

## UMBC INTER-INSTITUTIONAL COLLABORATION INVENTORY

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### ACADEMIC PROGRAMS

- The University of Maryland Graduate School, Baltimore (UMGSB), created in 1985, represents the combined graduate and research programs at UMBC and **UMB**—the University System of Maryland's (USM) doctoral research campuses in the Baltimore area. The UMGSB graduate faculty is drawn from UMBC and UMB, providing extensive opportunities for collaboration and mentoring of students from both campuses. Several joint degree programs with UMB permit UMBC graduate students to take advantage of the faculty, facilities and the wide variety of courses offered at UMB. All UMB and UMBC graduate programs are reviewed by a joint Graduate Council of the UMGSB.
- Bachelor's degree program in Social Work is offered through affiliation with the **UMB School of Social Work**. The UMBC program is responsible for preparing the baccalaureate level professional in generalist practice.
- Joint Ph.D. degree programs with **UMB** include:
  - Biochemistry (also known as Biochemistry and Molecular Biology): Students select one university as the "home" for enrollment and degree conferral, and the program requires research rotations, participation in seminars and dissertation committee members from both campuses. The UMBC Chemistry and Biochemistry Department and the UMB School of Medicine offer the joint program, and there is a Graduate Program Director at each campus.
  - Gerontology: This program has the same framework as biochemistry , excluding research rotations. Partners include the UMB Schools of Medicine, Law and Nursing. This program does not have a home department on either campus but has a Graduate Program Director on each campus and a faculty committee that governs it.
- Other degree program involvement with **UMB**:
  - Biostatistics track within the statistics graduate program requires courses from both campuses and students earn a degree from UMBC. Faculty from both campuses lead dissertations, and committees have faculty from both campuses.
  - A track within the MS in emergency health systems requires courses in the UMB School of Medicine but there is no other formal collaboration. Some UMB faculty will be involved in thesis committees.
  - Longstanding collaboration with the School of Nursing's Nursing Informatics Ph.D. program.
- MS and PhD in Marine, Estuarine, Environmental Sciences (MEES) requires taking courses from multiple campuses. Most actively involved are **UMCP, UMES, UMBC (including faculty at the Columbus Center), UMCES and UMB**.
- Major inter-institutional grant (UMBC. **UMCP**, UMiami, Purdue) from HHMI on the development of a competency-based curriculum in the life sciences for pre-medical students.

- The College of Natural and Mathematical Sciences supports UMBC's Nursing 2+2 Partnership program with the **Nursing School at UMB** by providing the science pre-requisite coursework for these students.
- UMBC has joined **Towson University, UMCP, and Johns Hopkins University** to offer a Post-Baccalaureate Certificate in Arts Integration. The 18-credit program is often provided to school district cohorts. UMBC's contribution to the program includes a course on developing ePortfolios for documenting teaching practice and student growth through the arts integration process.
- The Instructional Systems Development - Training Systems graduate program has a joint online graduate certificate program with **UMUC** in "e Learning and Instructional Design." Students take two online courses from each institution.
- UMBC has a Professional Development School (PDS) partnership with Grove Park Elementary Middle School in Baltimore City to support the intermediate and middle grades there in collaboration with **Towson University**, complementing the existing early childhood PDS partnership Towson has with Grove Park.
- A joint BA/JD program exists with the **University of Maryland School of Law** that allows students to begin law school during their senior year here.

#### **STUDENT SUCCESS**

- Researchers at the **UMB** School of Medicine currently mentor undergraduate students from underrepresented groups enrolled in the Meyerhoff Scholars and MARC programs.
- Researchers at the **UMB** School of Medicine hosted undergraduate research interns in their labs through the STEP-UP program funded by the National Institute of Diabetes and Digestive and Kidney Disease.
- The PROMISE program, based at UMBC, provides academic and professional development support to graduate students of all backgrounds and fields at **UMBC, UMCP and UMB**. Planning is underway to expand to all of the USM campuses plus several community colleges in Maryland. The USM Graduate Deans met for their second annual meeting in November and committed to meeting twice per year as a group. They will be leading the effort for the expanded PROMISE program.

#### **RESEARCH**

- The Department of Marine Biotechnology (DMB) is one of three USM partners in the Institute of Marine and Environmental Technology (IMET). As such, we share the same vision, mission, programs, infrastructure and facilities with other IMET faculty affiliated with **UMB (School of Medicine)** and **UMCES**. DMB faculty at IMET have joint grants with UMB and UMCES faculty in different areas of marine biotechnology, marine-based biomedical research, bio-energy and environmental sciences and biotechnology. One specific example of the collaboration is the recent RO1 proposal submitted by IMET to NIEHS/NSF in response to the Ocean and Human Health RFP. This proposal, focusing on the Chesapeake Bay, included three co-PIs from UMBC (two from DMB and one from the Center for Urban Environmental Research and Education),

three from IMET-UMB and two from UMCES. IMET is perhaps the only example across System of an inter-institutional research center involving three USM campuses.

- The Core Shared Resource Facility (Mass Spectrometry and NMR) is open to all of the institutions, and current users include **UMCP** and **UMB**.
- Investigators from UMBC, **UMB** and **UMCP** co-authored a proposal to the NIH for \$7.9 M to support the purchase of a shared 950 MHz NMR instrument. The grant (to UMB) is among the largest of its kind ever awarded by the National Center for Research Resources (NCRR), which is part of the National Institutes of Health. The funds were made available through the American Recovery and Reinvestment Act of 2009. The instrument will be located at UMB, and will be shared equally by the three UM institutions (UMBC, UMB and UMCP). Maryland will be the only academic site in the U.S. with a 950 MHz NMR instrument.
- The UMBC Department of Physics and the Maryland Psychiatric Research Center affiliated with **UMB** have collaborated on a joint appointment and equipment purchase to establish an fMRI core research facility on the Spring Grove campus.
- Michael Hayden, Chair of the UMBC Physics Department, and Tom Murphy, **UMCP** faculty member, serve as Co-Directors of the Maryland Center of Excellence for Terahertz Science and Applications, which was initially funded by NIST at the level of \$2M.
- UMBC currently has 39 active research awards across multiple departments with **UMCP**, **UMB**, **UMCES** and **Towson** totaling over \$6M.
- Currently, there are 10 active cases of joint technology development with **UMCP**, 10 with **UMB**, and two with **UMES**. The technology spans Chitosan technologies, medical diagnostics, medical imaging, fluorescence sensing, lameness detection for dairy cows, and aquaculture.
- Sixteen faculty in the College of Natural Mathematical Sciences and five in the College of Engineering and Information Technology report collaborations with faculty at the **UMB School of Medicine or Dental School**. (Detail attached.)
- Nine faculty in the College of Natural Mathematical Sciences and four in the College of Engineering and Information Technology report collaborations with faculty at **UMCP**. (Detail attached).
- **UMCP**, UMBC and the Universities Space Research Association operate the Center for Research and Exploration in Space Science and Technology (CRESST) through a NASA cooperative agreement. CRESST brings together NASA/Goddard researchers and scientists from the Maryland campuses and USRA to build upon the many capabilities and strengths in space science of the participating organizations. The related Center for Space Science and Technology also has a partnership with **UMCP** through the same cooperative agreement.
- UMBC professors of Computer Science and Electrical Engineering Tim Finin, Yelena Yesha, and Anupam Joshi and their collaborators Michael Bond, and Dan Lemkin at the School of Medicine at **UMB** formed the University of Maryland Clinical Informatics Group via a web site -

www.umcig.com - for joint research projects, mentoring students, and teaching. This includes a Clinical Informatics Subspecialty Fellowship. This is still in the planning phase, as the board-certification requirements for this program are still in flux. It would be a 2-year fellowship for physicians, with clinical and didactic components, in which UMBC would help with the didactic courses.

- Mechanical Engineering Professor Dwayne Arola has received matching seed funding from UMBC and the **UMB Dental School**.
- Literacy Educators Research Network (LERN) has eight members across **UMBC, Towson, and St Mary's College of Maryland**. Founded in 2009 by Nancy Rankie Shelton (UMBC) and Bess Altwerger (Towson University), the group has conducted longitudinal research in urban schools and has presented the work at national and international conferences. Shelton and Altwerger have secured a contract with Routledge to publish an edited volume (all LERN contributors) to address how the current educational reform movement impacts US public schools.
- UMBC Education faculty member Mavis Sanders collaborates with **UMB School of Social Work** faculty member Dick Cook in a study focused on capacity-building approaches in two community schools to remove barriers to student learning through integrated services.
- The **University System of Maryland** in conjunction with **Towson University** evaluates the \$250,000,000 Race to the Top grant given to the state of Maryland's State Department of Education.

#### **FACULTY APPOINTMENTS**

Twelve faculty in the College of Engineering and Information Technology (COEIT) also hold appointments at **UMB**, one in the Dental School and the others in the School of Medicine. Two COEIT faculty hold joint appointments at the University of Maryland Institute for Advanced Computer Studies at **UMCP**. (Detail attached.)

One faculty member in the College of Natural and Mathematical Sciences holds a joint appointment at the **UMB** School of Medicine, and another holds a joint appointment at the University of Maryland Nano Institute, **UMCP**. (Detail attached.)

#### **ECONOMIC DEVELOPMENT**

The ACTiVATE entrepreneurship initiative at bwtech@UMBC has trained more than 120 aspiring women entrepreneurs and launched more than 35 companies. Emphasis is placed on commercializing technologies developed at University System of Maryland campuses, other regional universities and Federal labs.

Several companies located at the bwtech@UMBC Research and Technology Park have roots or connections at **UMB** and **UMCP**, including Five Directions (UMCP faculty member founded), Blue Wave (UMCP technology licensed), Next Breath (UMB faculty member founded), Kydes Pharmaceutical (uses GMP facilities at UMB).

#### **EFFECTIVENESS AND EFFICIENCY**

UMBC's Division of Administration and Finance frequently collaborates with other campuses. Recent and ongoing partnerships include:

- UMBC assists **UMCES** and **Towson** with management of their intellectual property.
- **UB** and UMBC share the cost for a web based training program called CITI - Collaborative Institutional Training Initiative. UMBC is currently working with all sister campuses to see if this program can be expanded to other research compliance based software licenses.
- **Towson**, UMBC and **UMB** have an MOU to use UMB's Environmental Health and Safety, Institutional Biosafety Committee, and Institutional Animal Care and Use Committee for research compliance protection.
- **UMB** manages capital facilities projects. The UMB Service Center provides project management and procurement services to UMBC on major capital projects as requested. They are currently handling the Performing Arts & Humanities Building project as well as the Terrace/Hillside Residential Renovation project.
- Procurements, including Perkins Loan 3rd party processor RFP and PeopleSoft consulting contract, are shared with multiple campuses. For example, **UMB** Procurement is currently conducting a procurement for hazardous waste removal that includes the services needed by UMBC.
- Police share police staff coverage with other campuses during incidents or staffing shortages and participate in CAPWIN, a multi-institutional grant that provides additional resources for law enforcement in the region.
- PeopleSoft programming is shared among institutions. **UMB** grants summary screen adopted, customized and implemented at UMBC. Grants and payroll queries and reports are shared between **UMB, Towson and UMBC**.
- Multiple campuses participate in the USM Research Administrators' Group to share information.
- Business process reports and future development of Blackboard are shared with **Towson, Bowie and Coppin**.
- Transmit payroll file through **UMCP** to Central Payroll Bureau.