

## Other-University Related Centers

### BEN FRANKLIN TECHNOLOGY PARTNERS OF NORTHEASTERN PENNSYLVANIA

The Ben Franklin Technology Partners of Northeastern Pennsylvania (BFTP/NEP) is headquartered in Ben Franklin TechVentures® on the Mountaintop campus and is a wholly-owned subsidiary of Lehigh. Serving a 21-county region, the Center is part of a four-member, state-funded economic development program that is an initiative of the PA Department of Community and Economic Development and is funded by The Ben Franklin Technology Development Authority. Ben Franklin frequently utilizes the faculty, students, and resources of Lehigh to accomplish its tasks.

BFTP/NEP fosters innovation to stimulate economic growth. By providing knowledge and investment resources, Ben Franklin facilitates the creation of new products, sophisticated technologies, and novel processes among entrepreneurs and established companies to help them prosper. The result: the creation and retention of highly paid, sustainable regional jobs and a strong economic climate.

The goals of BFTP/NEP include helping early-stage technology-oriented firms to form and grow, helping established manufacturers to improve productivity through the application of new technologies and practices, and promoting an innovative community-wide infrastructure that fosters a favorable business environment for high-growth companies. Founded in 1983, the Ben Franklin Technology Partners of Northeastern Pennsylvania has:

- Created and retained 44,799 jobs.
- Established 492 new companies.
- Commercialized and developed 1,591 new products and processes.

The Ben Franklin program is structured to help companies achieve sustainable competitive advantage. Statewide, new tax revenue generated because of Ben Franklin represents a 3.6-to-1 payback to the Commonwealth.

Assistance includes expertise, largely contributed in the northeast by the center's association with Lehigh and other leading research universities, and funding, with investments ranging from \$30,000 to \$150,000 per year for up to three years. Faculty and students involved with Ben Franklin gain experience in solving real issues for working companies. Technical and business assistance services are provided on a year-round basis.

BFTP/NEP owns and operates Ben Franklin TechVentures, an award-winning business incubator and post-incubator facility. Sixty-four successful companies have graduated from the BFTP/NEP incubator, grossing more than \$1.2 billion in annual revenue last year and creating more than 6,400 jobs. Ben Franklin TechVentures is LEED Gold certified.

For more information, contact the Ben Franklin Technology Partners of Northeastern Pennsylvania, Lehigh University, Ben Franklin TechVentures, 116 Research Drive, Bethlehem, PA 18015-4731; 610-758-5200; [www.nep.benfranklin.org](http://www.nep.benfranklin.org) (<http://www.nep.benfranklin.org>). E-mail: [info@nep.benfranklin.org](mailto:info@nep.benfranklin.org).

### MANUFACTURERS RESOURCE CENTER (MRC)

Founded in 1988 as a wholly owned subsidiary of Lehigh University, MRC is one of seven statewide Industrial Resource Centers (IRCs) established to help small and mid-size manufacturers grow and remain competitive. In 1994, MRC joined the National Institute of Standards and Technology (NIST) Manufacturing Extension Partnership (MEP) which is comprised of 59 nationwide centers. MRC works with manufacturing companies by leveraging its own staff of experienced Business Development Managers with public and private sector resources. Through our assistance and work with manufacturers, we help raise the economic level of the region by creating high impact, cost-competitive manufacturers.

Due to space restrictions MRC moved off the Goodman Campus to the Hanover Plaza in Allentown, a central location for Lehigh Valley

manufacturers. MRC serves all of Lehigh, Northampton, Berks, Carbon and Schuylkill counties and offers services in six broad areas:

- Technology Acceleration Services that include Technology Scouting and Technology Driven Market Intelligence (TDMI), Innovation Engineering, and Product Development.
- Strategic Business Growth Services and top line initiatives that include strategic planning, market opportunity research, focused lead generation, website and brand strategies, marketing/sales coaching, export services and supplier development.
- Operational Excellence services that include Lean, Six Sigma, Quality and Hoshin Deployment programs. We incorporated sustainability and coaching components into our Lean training and now apply a Green lens for greater profitability and cost savings;
- Business Performance Services to help mentor companies in financial analysis and strategies, capital sourcing and management, mergers and acquisitions, establishing visual business intelligence systems, technology and innovation strategies, "Green" and Sustainability transformations, tax credit opportunities, and other related services.
- Leadership Development & Training that includes the Manufacturing Leadership Institute (MLI), individual Culture Assessments, CoreValue® Business Assessments, Customized Leadership Coaching, Human Resource Development and the Image of Manufacturing. Through one-on-one coaching, strategic "doing" management and milestone development, we can help you grow your effectiveness as a leader.
- A strategic mix of **Training and Certification** programs that are beneficial to any manufacturing organization. We connect manufacturers with experienced, proven resources that specialize in Lean manufacturing training, tools, coaching and certification. We also offer our own 13-part "**Lean Master Certification**" program, a "train and do" curriculum that includes everything you need to prepare for and pass the SME Bronze Exam. The course curriculum includes ex-Toyota keynote instructors and other national presenters, as well. The hands-on elements of the program are also adding to the excitement from the classes. Participants get to actually use the tools when they are taught – reinforcing the proper protocol and use in real time. MRC also offers **SixSigma Training and Certifications**, as well as coaching, mentoring and SPC-based assessments. We also offer **Quality Certifications** that connect manufacturers in need of quality management process solutions with best-in-breed resources. Whether it's ISO, AS, API, HACCP or another quality-related certification, we have the experts and connections to help you gain certification.

For further information or assistance, please contact MRC at 961 Marcon Boulevard, Suite 200, Allentown, PA 18109. Jack E. Pfunder is President & CEO and can be reached at (610) 628-4575 or email him at [jack.pfunder@mrcpa.org](mailto:jack.pfunder@mrcpa.org). Please visit our website at [www.mrcpa.org](http://www.mrcpa.org) (<http://www.mrcpa.org>).

### MANUFACTURING SYSTEMS ENGINEERING (CENTER FOR)

200 W. Packer Avenue; (610) 758-5157

Keith M. Gardiner, Ph.D., director; John P. Coulter, Ph.D.; Parveen P. Gupta, Ph.D.; David J. Hinrichs; Jacob Y. Kazakia, Ph.D.; John B. Ochs, Ph.D.; Lawrence V. Snyder, Ph.D.; Robert J. Trent, Ph.D.; George R. Wilson, Ph.D.

The Center for Manufacturing Systems Engineering was created in response to the expressed needs of industry for educational and research services which were distinctively cross-disciplinary. A primary responsibility of the center is the administration of an award winning educational program leading to a Master of Science degree in Manufacturing Systems Engineering. This world renowned program started in January of 1984 as a result of a major initiation grant from the IBM Corporation. It now has 417 alumni who are working as managers and technical leaders in industry around the world. The center has four major thrusts:

1. A graduate program which offers a curriculum leading to the Master of Science degree in MSE.
2. Research directed at solving problems of manufacturing; this also serves to maintain faculty currency and provides a vehicle for student project and thesis studies.
3. Technology transfer to sustain the free flow of knowledge from the research laboratories to industrial applications, and from leading edge member industries back into the classrooms.
4. The provision of service by supporting conferences, clinics, workshops and other means for communicating and disseminating the advantages of sound manufacturing systems engineering practice.

#### **Graduate Education**

The 30-credit master's degree MSE program is cross-disciplinary, administered through the College of Engineering and Applied Science, with additional courses provided by the College of Business and Economics. Four core courses, 4-5 graduate level elective courses (at least one elective must be an MSE-numbered course), and a 3 or 6 credit research project or thesis are requirements of all candidates for the M.S. degree. Courses are offered on campus and scheduled so that part-time students can complete the degree in two years. It is possible for distance students to earn the MS in MSE degree remotely. Special activities in the program are team intensive and include in depth studies of companies, tours of industry, industry-related research and internships. Additionally, an MSE option is available in the MBA&E program.

#### **Research Activities**

Students in the MS in MSE program undertake research of interest either to their employers, or to industry in general. Research activities range from additive manufacturing, microelectronics packaging, the use of lead free solders, welding specifications, pharmaceutical industry processes and equipment development qualification, design management, and process development for surgical products. There are investigations into activity-based costing, design management, application of financial information systems, and injection molding. There is collaboration with other centers, departments and laboratories in the preparation and planning of research proposals and programs which aim to improve the understanding of manufacturing.

For more information, contact: Keith M. Gardiner, kg03@lehigh.edu, Director, Center for Manufacturing Systems Engineering, H. S. Mohler Laboratory, Lehigh University, 200 W. Packer Avenue, Bethlehem, PA 18015, or call (610) 758-5157 or visit our website at <https://mse.lehigh.edu>

#### **PHILIP RAUCH CENTER FOR BUSINESS COMMUNICATIONS (THE)**

621 Taylor Street; 758-4863

Joseph M. Manzo, MBA, director

The Rauch Center for Business Communications supports the business curriculum for both undergraduate and graduate programs.

Courses/programs administered through the center include BUS 005 and the Excel Competency program. BUS 005 is a one credit required course in the undergraduate program which addresses the foundations of business integrity. The Excel Competency program addresses the analysis and presentation of data in the context of business. This program is a prerequisite for 3 core courses in the undergraduate curriculum.

The center also partners with the faculty to develop methods for improving students' writing and presentation skills. Programs are developed with the faculty and are integrated into the syllabus for the faculty member's course where writing and/or presentations are required.

For more information, write to Anne Nierer, Coordinator, The Philip Rauch Center for Business Communications, Lehigh University, 621 Taylor Street, Bethlehem, PA 18015-3117, or email [JMM6@lehigh.edu](mailto:JMM6@lehigh.edu) or phone 610-758-4863.

#### **SMALL BUSINESS DEVELOPMENT CENTER**

James A. Fischer, director; Robert Mineo B.S., MBA, program director, Financing Assistance Program; Cora Landis, program director, Lexnet; Christine Cleaver, B.S., program director, South

Bethlehem Assistance Program; Brett Smith, BA, MBA, Consultant; Mary Beth Zingone, Consultant; ([www.lehigh.edu/sbdc](http://www.lehigh.edu/sbdc))

Established in 1978, the SBDC provides general management assistance to over 1,000 entrepreneurs and small businesses per year in the Lehigh Valley and surrounding areas. Primary funding for this program comes from major grants from the U.S. Small Business Administration and the Commonwealth of Pennsylvania.

#### **Specialized Programs**

The Management Assistance Program delivers general management consulting to existing small firms and startup ventures. Services are offered to retail, service, wholesale, construction and manufacturing firms. Research is offered through electronic data base research. Seminars are offered on many topics of interest to start-up and growing firms.

#### **International Trade Development Program (ITDP)**

The International Trade Development Program (ITDP) is a specialized outreach effort of the Small Business Development Center. The ITDP helps companies with exportable products to develop export marketing plans and establish direct contacts with international markets. Seminars, trade missions and research projects support the efforts of this program.

#### **Government Marketing Assistance Program**

The Government Marketing Assistance Program assists potential suppliers to government sales in identifying and developing procedures. Clients are handled on a one to one basis. Trade fairs and seminars are also offered.

#### **Financing Assistance Program**

The Financing Assistance Program provides assistance in loan packaging and financial planning and helps clients identify appropriate financing sources. The program administers the Lehigh Valley Small Business Loan Pool and the Lehigh Valley Chapter of the Northeastern Pennsylvania Angel Network, a partnership program with the Ben Franklin Technology Partners of Northeastern PA. Contracts with the Lehigh/Northampton Revolving Loan Fund, the Lehigh Valley Economic Development Corporation and other funding agencies provide resources for this assistance.

#### **Lehigh Valley Export Network (LEXNET)**

The Lehigh Valley Export Network (LEXNET) is the regional office of the Team Pennsylvania Export Network. Throughout the year LEXNET brings PA foreign office representatives to the Lehigh Valley to meet with SBDC clients and discuss in country export assistance needs. LEXNET also assists with export finance programs such as Market Access Grants allowing small and midsized manufacturing or service companies to participate in international trade events. Specialized training events and seminars are also held throughout the year.

#### **South Bethlehem Assistance Program (SBAP)**

The South Bethlehem Assistance Program (SBAP) is a specialized outreach effort of the SBDC that provides technical assistance to businesses located in the South Bethlehem Area.

#### **Business Education and Training Program (BETP)**

The Business Education and Training Program of the Small Business Development Center provides specialized workshops, seminars and customized training for the small business community.

#### **Small Business Consulting (formerly LUMAC)**

The Lehigh University Small Business Consulting Program (a graded three-credit course) was established in 1972 on the initiative of undergraduate students. Through support from the SBDC, approximately 150 students per year gain practical experience by providing counseling to sixty businesses.

For more information, write to James Fischer, Director, Small Business Development Center, 416 E 5th Street, Bethlehem, PA 18015