and Virginia) must submit an application for continuance in the Postsecondary State Policy Network in order to be eligible for this opportunity. The application for continuance was sent by Achieving the Dream, Inc., to the state lead organizations.

Selection Criteria

A competitive proposal will demonstrate:

- The leadership of an Achieving the Dream college;
- Strong support from the state system office, coordinating board or other entity that has authority for community college performance and improvement;
- Proof of the leadership and strategic focus necessary to implement the proposed work, including evidence of a strong collaboration—including a jointly-written proposal—between the lead community college and the state lead organization;
- An understanding of the local environment for and implications of STEM career and educational opportunities:
 - Evidence that middle-skill STEM pathways are a clear system/state priority;
 - A description of the existing regional STEM labor market and a preliminary identification of the STEM pathway(s) that will be targeted for this opportunity (the STEM pathways will be validated through the work during the first year); and
 - An emphasis on creating STEM opportunities for low-income students, students of color, academically underprepared students, and other underrepresented students.
- The ability to organize and convene a team to support the STEM Regional Collaborative, including at least the community college president and members from the community college leadership team; the CEO and chief academic officer of the state lead organization; STEM faculty; local workforce partners such as WIB directors and employers; and other community partners;
- A plan for building a dynamic regional collaborative capable of implementing STEM pathways that include high-impact intervention(s) that have successfully raised student outcomes in the past and reached a significant cohort of students, including:
 - A high-level timeline of key deliverables and events, including the building of the regional collaborative and plans for implementation of STEM pathway(s) in Fall 2014;
 - Outcome goals for the STEM pathways that will be implemented beginning in Fall 2014 (to include student enrollments and completions, with specific data for low-income students, students of color, academically underprepared students, and other underrepresented students);

- Discussion of the evidence-based intervention(s) to be implemented (interventions will be validated later through the workplan development process); and
- A discussion of important considerations for scaling the STEM pathways to other colleges in the state.
- The ability to track related inputs, outputs, and outcomes; and
- A commitment to participate in the community of learners regarding this work to disseminate lessons learned to other community colleges, state lead organizations and appropriate partners.

Description of Funding Commitments

Selected STEM Regional Collaborative sites will be expected to:

- Sign a Memorandum of Understanding with Achieving the Dream, Inc.;
- Send a team from the state lead organization to the Postsecondary State Policy Network's Winter Meeting, to be held in New Orleans, LA on January 27-29, 2014;
- Bring a team to a cross-state kickoff meeting, to be held as a pre-meeting to DREAM in Orlando, FL on February 24, 2014 (the full DREAM conference is February 25-27, 2014). The team should include a minimum of 4 people, and a maximum of 6. Suggested roles include: College president or chief academic officer; CEO or chief academic officer of the state lead organization; a workforce representative such as a WIB director and/or employer; and a STEM faculty member;
- Establish outcome measures and track student progress to determine scaling effectiveness and student success;
- Demonstrate progress through end-of-year reporting to Achieving the Dream and Jobs for the Future;
- Agree to be an active member of a national community of learners that will include coaching and concerted knowledge development;
- Participate in a Fall 2014 cross-site Reflections Convening;
- Develop a workplan and begin to implement improvements to targeted middle-skill STEM pathways by Fall 2014;
- Share lessons from the work at venues such as DREAM 2015 and Postsecondary State Policy Network meetings.

Dates and Timelines

Selection Process	October – December 2013
RFP released to PSPN State Lead Organizations and Achieving the Dream Colleges in those states	October 25, 2013
Joint grant proposals due from colleges and state leads	November 22, 2013
Grant recipients announced	The Week of December 16, 2013
Project Launch	January-February 2014
Recipients sign MOUs with Achieving the Dream, Inc.	January 6, 2014
STEM Regional Collaboratives form regional teams	January-February 2014
State lead organizations meet at Winter State Policy Meeting of the PSPN to begin initial state-level policy planning, New Orleans, LA	January 27, 2014
STEM Regional Collaboratives Kickoff event at DREAM 2014, Orlando, FL	February 24, 2014
Project Planning and Implementation	Spring 2014 – Fall 2014
In-State Kickoff Institute	Spring 2014
Draft workplans due	June 2014
State leads meet at STEM-focused Cross-State Topics Series Meeting	Spring 2014
Final workplans due	July 2014
Follow-up ATD /JFF Site Visits	August 2014
Progress report due	September 1, 2014
Cross-Site “Reflections Convening” to share lessons and sustainability plans	September 2014
STEM Pathways implementation begins	Fall 2014
Ongoing participation in learning events to share STEM lessons	Ongoing

Review Process

A selection committee comprised of staff from Achieving the Dream, Inc., Jobs for the Future, and The Helmsley Charitable Trust will read the applications and select three state/college collaboratives to participate for 2013-14. Please note that the review team may ask you to clarify answers or respond to follow-up questions. Funding decisions will be made the week of December 16, 2013.

Proposal Submission

Proposals should be submitted by sending applications to policy@achievingthedream.org. Submissions will be accepted from October 25, 2013 to November 22, 2013. **All proposals must be submitted by midnight ET, Friday, November 22, 2013.**

Questions

Questions regarding this request for proposals should be directed to Meredith Hatch, Achieving the Dream Associate Director of Programs and Lara Couturier, Jobs for the Future Program Director, at policy@achievingthedream.org.

STEM Regional Collaborative Proposal Narrative

Contact Information

Main College Contact (To be notified of submission status)	
Name:	
Title and College:	
Phone:	
Email:	
Main State Contact (To be notified of submission status)	
Name:	
Title and Organization:	
Phone:	
Email:	

Proposal Narrative Questions

Please respond to the following questions.

1) Please describe and provide evidence for the leadership, collaboration and strategic focus represented by your proposed STEM Regional Collaborative. (~500 words)

- How will you ensure a productive collaboration between the community college and the state lead organization?
- How will your STEM Regional Collaborative actively engage workforce partners such as WIBs and employers?
- How will you build leadership of this reform effort among STEM faculty?
- What other key community partners will you engage in this effort and why?

2) Please provide an analysis of the regional STEM economy. (~500-750 words)

- Provide evidence that middle-skill STEM pathways are a state/system priority;
- Use up-to-date labor market information to describe the regional STEM economy;
- Describe the regional approach to engaging workforce and educational partners, including existing effective partnerships;
- Describe the collaborative's capacity for serving underrepresented and underprepared leaders interested in STEM pathways; and

- Identify the potential targeted STEM pathway(s) for this effort and provide preliminary evidence for those choices.

3) Outline an initial plan for the work of the collaborative. (~1500 words)

- A high-level timeline of key deliverables and events, including plans for implementation of STEM pathway(s) in Fall 2014;
- Outcome goals for the one-year grant period (including student enrollments and completions, and a discussion of opportunities for low-income students, students of color, academically underprepared students, and other underrepresented students);
- Identification of the interventions the college would like to target (with the understanding that the workplan will be revised through the assistance of this initiative) (please see p. 6 for the high-impact interventions specifically encouraged for this opportunity). Please include a specific discussion of high-impact interventions targeting improved performance in developmental math leading to seamless entry into STEM pathways at the state and/or college level;
- A discussion of considerations for scaling lessons learned to other colleges in the state; and
- A plan for tracking related inputs, outputs, and outcomes.

4) Participation in the STEM Regional Collaborative community requires you to create a team committed to this work, devote funding for travel resources, engage in cross-state discussions that benefit all collaboratives in the network, provide input into the creation of a cross-state STEM policy framework, occasionally review knowledge management products, and participate in evaluation activities that help us assess progress (e.g., self-assessments, interviews, etc.). Please comment upon your collaborative’s commitment to devote the time, energy and resources to the success of this initiative. (~250 words)

5) Please provide a list of team members who will guide the STEM Regional Collaborative. Please recreate the chart below in your application. Your team should include at least the community college president and another member of the college’s senior leadership team; the CEO and chief academic officer of the state lead organization; local workforce partners such as WIB directors and employers; STEM faculty; and other community partners.

STEM Regional Collaborative Team Members		
Name	Title	Role/Contributions of Team Member
[Name]	[Title]	[Enter text here.]
[Name]	[Title]	[Enter text here.]
[Name]	[Title]	[Enter text here.]
[Name]	[Title]	[Enter text here.]
[Name]	[Title]	[Enter text here.]
[Name]	[Title]	[Enter text here.]

[Name]	[Title]	[Enter text here.]
--------	---------	--------------------

ENDNOTES

¹ Rothwell, J. (2013). *The Hidden STEM Economy*. Washington, DC: Brookings Institution.

² Rothwell, J. (2013). *The Hidden STEM Economy*. Washington, DC: Brookings Institution.

Middle-skill STEM jobs are those that require less than a baccalaureate credential, according to a recent Brookings Institution analysis.

Health careers, advanced manufacturing, and construction industry jobs (e.g. nurses, electricians, machine-operators) are included in this definition of "hidden" STEM employment. The STEM knowledge and skills required for these jobs tend to be specific to the field, resulting in a shorter pathway to a career than higher-skilled STEM jobs. Half of all U.S. STEM jobs are available to workers without a four-year college degree, and these jobs pay \$53,000 on average—a wage 10 percent higher than other jobs with similar educational requirements. They are also available in all metropolitan areas, unlike high-skill STEM jobs which tend to be clustered in a few big cities.

With few exceptions, previous studies have overlooked variation in the level of STEM knowledge required in different jobs and have relied on unstated assumptions about what constitutes STEM employment. Prior classifications have neglected the many blue-collar or technical jobs that require considerable STEM knowledge.

³ For more on the Postsecondary State Policy Network, please see <http://www.jff.org/projects/current/education/postsecondary-state-policy-network/1485>

⁴ Gonzalez, H.B., & Kuenzi, J.J. (2012). *Science, Technology, Engineering, and Mathematics (STEM) Education: A Primer*. Congressional Research Service.

⁵ Carnevale, A.P., Smith, N., & Strohl, J. (2010). *Help Wanted: Projections of Jobs and Education Requirements Through 2018*. Washington, DC: Georgetown University Center on Education and the Workforce.

⁶ Rothwell, op. cit.; American Association of Community Colleges. *Community Colleges Can't Deliver for Us Unless We Deliver for Them*. Not dated. <http://www.aacc.nche.edu/Advocacy/toolkit/Documents/factsheet.pdf>

⁷ W.C. Symonds, R. Schwartz, & R.F. Ferguson. (2011). *Pathways to Prosperity: Meeting the Challenge of Preparing Young Americans for the 21st Century*. Cambridge, MA: Pathways to Prosperity Project, Harvard University Graduate School of Education.

⁸ Two excellent sources of new research on what works are the Community College Research Center at Teachers College, Columbia University, and MDRC.

⁹ Kazis, R. and C. Lincoln. (2013). *Advancing Underrepresented Minorities in STEM Education and Careers: Federal Policy Support for Middle-Skill STEM Pathways and the Community Colleges that Provide Them*. Jobs for the Future and Achieving the Dream, Inc. for the National Action Council for Minorities in Engineering.