**Massachusetts STEM Pipeline Fund**

**Regional STEM Networks**

**Request for Proposals – FY2018**

****

**Issued by:**

**Massachusetts Executive Office of Education**

**One Ashburton Place, Room 1403**

**Boston, Massachusetts 02108**

Contents

[I. Introduction 3](#_Toc449348909)

[II. Background/History 3](#_Toc449348910)

[III. Purpose and Priorities 4](#_Toc449348911)

[A. Networks Vision 5](#_Toc449348912)

[1. Reestablishing, Developing and Sustaining Effective Networks 5](#_Toc449348913)

[B. STEM Council Priorities 5](#_Toc449348914)

[1. Expand Work-Based Learning Programs 5](#_Toc449348915)

[2. Develop and Grow STEM Early College Career Pathways 6](#_Toc449348916)

[3. Broaden and Deepen Computer Science & Engineering Initiatives 6](#_Toc449348917)

[C. Education Systems Alignment 7](#_Toc449348918)

[IV. Eligibility 8](#_Toc449348919)

[V. Proposal Requirements 8](#_Toc449348920)

[A. Proposal Abstract 8](#_Toc449348921)

[B. Narrative 9](#_Toc449348922)

[VI. Evaluation and Reporting 10](#_Toc449348923)

[VII. Submission Instructions 10](#_Toc449348924)

[VIII. Proposal Review 11](#_Toc449348925)

[IX. Awards 11](#_Toc449348926)

[X. Policies 11](#_Toc449348927)

[XI. Proposed Budget 13](#_Toc449348928)

[XII. Appendix 14](#_Toc449348929)

# Introduction

The Commonwealth of Massachusetts became a national STEM leader when it issued a planning grant in 2004 to create the system of PreK-16 Regional STEM (Science, Technology, Engineering and Mathematics) Networks - a collaborative, statewide community of shared interest in STEM education. For more than a decade, the Networks have advanced the Commonwealth’s agenda for STEM education and workforce pipeline. Schools, higher education institutions, businesses, non-profit groups, policy makers and others have come to rely on the Networks as a strategic instrument to align and unify local and regional systems, communicate and scale-up best-practice experiences and sustain this model of collaboration and performance improvement.

Using the many lessons learned from all the years of the STEM Networks’ existence, the Department of Higher Education issued an RFP last year to restructure the geographic alignment of the network system for greater efficiency. This action produced strong partnerships and new configurations across the state but left the Northeast section of the Commonwealth without coverage. This RFP seeks to close this gap by selecting and funding an institution (or institutions) in the Northeast to lead a Regional STEM Network in that region.

This grant will run from September 2017 through September 2018. We do not anticipate state funding in FY 19 or future years.

Responses to this RFP be aligned to the current priorities of the STEM Advisory Council as well as priorities of the three education agencies as outlined in later sections of this RFP.

# Background/History

In 2004, the Department of Higher Education (DHE) released an initial round of STEM Pipeline Fund planning grants to establish PreK-16 Regional STEM Networks. At that time, creating a statewide framework of regional stakeholders was considered the most effective system to 1) advance the STEM Pipeline Fund goals to increase the number of students interested in STEM majors and careers, 2) increase the number of qualified STEM educators, and 3) improve STEM educational offerings. A broad, representative membership of public and private PreK-12 schools and districts, public and private higher education institutions, business and industry partners, and non-profit organizations provided a statewide framework for regional adoption of best-practice initiatives. Early activities included administering student interest and enrichment projects, career awareness initiatives, and teacher professional development.

In January 2007 the DHE formalized seven Networks, awarding three-year grants totaling $1.9 million dollars. Two additional Networks – Boston and Metro North – followed, completing geographic coverage, [statewide](http://www.mass.edu/stem/getinvolved/pipelinenetworks.asp). After these initial grants, funding continued on an annual basis but at reduced levels. Governance was shifted from direct management of projects to coordination and collaboration with local educators and organizations. This transition embodied the vision of the Networks as regional agents for promoting the Commonwealth’s STEM educational and workforce goals.

The Regional STEM Networks have proven to be an effective system for unifying diverse stakeholders in a common purpose to strengthen and increase the Commonwealth’s pipeline of STEM skilled workers. Two of the key lessons learned over the past 14 years of the Networks’ existence are that a strong and sustainable Regional STEM Network needs all of the following:

1. A well-resourced and committed host institution.
2. A passionate and effective manager, to lead the agenda in order to enhance alignment, accountability, performance, innovation and efficiency of its work.
3. An engaged and energized membership.

These elements stood out among a number of key findings in two reports by University of Massachusetts (UMass) Donahue Institute: *Massachusetts STEM Pipeline Regional Networks:* *Promising Practices and Lessons Learned*”[[1]](#footnote-1) and *Regional STEM Networks Evaluation* report[[2]](#footnote-2).

# Purpose and Priorities

The purpose of this RFP is threefold.

First, proposals must articulate a vision of tactical plans and longer term strategies for stimulating engagement across the Northeast region. For some applicants, this RFP may present an opportunity to reestablish and strengthen former Network operations, in others this will present the opportunity for new collaborations to emerge. All proposals should build upon best practices of the Regional STEM Network system that reflect the essential components of comprehensive Network design (See Appendix for suggested design detail).

Second, proposals should suggest strategies and plans to promote at least one STEM Council priority during the grant year and how to address all of them in the long run. The STEM Advisory Council’s priorities are:

1. Expand Work-Based Learning Programs
2. Develop and Expand STEM Early College Career Pathways
3. Broaden and Deepen Computer Science & Engineering Initiatives

Third, proposals should address how the Network will promote alignment with at least one STEM-related priority of the three state education departments (DHE, DESE and EEC), including how it plans to address all of them in the long run:

1. Higher Education - Vision Project Implementation
2. Elementary and Secondary Education - STE Standards
3. Early Education and Care – Regional Professional Development

## Networks Vision

### Reestablishing, Developing and Sustaining Effective Networks

Massachusetts system of Regional STEM Networks has developed for more than a decade and is expected to continue to evolve into the future. This RFP defines specific requirements and expectations of a new Northeast STEM Network for the performance period of this grant but also calls for an evolving vision of the Network into the future.

## STEM Council Priorities

### Expand Work-Based Learning Programs

Work-based learning refers to any formal education that is based wholly or predominantly in a work setting. Studies such as the Harvard Graduate School of Education’s *Pathways to Prosperity* report[[3]](#footnote-3) and the report by the National Research Center for Career and Technical Education titled *Work-Based Learning Opportunities for High School Students[[4]](#footnote-4)* show there is a strong link between work-based learning and attainment of employment skills and meaningful employment. Employers are supportive of this educational approach. In fact, one of the key tactics called for in the Massachusetts Business Alliance for Education’s (MBAE) 2008 report titled, “Educating a 21st Century Workforce: *A Call for Action on High School Reform”* [[5]](#footnote-5), is for schools to provide elective credit to students for work-based or service learning programs. Equally, the MBAE report urges Massachusetts’ businesses to provide students with meaningful work opportunities through a variety of work-based learning experiences such as internships and service projects.

The STEM Advisory Council’s objective for this priority is to provide students in all communities, and especially in high-need communities, with meaningful on-the-job learning experiences to prepare them for the workplace and to give them hands-on exposure to STEM careers. In November 2016, the STEM Advisory Council launched MA STEM@Work to increase the number of employers who offer STEM-focused internships to high school students. STEM@Work is integrated with the Department of Elementary and Secondary Education’s [School to Career “Connecting Activities](http://www.massconnecting.org/)” program.

Competitive proposals responding to this priority should identify strategies for working closely with STEM@Work and Connecting Activities with a clear plan for broadening and strengthening STEM employer partnerships.

### Develop and Grow STEM Early College Career Pathways

The STEM Advisory Council’s objective with this priority is to provide students in high-need communities with access to integrated career pathways into STEM fields, beginning in middle school and reaching into college and the workforce. Integrated career pathways are a collection of programs and services intended to develop students’ core academic, technical and employability skills; provide them with continuous education and training; and place them in high-demand, high-opportunity jobs or into a higher education transfer pathway. National research suggests that early college programming has the potential to resolve both the remediation and postsecondary completion challenge, particularly for first generation and underrepresented students.

The key partners needed for successful STEM Early College Career Pathways include high schools, community colleges, state universities, workforce and economic development agencies, employers, labor groups and social service providers. These partners mirror the membership composition of the Regional STEM Networks making them ideal structures for collaborating in and advancing this work.

Competitive proposals responding to this priority should identify strategies for Networks to support the advancement of STEM Early College Career Pathways and should look for alignment to the designation process that the Departments of Higher Education and Elementary and Secondary Education will release in July.

### Broaden and Deepen Computer Science & Engineering Initiatives

The Bureau of Labor Statistics predicts that 73% percent of the new STEM-related jobs across the country between 2014 and 2024 will be in computing.[[6]](#footnote-6) In Massachusetts, there are over three times more computing job openings advertised than other industry sector jobs and the average salary for computing occupations in MA is $100,663, which is significantly higher than the average state salary of $57,610. The STEM Advisory Council addresses these opportunity areas with a focused priority to 1) deepen the pipeline of well-trained STEM teachers and school leaders particularly in computer science and engineering and 2) to strengthen student foundational skills, particularly computational skills.

Competitive proposals responding to this priority should identify strategies to broaden knowledge about the importance of computer science education to a broad range of stakeholders in the region, including educators, parents, students, and business leaders.

## Education Systems Alignment

The regional Networks provide a sustainable infrastructure that promotes statewide collaboration across the commonwealth aligned to the goals of the STEM Advisory Council. Alignment of the Networks with the following priorities of the state’s education and workforce agencies (DHE, DESE and EEC) will further strengthen the alignment of localized projects into a more integrated system.

1. **Higher Education – Vision Project STE Standards**

The Department of Higher Education’s (DHE) strategic priorities are highlighted and tracked in its annual Vision Report. In the 2015 report entitled *Degrees of Urgency,* the DHE highlights the need for more college graduates in order to support Massachusetts’ knowledge based economy where 72% of all jobs will require some college education by 2020. The STEM Networks can help support initiatives at the higher education level by assisting with the Departments’ Go Higher! Initiative, helping K-12 and higher education partners understand the value of dual enrollment and early college programming for students, assist in recruiting for STEM Starter Academy programs at the community colleges, and engage parents and students regarding the benefits of pursuing a STEM degree or certificate.

1. **Elementary & Secondary Education – STE Standards**

The Department of Elementary and Secondary Education (DESE) issued updated science, technology, and engineering standards in January 2016. To help school districts collectively strategize on what these new standards mean for teaching and learning, DESE recruited 40 STEM ambassadors assist school districts in making this transition. The STEM networks can provide a hub for school districts to connect with and provide the infrastructure needed to convene districts for regional planning meanings.

1. **Early Education & Care – Regional Professional Development**

Five Early Education and Care (EEC) regions across the state contract with professional development (PD) grantees that are charged to develop and operate PD partnerships. These partnerships in turn work with early educators in assisting them with their on-going PD needs. Early educators’ needs include increasing their core competencies through continuing education unit courses offered by the grantee partnership, working towards an EEC teaching credential, continuing their college education, developing new skills and teaching STE and M standards and instruction pedagogy. Within each regional partnership are on-the-ground opportunities for the STEM Networks to work with our PD grantees to promote STEM to our early educators.

Competitive proposals should identify strategies to promote alignment with at least one of these strategies advanced by the state education agencies.

# Eligibility

The following criteria must be met in order for a proposed Network to be eligible for funding:

* Represents a collaboration of partners from public and private PreK-12 schools and districts, public and private higher education institutions, business and industry, and non-profit organizations within Northeast Massachusetts.
* Strong lead partner with history of commitment to regional collaboration within Northeastern Massachusetts and to STEM education that can provide operational infrastructure (staff, space, technology, fiscal management), to fulfill administrative and reporting requirements.
* Demonstrated prior experience or willingness in leading a network of individuals from many different contexts to participate according to their interests and expertise while sustaining collective attention on progress toward common goals.
* Well resourced lead institution to help facilitate the implementation and expansion of the STEM Council goals and priorities beyond September 2018.
* A plan for or presence of ongoing dialogue and research among K-12, higher education, employers and other stakeholders to determine regional workforce and education needs in STEM.
* Plan for continued outreach and membership development with an emphasis on employer members.

# Proposal Requirements

## Proposal Abstract

Not more than one page. Include the following***:***

* Name of Regional STEM Network
* Lead Applicant Information
	+ Organization **(*Include a letter of commitment from an authorized representative of the organization.)***
	+ Contact Person
	+ Title
	+ Telephone Number
	+ Email Address
* List of member organizations
* Geographical Coverage.
	+ List or map of towns and cities included in this regional definition.

## Narrative

Not to exceed 10 pages, with standard 1” margins, 1.5 line spacing and 10-12 point font.

1. **Programmatic Focus**
2. Please articulate your broad, forward-looking, vision of the operation and development of your Network. Your vision should build upon and reflect the successful history of the Networks and project their continued future development. To aid you in this effort, we have included an outline of the elemental components of successful Networks as an appendix to this RFP.
3. The STEM Council goals and priorities are clearly articulated in Section III of this RFP. Proposals should address your Network’s strategic plan for advancing one or more of these goals. Summarize your Network’s available institutional and human resources – time, materials and personnel - as well as the implementation strategies of your Network, to advance this work.
4. In addition to advancing the STEM Council’s goals and priorities, this RFP focuses on aligning the education and workforce development efforts of the Networks with our state education agencies. Describe how your network will promote and support one or more of the state education agencies’ key strategies for STEM education.
5. **Network Governance Structure**

As stated earlier, each Network needs a well resourced and committed host institution as well as a passionate and effective manager. Please provide summary details about your proposed Network governance structure.

1. **Lead Institution**
* Describe the direct and in-kind support the lead/host institution is able to provide such as:
	+ Meeting space
	+ Staff
	+ Equipment
	+ Professional Developmen**t**
	+ STEM Programs, etc.
* Identify the level of involvement of the institution faculty and staff (or similar level personnel if not an educational institution), including their awareness of and support for the work of the Network.
* Describe the institution’s expectations regarding their commitment to sustainability of this work. We recognize that this grant is for a finite timeframe; however, as the role of the Networks is anticipated to be ongoing, we are interested in the understanding of the lead institution about the ongoing nature of this work.
1. **Project Manager**
* Identify the proposed project manager and summarize their qualifications.
1. **Sustainability**
* Outline the host institution’s commitment and ability – as well as that of Network members (as possible) – to sustaining and growing the Network beyond September 2018.

# Evaluation and Reporting

A formal independent evaluation of this proposal is not required given the limited amount of time and the funding available for implementation of this project. However, we will request a mid-year and year-end report on the progress of your strategic plans and vision. Due dates of these reports are identified in the timeline found in the section below.

# Submission Instructions

Proposals will be accepted through close of business on August 21, 2017. Proposals should be formatted following the instructions outlined in the “Proposal Requirements” section of this RFP.

An information session will be held by conference call on June 28, 2017, to respond to questions about the RFP. Information regarding the exact time and call-in number will be posted on the Department of Higher Education (DHE) website found here: <http://www.mass.edu/stem/fundedprojects/rfpcurrent.asp>. Anyone interested in participating should send an email to Keith Connors, Program Manager of the STEM Pipeline Fund, at the address shown below. FAQs will be posted to the ***Regional Network*** section of the DHE website, as well as on CommBuys, after the session is completed.

**Please submit your completed proposal via email to:**

Keith Connors,

Senior Program Manager of the STEM Pipeline Fund

kconnors@dhe.mass.edu.

Make sure to write “***Regional STEM Network Proposal***” in the email subject line.

|  |
| --- |
| **Timeline** |
| Release Date | June 21, 2017 |
| Information Session | June 28, 2017 |
| Proposals Due  | August 21, 2017 |
| Proposals Reviewed/Awards Announced  | September 15, 2017 |
| Award Released | September 30, 2017 |
| Mid-Year Report Due | March 15, 2018 |
| Year-End Reports Due  | September 14, 2018 |

# Proposal Review

A proposal review team will read, score and recommend proposals for funding.

A scoring rubric will be developed and published to inform applicants about the decision criteria to be used in the final selection and award process. Proposals will earn high scores for articulating clear and thoughtful strategies for establishing, developing and sustaining an effective Network that is aligned to at least one STEM Council goal and at least one state agency priority, as outlined in Section IV, under *Purpose and Priorities.*

# Awards

The grant award is $60,000 for the selected proposal. The grant period will run from September 30, 2017 to September 30, 2018.

# Policies

***Grant Disbursement***

Following the applicant’s acceptance of the award letter, and the execution of the Standard Contract, or the Interagency Service Agreement, and any other required documents, the applicant can expect to receive disbursements on a schedule consistent to the needs of the project.

***Publicity***

Grant recipients are obligated to acknowledge the funding source in all print materials, websites and press releases. The acknowledgement of the funding source contributes to the overall name recognition and branding of the Rapid Response Incentive Program.

***Solicitor Responsibility***

Solicitors may not alter (manually or electronically) the grant application language or any grant application component files. Modifications to the body of the grant application, specifications, terms and conditions, or application which change the intent of this grant application are prohibited and may disqualify a response.

All costs associated with responding to this RFP are the sole responsibility of the responding organization. The DHE reserves the right to use any and all ideas included in any response without incurring any obligations to the responding firm or committing to awards for the proposed services. Responses become the property of the DHE.

***Performance***

Any funds distributed to successful applicants are done so with the expectation that the college will deliver the programs as described and serve the numbers of participants detailed in the application. If the applicant is for some reason unable to fulfill the program described in the original proposal, we reserve the right to recover funds distributed.

***Legal Disclaimer***

This RFP does not represent a contractual agreement by the DHE to any applying organization. Selected organizations will enter into a contractual agreement with the DHE upon award.

THE DEPARTMENT OF HIGHER EDUCATION RESERVES THE RIGHT TO REJECT ANY AND ALL RESPONSES AND THE RIGHT TO CANCEL THIS REQUEST FOR QUALIFIED PROPOSALS (RFP) AT ANY TIME PRIOR TO AWARD.

# Proposed Budget

Please complete the table below, or a similar budget of your own, with a breakdown of the requested funding. Upon completion of the table or your own budget, please provide an additional *Budget Narrative* that includes specific details of each budget item in the table. If using the table below, double click on it to make it interactive. This action will allow you to fill it each line.

**Network Name:**

**Project Manager:**

**Signature/Date:**

# Appendix

***Key Network Components***

Based on what we learned from the key findings of the aforementioned UMass Donahue Institute report titled “*Massachusetts STEM Pipeline Regional Networks:* *Promising Practices and Lessons Learned”* as well as the learning that has occurred on effective practices over the more than a decade of their existence, strong Networks should possess all the following components:

1. **A Lead/Host Institution** – Home base of the STEM Network. Strong host institutions have many of the following elements:
* High level involvement of institution faculty and staff, including knowledge of the project by the institution president and cross-departmental participation;
* Institution representatives contribute to membership development efforts;
* Institution representatives advocate for national and statewide policy and resources; and
* Institution provides in-kind support and exhibits potential for incorporating aspects of the Network permanently into the institution in a manner that does not rely on grant funds.
1. **Membership or representation** from the following constituencies:
* Higher education both public and private including the community colleges, state universities and the University of Massachusetts.
* K-12 schools and districts, both public and private, with representation coming from superintendents, curriculum directors, guidance counselors and teachers.
* Business and industry: consider key sectors – life science, bio-pharma, biotechnology, health services, medical devices, science and technology, manufacturing, information technology, higher education and research.
* Workforce boards: Workforce Development Boards (formerly known as Workforce Investment Boards or WIB’s) and Regional Employment Boards (REB’s).
* Non-profit organizations – representation from museums, learning centers - such as the Readiness Centers and D-SAC’s, etc.
1. **Network Administrator/Manager** - A qualified network manager is an essential part of a successful Network with various responsibilities including, but not limited, to:
* Communicating with DHE, including but not limited to:
	1. Timely and thorough replies to DHE inquiries and reporting requirements.
	2. Working with Fiscal Office to ensure fiscal reporting requirements are met.
	3. Notifying DHE of any personal, program or expenditure changes that differ from accepted proposal or contractual agreement.
* Communicating with Network members, including but not limited to:
	1. Distributing regular information about new grant opportunities, professional development activities, conferences, etc.
	2. Updating website or, if handled by another individual, coordinating changes.
* Organizing meetings, including but not limited to:
	1. Preparing agendas and any other meeting materials.
	2. Taking notes and distributing follow-up information.
* Continuing membership development in conjunction with institutional leadership and sub-committees, including but not limited to:
	1. Developing lists of target members.
	2. Creating and updating outreach materials and Network brochure.
* Overseeing evaluation process, including but not limited to:
	1. Organizing visits by local and statewide evaluators as necessary.
	2. Ensuring local and statewide evaluators receive required information promptly.
	3. Ensuring local evaluator adheres to DHE and contractual deadlines.
1. **An Advisory Council/Board** – the membership composition of the board should strive to include at least one member from each of the listed categories above under “membership”. The role of the advisory council/board should include the following:
* Serving as a sounding board for accountability and strategic planning;
* Reviewing the Network’s progress toward goals and adherence with strategic plan;
* Providing advice, expertise, and potentially in-kind or financial assistance;
* Broadening the base of partners, particularly employers; and advocating

for national and statewide policy and resources (e.g., constituency to speak to the Administration and Legislature).

1. **Quarterly Meetings** – a minimum of quarterly meeting are required to provide the opportunity for members to network, share best practices, identify regional needs, communicate new STEM initiatives, events and activities and to strategize on advancing the STEM Council goals articulated in this RFP.
2. **Needs Assessment/Strategic Plan** – a preliminary needs assessment is necessary to determine the needs, or “gaps”, between current conditions and desired conditions or “wants”. A sound needs assessment can ensure a Network outlines the right set of priorities in its strategic plan. Strategic plans will be required should additional grant money become available after the grant period ends.
3. **Website** – a strong web presence to communicate regional STEM events, programs, workshops, and all associated STEM happenings. The website should list the contact information of the Network program manager and should list the names of the advisory committee members.
4. **Newsletter –** periodically issued to bind the community in its shared interest in regional STEM opportunities and resources for the myriad of stakeholders - students, teachers, parents, businesses, etc.
1. UMass Donahue Institute, “*Massachusetts STEM Pipeline Regional Networks: Promising Practices and Lessons Learned” by* Greta Shultz, Ed.D, and Jean Supel, 2010. Prepared for the Massachusetts Department of Higher Education and found here: <http://www.mass.edu/stem/outcomes/pipelinepresspubs.asp>. [↑](#footnote-ref-1)
2. UMass Donahue Institute, *2013* *Regional STEM Networks Evaluation: Summary of Interview and Online Survey Findings,* Presented to the Massachusetts Department of Higher Education also found on the DHE website reports page as shown above. [↑](#footnote-ref-2)
3. Harvard Graduate School of Education, “*Pathways to Prosperity”,* February 2011. See <http://www.gse.harvard.edu/sites/default/files//documents/Pathways_to_Prosperity_Feb2011-1.pdf> [↑](#footnote-ref-3)
4. The National Research Center for Career and Technical Education, “*Work-Based Learning Opportunities for High School Students”,* Feb. 2013. See: <http://www.nrccte.org/sites/default/files/publication-files/nrccte_work-based_learning.pdf>. [↑](#footnote-ref-4)
5. Massachusetts Business Alliance for Education (MBAE), “*Educating a 21st Century Workforce*: *A Call for Action on High School Reform”,* Linda Noonan et al., 2008. See <http://www.mbae.org/research-reports/>. [↑](#footnote-ref-5)
6. https://news.cs.washington.edu/2016/02/26/where-are-the-stem-jobs-2014-2024/ [↑](#footnote-ref-6)