Governor's Science, Technology, Engineering, and Mathematics Advisory Council

Monday, March 3, 2014 • 10:00 AM – 12:00 PM • Mass Green High Perf. Computing Center

Meeting Minutes

I. Welcome

- Congressman Kennedy gave the welcome, thanked VIPs for coming, thanked Pioneer Valley STEM Network. Jeff Hayden from the Pioneer Valley STEM Network highlighted the work they are doing in the region.
- Congressman Kennedy announced the addition of Vertex (Jeff Leiden's) to the Council in a leadership role.
- Kennedy then introduced Chris Goode from EMC and thanked Chris and EMC for their support of MGHPCC and for paying for lunch.
- Kennedy spoke about activity on the federal level with the mention of the *Revitalize American Manufacturing and Innovation Act*. The bill creates public-private partnerships to bring together manufacturers, local businesses, universities and community colleges to encourage manufacturing and new technology innovation through coordinated resources. The institutes are designed to commercialize research and development into manufactured products, train an advanced manufacturing workforce and support manufacturers of all sizes. Rep. Joe Kennedy (D-MA) joined Rep. Reed on the bill. A companion bill has also been introduced in the Senate by Senators Roy Blunt (R-MO) and Sherrod Brown (D-OH). A concentration on Clean Energy will be the next round of hubs.
- Kennedy also mentioned the STEM Gateways Act. The STEM Gateways Act, if passed, would provide funding through the U.S. Department of Education to help schools implement rigorous STEM academics, with a focus on reaching underrepresented groups. Selected elementary and secondary schools in partnership with community colleges, non-profits, and other partner organizations would be able to use federal funding to support STEM classroom activities, extra-curricular and after-school learning, summer programs, student tutoring and mentoring, and professional development for educators. The hope is that such focused efforts on expanding STEM opportunities for girls, minorities, and economically disadvantaged students will broaden and strengthen the pipeline of American STEM workers.

II. The T in STEM-*Secretary Rick Sullivan, ENV*

- Sec. Sullivan spoke about the MGHPCC partnership among STEM businesses, state agencies (including public institutions of education), and private educational institutions in bringing the project to fruition. Sec. Sullivan also praised the City of Holyoke for being such a wonderful cooperative partner. The MGHPCC is a LEED awarded building for its energy efficiency and renewable energy. With MGHPCC and other ventures, MA is connecting the innovative economic successes in Boston and the I-128 corridor with Western, MA. Currently 80K MA residents work in clean energy. Solar power, under the Patrick admin. MA is the 4th largest employer of solar jobs in the country. Sec. Sullivan asked

Commissioner Mark Sylvia from the Department of Energy Resources and his team (Lisa Capone, Sue Kaplan, Tom Witkin) and Alicia Barton, CEO of the Clean Energy Center, to talk about some of the initiatives happening in MA:

- Green Ribbon Schools where 4 MA received federal recognition for their efforts around sustainability and energy efficiency.
- Green Communities Program
- MA Clean Energy Program, a program that includes internships/externships for students and teachers.
- Spoke about event in August with Alicia, Mark, and Rick at Bristol Community College when the Clean Energy Center announced $457 in grants to fund clean energy STEM programs across the state (stop on STEM Tour)

III. STEM Teacher Corps -*Secretary Matt Malone, EOE*

- Highlighted the excellent teaching he is seeing in classrooms across the state
- Gov. Patrick's FY15 budget includes $250K to establish the MA STEM Teachers Corp.
- Goal: build the next generation of high-quality STEM teachers in MA, improve STEM practice, and enhance STEM learning for students.
- Model - a public/private partnership
- Aims to launch a cohort of 50 accomplished STEM teachers selected through a highly selective application process.
- Corps members will be responsible for helping to develop a program to mentor current and prospective STEM educators to increase the number of excellent STEM educators.
- Support a professional career ladder for STEM educators.

IV. STEM Council and Long Term Planning

- Top Priorities
  1. Sustainability
     - Legislation codifying the STEM Council
     - Business support of @Scale
  2. Scale (STEM for all)
     - STEM Networks – sharing best practices and community building
     - Communities of Interest – building networks
     - @Scale
     - Research and Evaluation - NSF
  3. Community Outreach
     - Subcommittee work – seeking volunteers from the Council and public. (* indicates participation on this subcommittee is by appointment/selection process

Subcommittees

a. Media & Communications
b. Diversity
c. Data & Measurement
d. Workforce Training
e. STEM Summit Session Reviewers
f. Interagency STEM group*
g. DESE STEM Advisory Group*

Working Groups:

a. Defining STEM
b. STEM Networks
c. STEM Teacher Corps
d. STEM Readiness

If you would like to participate on a subcommittee or working group, please e-mail ascheff@bhe.mass.edu.

- Connecting the STEM Networks with the STEM Council Members
- Public Awareness – PA Movement/Campaign, website presence, etc.
- Public Events – STEM Plan Tour, STEM Lecture series, STEM Summit

4. Measuring Outcomes
   - Priority Areas as areas to focus efforts and resources
   - STEM Plan 2.0 helps guide everyone in the same direction

- Discussion Questions:
  1. Of the 4 priority areas, do a few raise to the top or are all important? Are any missing?
  2. How can the Council be best utilized to carry out this work? How will we know that it is succeeding?
  3. What is the coming on the horizon (in the areas of STEM education-workforce) that we need to prepare for?

Comments:

- Freeland: the original focus of the STEM Pipeline Fund was workforce development (filling the workforce needs of industry). The @Scale Initiative was designed to believe that they are, they should be excited about engaging in a statewide model that can demonstrate a scaled response to the STEM education/workforce pipeline issue. We are we with this work?
- JD/Allison: we are in a good position to make the ask of business/industry support as we have the governance structure it place, the portfolio of projects for @scale are complete, public awareness campaign work moving forward, and an alignment of the work of the Council and STEM Networks under a revised STEM Plan.
- Freeland: It seems we are at a critical juncture and there is this conflicting message of urgency/need for STEM skilled workers with competing contradictory messages saying just the opposite.
- JD: Yes, we sometimes hear those conflicting messages but MA Business Roundtable find that 65% of MA STEM businesses can't find the talent to fill open positions.
- Malone: I think we need to identify STEM metrics that clearly paint the STEM landscape.
- John Hodgman: We have an extensive data dashboard with metrics that do help us understand the needs in our state. For example, we have been tracking student interest using the student SAT questionnaire that asked about interest in academic subjects/majors in college.

- Here in MA we have intentional approaches to attract and retain STEM students through such concepts as working with community groups. MCLA's STEM Academy is just such model.

STEM Programming in Western Massachusetts and Across the Commonwealth

- Presidents Ira Rubenzahl from STCC and President Bill Messner from HCC spoke about the STEM Starter Academies making mention the $4.75 M in funds from the Speaker's Office and describing how the money will be used to support the growth of STEM majors in persistence in those programs at the 15 Community Colleges, all of which worked together to submit one proposal. The president's thanked Commissioner Freeland, and David Cedrone for working together on getting these funds to the community colleges.

- Current Executive Director, Suzanne Parker and soon to be Director, Sarah Dunton, both from Girls Inc. of Holyoke, spoke their local program and the success they have had in working with girls in middle school and high school to increase STEM interest and achievement.

- Video to view Girls, Inc., in action can be accessed at http://www.youtube.com/watch?v=nOx5EwI4bWQ

Tour of MGHPCC. An optional tour of MGHPCC followed the meeting after which a light lunch was provided courtesy of EMC.