



# 4-H STEM Ambassadors Program



Jeffrey Hecker Executive VP for Academic Affairs and Provost

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#### Statewide Reach of the UMS

#### **Board of Trustees** 4-H STEM Ambassadors Final

n 2014 the University of Maine Cooperative Extension was awarded \$1 System Board of Trustees to expand the UMaine-based 4-H STEM Amb the UMaine System. The 4-H STEM Ambassador Program consists of t delivering experiential STEM activities to youth at community host sites. Th reflects the vision of the UMS One University Initiative: Service To Every N All Ages and Locations, Statewide Partnerships, and World-Class Research.

Growth and reach of the program: Over three years the funding received from the University of Maine System (UMS) Board of Trustees has enabled the growth of the program from engaging 1-2 undergraduate students per semester at one location to over 100 UMS students connecting with over 1000 youth per academic year (Table 1). The 4-H STEM Ambassador program is active in six of the seven UMS campuses, with the seventh on track to join in Spring 2018. Our initial proposal estimated annual participation of 14 4-H STEM Ambassadors and 112 youth. This number was exceeded in our first year.

Growth of the 4-H STEM Ambassador Program Academic year: 2013-14 2014-15 2015-16 2016-17 Fall 2017 1,220 1,026 1,000 16 Youth Impacted 4-H STEM 171 Ambassadors 70 Community Sites

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Use of University of Maine System Funding: Our award of \$100,000 was used for staffing support for the program, materials and supplies, and travel for staff and the 4-H STEM Ambassadors. Details include:

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1. Salary and Fringe: One 4-H Science Youth Development Professional and a 4-H Community Education Assistant were hired to support the program expansion. With additional support from UMaine Extension, these positions will continue. Approximately \$65,000 was spent on compensation including salaries and benefits.

2. Travel: Travel was primarily used to support student 4-H STEM Ambassadors to travel from their university to their host sites. Additional use of travel funding included meetings with bost sites and faculty at UMS campuses, and travel to present at conferences. Approximately \$5,000 was spent on travel

#### THE UNIVERSITY OF 1865 **Cooperative Extension**

**Board of Trustees 4-H STEM Ambassadors** FINAL REPORT gram, and liking the science activities. ace or STEM topic in the future. For ence with a nearby UMS campus. ors support young people seeing

ed confidence in communicating ing as part of a bigger program the experience has increased their problem-solving skills and hat participation in the program comfort and confidence in 85% indicated that participation in inteer in the future.

ing community partners (schools, 1) with UMS campuses. Many of in connected with the UMS. The program has really added these kids. They are able to see and math and making it fun. It has

H STEM Ambassador Program nless special conditions (such as he primary costs of the program time, travel, and materials and UMS students participate in the gly as part of a community ships with the UMS campus vays to ensure continuation of

laine may earn academic credit g in the 4-H STEM gram through the College of Sciences (LAS 395). Many he 4-H STEM Ambassador

ought funding and secured a AmeriCorps VISTA position building sustainability of 4-H secured to provide specific at seven teaching faculty from embedded the program into ity engagement and science r service within the Honors

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"Through this program, responsibility, collaboration and creativity is learned or improved. I learned to better manage my time when trying to balance the STEM activities and my regular course load. It was very challenging. Nonetheless, once we would finish an activity. the feeling of achievement was very satisfactory."

USM 4-H STEM Ambassador, Spring 2016

#### "Last session was awesome! The kids were great, and they loved the activity. I can't wait for this week's session."

USM 4-H STEM Ambassador, Fall 2017

"It is always powerful to have women role models, and for our young women to be asking questions, probing thinking and connecting with younger learners — great!"

USM 4-H STEM Ambassador, Fall 2017



### **4-H STEM Ambassadors Program**



Involves trained undergraduate/ graduate students delivering experiential STEM activities to youth at community host sites



## UMS BOT Investment = \$100,000

Salary & Benefits	<ul> <li>4-H Science Youth Professional*</li> <li>4-H Community Education Assistant*</li> <li>* Additional support from UMaine Extension will continue these positions</li> </ul>	\$65,000	
Supplies	Curricula and materials to facilitate hands-on experiential learning	\$30,000	
Travel	Support for Ambassadors to travel to host sites	\$ 5,000	

# Program Growth

Growth of the 4-H S	<b>TEM Ambassador</b>	Program
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Academic Year:	2013-14	2014-15	2015-16	2016-17	Fall 2017
Youth Impacted	16	1,000	1,220	1,026	400*
4-H STEM Ambassadors	2	85	121	105	64
Community Sites	2	28	70	63	30
*estimate					



### Statewide Reach



4-H STEM Ambassador
 Program Host Sites



### Who Benefited?



"Science is very, very fun and we need more science projects!"

Youth participant Spring 2016 4-H STEM Ambassadors provided an estimated value of \$48,800 to the local communities served to date

UMS is reaching over 1,000 youth annually, and providing meaningful experiences for over 100 undergraduate students

One local after-school program leader said, The program has really added value to what we are trying to accomplish with these kids. They are able to see someone closer to their own age, doing science and math and making it fun. It has also helped us feel closer to our local university.



# Sustainability

Many students simply volunteer, but faculty are allowing the 4-H STEM Ambassador Program to be a community service option for some classes.



UMF has incorporated STEM Ambassadors into science teaching methods courses, providing field experiences not traditionally offered during those classes.

#### THE UNIVERSITY OF MAINE AT MACHIAS

The program is working to expand by partnering with the NSF ESPCoR SEANET program to implement aquaculture education outreach.



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#### UNIVERSITY of MAINE at AUGUSTA

UMA students serve as 4-H STEM Ambassadors in courses offered online and from University College Centers, increasing the geographic scope of the program.

#### UNIVERSITY OF **SOUTHERN MAINE**

At least seven teaching faculty from the College of Science, Health and Technology have embedded the program in their course syllabi as an option for increased community engagement and science teaching experience.



Through a collaboration with the UMPI College of Education, 4-H STEM Ambassadors will increase participation in spring 2018 at both the UMPI and UMFK campuses.

# Sustainability



#### 4-H Program staff partially funded from

- NSF EPSCoR SEANET
- NSF ITest
- NSF INCLUDES
- National 4-H Google Computer Science Pathway

"Because of the tremendous success of the 4-H STEM Ambassador Program, UMaine Extension is committed to continuing the program and will continue to seek out partnerships and future funding opportunities with other UMS campuses," ... "We are grateful to Chancellor Page and UMS Board of Trustees for their encouragement and support, allowing us to expand to become a true One University program."

Lisa Phelps, State Program Leader of the Maine 4-H Program

