WPI's Biotechnology Education & Training Center Featured at BIO 2012

The new Biomanufacturing Education and Training Center (BETC) at Worcester Polytechnic Institute (WPI) will be featured at BIO International 2012, the global gathering of the biotechnology industry that begins June 18 in Boston, along with WPI research on delivering cell therapies and physiological monitoring.

BIO International is the largest global event for the biotechnology industry. More than 15,000 people from over 65 countries are expected to attend this year’s four-day meeting. The centerpiece of WPI’s presence at BIO 2012 will be a booth in the BioProcess Zone to introduce biopharmaceutical companies to the BETC, which is now under construction and scheduled to open this fall.

Funded in part by a grant from the Massachusetts Life Sciences Center, the BETC is a corporate-scale training facility with a fully functional bioprocess pilot plant, support laboratories, core facilities, and classrooms. Growth in the industry today demands employees with a range of skills from entry-level equipment operators to advanced technical and management personnel. The new center at WPI will be a resource for biomanufacturers to train new employees and to enhance the skills of current employees. The center will help workers displaced from other industries transition to biomanufacturing, and also offer equipment manufacturers the opportunity to train customers on next-generation technology.

“BIO is the premier event for biomanufacturing companies in the world, and our new center will help these companies grow, create good jobs, and bring new therapies to market,” said Stephen Flavin, WPI’s vice president for academic and corporate development.

As inaugural partners at the BETC, Abbott Laboratories, Bristol-Myers Squibb, and Shire Human Genetic Therapies are working closely with WPI leadership to develop curriculum and programs. Pall Corporation is the first technology provider to partner with the center. Other companies are in discussions now with WPI to participate at the BETC.

A virtual tour of the new center will be presented at WPI’s booth. A special session on global biomanufacturing presented in the BioProcess Theater on Monday at 1 p.m. will feature a case study of a Russian pharmaceutical company that is building its first biomanufacturing factory and has sent several of its staff to WPI for initial training.
WPI’s presence at BIO International will also include the following talks and demonstrations:

- **June 18, 1:30 to 3 p.m., Hall B, BIO Academic Park Booth 2555:** Ki Chon, professor and head of biomedical engineering at WPI, will present a new smartphone application developed by his research team that measures heart rate, heart rhythm, respiration rate and blood oxygen saturation using the phone’s built-in video camera; attendees will be able to try the application in.

- **June 19, 1:30 to 3 p.m., Hall B, BIO Academic Park Booth 2555:** Attendees will learn about VitaThreads, a new company launched to commercialize biopolymer microthreads developed by WPI biomedical engineering professors George Pins and Glenn Gaudette. First developed as a potential tool for repairing torn anterior cruciate ligaments (ACL) in the knee, the microthreads have been adapted for use as biological sutures to deliver bone marrow-derived stem cells to regenerate cardiac muscle damaged during a heart attack. Other WPI labs are using the threads, seeded with varying cell types, as scaffolds for wound healing and skeletal muscle regeneration, among other purposes. Gaudette will show examples of the microthreads and discuss the platform technology.

- **June 20, 10 a.m., Room 203:** In a session titled “Scaling Up by Scaling Out,” Christopher Lambert, research director ad interim, at WPI’s Bioengineering Institute, will discuss a new bioreactor being developed by a team at WPI that works on a continuous flow basis, with cells suspended in a magnetic field. (Traditional biomanufacturing is done in large stainless steel bioreactors that make big batches of product.) The new approach has applications for growing personalized therapeutic cells and new tissues like blood vessels that could be implanted to treat various diseases or injuries.

- **June 20, 1:30 to 3 p.m., Hall B, BIO Academic Park Booth 2555:** Lambert will be available to discuss the continuous flow technology.

The technologies and programs featured at BIO are emblematic of WPI’s significant presence in the life sciences; over the past eight years, more than $130 million has been invested at WPI’s Gateway Park and the university’s life sciences programs. These investments have come in the form of outstanding new faculty, supported by the most up-to-date technology and lab space, as well as flexible academic and corporate spaces in two buildings. The newest project at Gateway Park, construction of a residence hall, begins this summer. WPI’s leadership at Gateway Park has transformed a once-blighted and underutilized area in Worcester’s core into a clean, thriving, mixed-use park that is home to a growing range of academic, research, and commercial enterprises.

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