



**CONNECT Southeastern Massachusetts Regional Economic Summit  
November 9, 2010**

**Summary of Recommendations**

**Panel: Health Care and Life Sciences**

*Moderator: President John Sbrega*

- *Mr. Robert Ross, Senior Director for MASS BioTeach*
- *Mr. Jeffrey Morrill, President & CEO, NuOrtho Surgical, Inc.*
- *Ms. Carol Sim, Immediate Past President/CEO, Rehabilitation Hospital of the Cape and Islands*
- *Ms. Cara Hart, Director of Human Resources, Morton Hospital & Medical Center*

**Panel: Applied Computer Technology**

*Moderator: Admiral Richard Gurnon*

- *Mr. Chris Polloni, IT Specialist, USGS Woods Hole Coastal and Marine Science Center*
- *Mr. Art Gaylord, Chairman, Board of Directors, Open Cape Corporation*
- *Mr. Ray Ledoux, Administrator, Brockton Area Transit Authority*
- *Mr. Jeffrey Rosen, Senior Scientist and Statistician, Tetra Tech Inc.*

**Panel: Entrepreneurship and Small Business Development**

*Moderator: President Dana Mohler-Faria*

- *Ms. Melinda Ailes, Regional Director, Southeastern Massachusetts Regional SBDC*
- *Ms. Wendy Northcross, Pres./CEO, Cape Cod Chamber of Commerce*
- *Mr. Denis Hanks, Pres./CEO, Plymouth Chamber of Commerce*
- *Mr. Frank Sebastian, Regional Director, SCORE*

**Panel: Public Service**

*Moderator: President Charles Wall*

- *Chief Ronald Teachman, New Bedford Police Department*
- *Dr. Mary Louise Francis, Superintendent, New Bedford Public Schools*
- *Chief Paul Ford, Fall River Fire Department*

**Panel: Renewable Energy and Green Technology**

*Moderator: President Kathleen Schatzberg*

- *Mr. Mark Rodgers, Director of Communication, Cape Wind*
- *Ms. Marybeth Campbell, Director, MA Clean Energy Center*
- *Mr. Larry Weldon, Vice President of Manufacturing, Konarka Technologies*
- *Mr. Matt Conway, Principal, Labrador Services*

**Panel: Marine Science and Technology**

*Moderator: Chancellor Jean MacCormack*

- *Mr. Ed Lofgren, MMTA Education Chair, 3A Marine*
- *Dr. Ambrose Jerald, Educational Outreach, Northeast Fisheries Service Center*
- *Mr. Bob Anderson, President, Oceanserver*
- *Mr. John Bullard, Sea Education Association*

## 1. NOTABLE CORPORATE/HIGHER EDUCATION PARTNERSHIPS

### Health Care and Life Sciences

- Startup support from UMass Advanced Technology & Manufacturing Center for NuOrtho provided help with strategic financing and enabled use of UMASS interns; one intern created an international dimension for the company;
- Regional hospitals provide clinical placements for Nursing and Allied Health students from CCCC, MCC, BCC and UMD, and hire graduates; clinical facility sharing;
- Facilities Dept. at Massachusetts Maritime Academy has assisted improvements in RHCI aging facilities;
- MASS BioTeach facilitates collaborations in the field between the community colleges and Business/Industry, working with all colleges and universities;
- Interaction of Advisory Boards by both the Educational and the Health institutions.

### Applied Computer Technology

- One environmental services company has partnered with Massasoit Community College to develop a new school focusing on training for marine and environmental technician jobs, salaries from \$40,000-\$60,000 for those who can operate meters, repair electronics, understand instrument calibration, etc. ;
- OpenCape has collaborated with the region's colleges and universities to develop a fiber optic network extending from Brockton to Provincetown providing network services for not only CONNECT institutions but all schools, government agencies, emergency responders, in the region;
- Brockton Area Transport provides transportation for Massasoit Community College students/staff and employs BSU interns and graduates as transportation specialists;
- The Woods Hole Marine Science Center has presented for many years at Mass Maritime Academy's annual Environmental Symposium on 3-D mapping, hires students for internships and summer employment at WHOI; runs ROV competitions in partnership with the colleges.

### Small Business Support and Entrepreneurship

- MCC offers workshop series at Plymouth Chamber on grant writing and small business ownership;
- Several of the colleges/universities offer entrepreneurship centers and training (BSU—Center for Entrepreneurship Studies; BCC-Academic Center for Entrepreneurship; etc.)

### Public Service

- While the Quinn Bill is no longer funded, officers who matriculated before July 1, 2009 are able to finish their educations at institutions in SE MA;
- Interns from BSU, BCC and UMD work with New Bedford police detectives, sometimes going on to become police officers;
- The CONNECT institutions have collaborated/provided guidance on research projects;
- BCC was instrumental in developing the Fall River Fire Science Program, which will increase the number of college educated fire fighters through an education incentive similar to the Quinn Bill for police;
- UMD offers many teacher-related professional development opportunities; BCC offers many paraprofessional courses;
- BCC has helped with New Bedford's after school program;
- New Bedford schools have collaborated with CONNECT Institutions on grant initiatives.

### Renewable Energy and Green Technology

- The Mass Green Initiative: four Massachusetts Community Colleges (BCC, Greenfield, North Shore, and Springfield Technical) have developed curriculum and will host workforce training workshops to train people in weatherization concepts or practices, including entry-level workers and residential construction trades;
- Cape Wind partnered with CCCC to seed the first renewable energy curriculum in the region; its parent company has also hired graduates from MMA for its natural gas energy systems;
- Konarka was formed in 2001 as a spinoff of technology developed at UMass Lowell, has now located to New Bedford to produce light-weight solar panels.

### Marine Science and Technology

- The Massachusetts Marine Education Association is seeking to create the Ocean Campus Center for Marine and Environmental Studies, a multi-purpose educational, conference and community facility dedicated to training individuals in Marine and Environmental Technologies. MA Marine Trades Association has an ongoing partnership with MCC to train technicians in marine science;
- NOAA and the Northeast Fisheries Center hires graduate students, post doc students and adjunct professors from UMD and has strong partnerships with and BCC and MMA;
- Oceanserver, which creates underwater vehicles to collect environmental data, has been housed at the Advanced Technology and Manufacturing Center at UMD since 2003, has hired 60-70 interns with backgrounds in electrical engineering, mechanical engineering, and computer science for nearly 6,000 hours of work;
- Sea Education Association, based in Woods Hole, offers students a semester at sea, currently has active partnerships with BSU, UMD, and many other private institutions and companies.

## 2. TOP CHALLENGES AND TRENDS IN THE FIELD/INDUSTRY

### Health Care and Life Sciences

- Healthcare Reform—an emphasis on keeping people healthy and preventive medicine; home care management; use of technology (e.g., “telemedicine”); new emphasis on “preventive employees” and intervention therapists (e.g., PT, PTA, OT, OTA);
- Aging population carries demands for support services (social and medical) with impact into other areas, such as transportation and housing; a key emphasis is to keep people functioning;
- Creation of highly specialized Care Teams for the purpose of keeping people out of hospitals;
- (Life Sciences) Huge impact of “comparative-effectiveness” studies--expensive but worth it;
- Manufacturers need more accommodating state regulations/policies;
- Emphasis on early intervention--standards of care must change which bring challenges for reimbursement policies;
- Keeping up with new technologies brings economic challenges;
- Healthcare Industry is consolidating (mergers and acquisitions);
- Possible increase in need to import health care providers/workers;
- Fields of Healthcare and Education are in transition--Associate’s Degree is now the MINIMUM requirement;
- Coming leadership void;
- Continued growth in emphasis on Research and Development.

### Applied Computer Technology

- Increasing world population presents challenges in the areas of oceanography and drinking water;
- Technicians trained in information technology, instruments, biology, chemistry and data processing are needed to monitor complicated information systems;
- The aging population of our region puts financial support for education at risk, but bringing technology companies to the area reverses this trend--high speed, efficient, low cost IT is a draw to the region;
- Public support for public transportation is subject to performance metrics, leading to economic challenges;
- Management personnel whose skills need upgrading as technology advances and importance of expanded public transportation increases in region;
- Data integration is the biggest challenge; there is a demand for more GIS/mapping specialists.

### Small Business Support and Entrepreneurship

- Health care, utility, and labor costs; access to capital; bringing qualified people to sustain businesses in the region; hands-on integrated training;
- Capital access (especially for new business) – banking regulations make some lending difficult or limited;
- Basic business skills – educating small business owners or entrepreneurs.

### Public Service

- Fire fighters, with rotating shifts, need classes on flexible schedule (not one night per week);
- The current hiring requirement for a police officer is a high school diploma, a GED or 3 years of military service. Just as in other industries, the police department needs qualified, educated police officers;
- For public servants—residency requirement, biannual exam, and timing of the exam. There might be a ten-month wait to take the civil service exam and receive a grade and certification;
- The New Bedford Fire Department saw a disproportionate number of layoffs last year. The Fire Department’s biggest challenges are manning, staffing and money;
- Operationally: the New Bedford Public Schools need resources and staffing. Stimulus money will be gone as of next year;
- Academically: the schools need more effective use of technology for targeted institutions;
- New Bedford and other cities sincerely need to work on dropout prevention;
- Recommendations/needs should higher education respond to in terms of New Bedford Public Schools.

### Renewable Energy and Green Technology

- Clean energy is emerging as a powerful industry in Massachusetts that will generate thousands of jobs in the coming decades, and make Massachusetts a national and global leader in the field;
- Significant growth potential for offshore wind farms in the US--Cape Wind will be the first--with huge potential for the underutilized port facilities in SE MA;
- Longer term, potential for deep water projects and current and wave projects;
- New Bedford and Fall River may become manufacturing facilities for bases for offshore turbines, with a very strong market to Europe;
- Traditional solar panels are hard to handle and expensive, so companies are seeking more practical economical solutions;
- The pace of technological change is enormous--educational institutions need to give students a strong technology foundation with a broad, adaptable skill base;
- To manage on-demand hot water heaters, installers need experience with the multi-meter and combined education in electronics and plumbing.

### Marine Science and Technology

- With the #1 fishing port in the country, we need to utilize opportunities for job growth and convince people to stay in the area;
- Decline in K-12 students getting excited about science; insufficient numbers of new people entering Physical Science and Engineering.

## **3. WHAT ARE SECTOR NEEDS THAT YOU WOULD WANT PUBLIC HIGHER EDUCATION TO ADDRESS?**

### Health Care and Life Sciences

- Coming leadership void requires professional development and leadership training programs for graduates and employees;
- Hospitals need education programs in non-health areas (e.g., Business, Finance, Human Resources, etc.) to support hospitals; customer service and soft skills must improve;
- Education to develop cultural competencies of staff (e.g., language interpreters; dietary traditions; lifestyles);
- Expansion of hands-on instruction;
- Advanced technology training-- educational curriculums for IT, Informatics;
- Need to change cultural bias against Math & Science in U.S.;
- Cultural maturity perspective—cooperation among large corporations and small businesses;
- Manufacturers need different skill sets to blend services/operations other than manufacturing;
- Renewed emphasis on partnerships, joint sharing, and collaborations across the industry;
- Create a new certification in Case Management Services;
- Growing need for Clinical Informatics-- insurance companies mandates are leading to the need for growth in this area;
- Need professional development programs for current Nursing employees (both technical and “soft” skills);
- Create job-sharing and joint-employment opportunities for practitioners and academics to renew and refresh themselves in the different settings.

### Applied Computer Graphics

- Development of curriculum with specific job targets that recognize high level jobs, such as communications technicians, GIS/geologic mapping specialists, network systems and data analysis;
- Common underlying themes such as data, electronics, communications monitoring devices;
- Cross-training is critical--learning technology in the context of an applied discipline;
- Start at K-12 level encouraging how things work (citizen scientists);
- Encourage faith in SE Massachusetts;
- Expansion of experiential opportunities in business management;
- Grant-supported programs that CONNECT can mine independently;
- Certificate program for human resource managers;
- Visualization technology;
- Internship opportunities.

### Small Business Support/Entrepreneurship

- Support system for economic services;
- Creation of an entryway for new business owners (e.g., “Entrepreneur Weekend”);
- Home-based education for small business owners, community-based programs, web-based skills--alleviate “fear factor” of small businesses by bringing experts to them;
- Help with access to capital (especially for a new company);
- Tremendous need to educate small business owners--hands-on workshops to develop business concept, gather feedback, get counseling, engage and share ideas with others;
- Training those early-on to enter manufacturing arena as region will soon enter period of large gap due to future retirements. Offer certificate programs for future manufacturing workers. Perhaps expand to secondary schools for students to learn certificate-based skills for those interested in manufacturing;
- Increase pride in attending community college, enroll more people in two-year programs;
- Sales training, business and marketing education for home-based businesses;
- Colleges and universities need to reach outside to share their expertise—i.e., one-on-one mentorship by higher education experts;
- Determine ways state can help banks to stimulate small business lending by providing “gap lending.” Funding for established or start-up companies is also needed;
- Help small business owners/entrepreneurs learn steps to work through local town government policies/procedures/roadblocks--CONNECT could get town leaders together to share economic opportunities in their towns;
- Creation of CONNECT Center with resources and experts to help local business owners, publicize opportunities of interest to entrepreneurs (e.g., programs, resources);
- Certificate in Human Resources (four- to six-course sequence);
- Hands-on integrated training (e.g., STEM).

### Public Service

- More teacher professional development;
- Higher education institutions should work with school districts to submit joint grant applications to better public agencies’ chance of receiving those grants;
- Courses such as Portuguese offered to fire fighters;
- A training center in the Fire Department Headquarters would alleviate concerns about rotating schedules;
- Concentrated courses on report writing, grammar and spelling to bring reports (sometimes used in court cases) up to a professional level ;
- More after school activities for youth. College students doing community service and mentoring youth could impress on our kids the importance of higher education and reduce the huge dropout rate;
- Make a Bachelor’s Degree a requirement to ensure officers educated in technology and problem solving;
- In 2012, UMD will begin requiring that every student have a service learning experience embedded into classes. Civic engagement by our students and a stated vision of civic response could help leverage higher ed resources and volunteerism into our communities;
- Focused training for fire fighters--create a municipal department requirement that all individuals in the fire service, fire fighting and ambulance service area be paramedic certified;
- Higher education will work with the community to help obtain distinct training and services and work toward providing internships.

### Renewable Energy and Green Technology

- Build certification programs that teach fundamentals for green engineering, creating credit sharing opportunities and matriculation agreements for advanced degrees to make a marketable and nimble workforce;
- Areas for workforce growth are in energy efficiency, solar and off-shore and land-based wind turbines;
- Train technicians to use the multi-meter, cross between electric and plumbing systems;
- Prepare people for jobs on the repair side, as well as installation;
- Students need a strong technology foundation with a broad skill-base, able to adapt to changes in technology and proactive about continuing education.

### Marine Science and Technology

- More educational training programs for technicians;
- Increase number of students excited and engaged about science;
- Enhance science curriculum, encourage more teachers at the middle- and high school levels to become mentors, and increase coaching to encourage interest in science at an earlier age;
- Identify better ways to collect real-time data and relate it to science;
- Increase diversity in science workforce;
- Expand opportunities for interns, expand employment opportunities;
- Get students excited about staying in the region after graduation;
- Small businesses need to better understand the academic side of the house;
- Partner to attract new companies to the region;
- Add to the numbers of students experiencing a semester at sea, attract grant funding;
- We need more researchers, science teachers, and how do we then convince them to stay in the South Coast region for their careers.

### FINALLY, THE FOLLOWING OVERARCHING NEEDS AND CONCERNS WERE VOICED:

- Schools need to offer more internships so students succeed and stay in region. It's challenging for students to take unpaid internships;
- Bring local government together with CONNECT to share how businesses help local economy;
- Grow and expand environment for college graduates to remain in the region;
- Offer technology-based training and support;
- Higher education experts offering their services off-campus instead of people having to come to campuses for advisement;
- More service learning, experiential learning, and civic engagement;
- Cross enrollment/registration will provide new, adaptable pathways for certificate and degree-seekers.