

PROGRAMS/PUBLICATIONS RESPONSIVE TO SOCIETY

The following are examples of the many ways the University responds to and serves society's needs. Development of the summaries is on-going and is being updated as new information becomes available.

Health Initiatives

Governor M. Jodi Rell announced the awarding of \$20 million in state funds to support stem cell research projects during the StemCONN07, a two-day international conference at the state capitol. UConn was awarded 15 of the 21 state grants, totaling nearly \$12 million. The grants will support 23 investigators at the Storrs and Farmington campuses. Current UConn research projects include: use of glial cells generated from stem cells to repair the brain and nervous system; study of genes that control the migration of stem cell-derived neurons for the treatment of degenerative and traumatic brain disorders; analysis of how embryonic stem cells can help rebuild bone, cartilage, skin and muscle tissue; and development of stem cell lines offering the potential for curing a host of diseases. The Embryonic Stem Cell Research Oversight Committee was established to provide oversight of the complex ethical issues related to the derivation and research use of human stem cell lines at the University's facilities.

Health Center:

In addition to supporting the Health Center's academic mission, the John Dempsey Hospital (JDH), University Medical Group (UMG) and University Dental Group (UDG) provide a range of primary and specialty health care services.

Health Center outreach includes:

- *UConn House Call*, a health and wellness newsletter, is mailed to 69,000 homes in the primary Service Area (66,300 visits monthly to www.health.uchc.edu).
 - *Discovery Series* lectures are scheduled on health care and clinical services topics.
 - *Connecticut Health* promotes community and public health projects statewide (250 projects on www.connecticuthealth.org).
 - *Celebrate Health* offers educational programs, screenings and other activities on women's health and successful aging. Faculty and students volunteer at student-run clinics for Hartford's homeless and underserved populations.
 - School of Dental Medicine partners with the Department of Mental Retardation for the Collaboration Dental Fellowship Program. The School provides health care services to more than 2,500 outpatient special needs patients, and 37 emergency and 79 operating room cases. The program enables the School to provide services for approximately 72 additional operating room cases and 990 additional outpatient clinic visits per year, dramatically reducing the waiting time for dental care for special needs patients.
- Research programs at the Schools of Medicine and Dental Medicine, and in collaboration with health care researchers at the Storrs Campus, have resulted in many applications in the

improvement of the identification, treatment and prevention of diseases. Some recent examples include the following:

- The Health Center has received a \$2 million federal grant to purchase a sophisticated imaging machine to study the structure, stability and dynamics of proteins and their role in human disease. Researchers will use the instrument, an 800 MHz nuclear magnetic resonance spectrometer, to investigate proteins associated with cancer, infectious disease and essential biological processes.
- An interdisciplinary team of researchers hope to assist older adults to avoid potential harmful drug interactions, improve their overall health literacy and control their blood pressure. The research study is being conducted with a three-year, \$1 million grant funded by the National Heart, Lung, and Blood Institute, a part of the National Institutes of Health (NIH). The research team includes health care professionals and UConn doctoral students representing a variety of disciplines within the College of Liberal Arts and Sciences and the Schools of Medicine, Nursing and Pharmacy.
- With a five-year, \$2 million grant from the National Institutes of Health, faculty at the Center for Restorative Medicine and Skeletal Development began studying keloids, a relatively rare wound healing disorder that affects mostly darker skinned populations in the U.S. and around the world. The goal of this research is to find the genetic mutations that cause the disorder and develop the molecular understanding necessary for effective treatments.
- The Lea's Foundation Center for Hematologic Disorders is a new center that focuses on advancing research and improving treatment and care for patients with benign and malignant blood disorders.
- A new Center for Implant and Reconstructive Dentistry, part of the School of Dental Medicine and UConn Health Center's Musculoskeletal Institute, promotes clinical and translational research efforts and educates dental students and dental practitioners in the leading-edge procedures in a state-of-the-art environment. Funding for the new center comes from Astra Tech, Inc., a Massachusetts-based subsidiary of the global company Astra Tech AM.
- The Health Center-based Area Health Education Centers (AHEC) is expanding the Urban Service Track. This program addresses the chronic shortage of health care providers in Connecticut's underserved urban communities by building a pipeline of medical professionals committed to working in those areas.

School of Nursing:

- *Compañeros por Salud: Partners for Health* is a program directed toward the improvement of the health of the Latino and Hispanic families who reside in Willimantic and comprise nearly a third of the town's population. A planning grant from the Federal Office of Rural Health has enabled the School to work closely with agencies to set up a network of community-based providers and citizens to examine mental health and health disparity issues and has spawned a variety of collaborations among nursing, social work, pharmacy, and medical students, who have taken part in student-run health clinics. About 200 nursing students were recently placed in the community to offer health education and screenings.

- Faculty and students serve in the *Visiting Nurses Association's Carelink+* program in southeast Connecticut, Meriden and New Britain, and in the *Visiting Nurses Association Carelink C (Corrections)* program in Connecticut prisons.
- *LEAD (Leadership, Education, Achievement and Development)*, funded by the Tow Foundation and in collaboration with the State of Connecticut Judicial Branch Court Support Services, provides an expressive arts program to promote health behaviors in middle school-aged minority youth (10-14 years of age) who are engaged in activities which put them at risk for negative psychological, social and health consequences.

School of Pharmacy:

- Doctor of Pharmacy (Pharm.D.) students collaborate with the UConn Schools of Medicine and Nursing to provide free health care to the underserved populations throughout the State of Connecticut. Clinics have been established throughout the Greater Hartford area to provide health care screenings.
- *Primary Care Week* activities and informational pamphlets educate the public about primary care services and general health and medication information. A monthly television newscast addresses medication-related topics.
- Third year pharmacy students work in "free clinics" associated with the Eastern Area Health Education Centers and the migrant farms clinics.
- Over 23,000 patients have been assisted with selection of a prescription drug plan under the new Medicare Part D program.
- Pharmacists in the Middlesex area are provided support in the identification of patients with low health literacy and assistance to patients in overcoming this barrier.
- Faculty provide pharmaceutical care services to patients statewide, including Connecticut Children's Hospital, Hartford Hospital, Hospital of St. Raphael, St. Francis Hospital, UConn Health Center, West Haven VA Hospital, Yale-New Haven Hospital), ambulatory care clinics, home care pharmacies (e.g., Chartwell), community pharmacies, pharmacy benefit managers (e.g., Merck Medco), nuclear pharmacies (e.g., Syncor) and skilled nursing facilities (e.g., Hebrew Home and Hospital). Pharmacy faculty, students, and alumni serve youngsters attending *Asthma Camp* and participate in health fairs, brown bag medication programs and screening clinics.
- *HOPE Worldwide Medical Outreach*, in conjunction with the Department of Human Services of the City of Hartford, serves the elderly in a number of housing facilities.
- A pilot master's degree program in synthetic organic chemistry is being developed with funding from Boehringer Ingelheim Pharmaceuticals, Inc., of Ridgefield. The pilot program is designed to build on Connecticut's strong pharmaceutical industry and fill an unmet need for highly educated and expertly trained synthetic organic chemists.

School of Social Work:

- *Community internships* of more than 300 MSW students each year assist schools and agencies with child welfare, health, HIV/AIDS, mental health, and public welfare issues. Each student spends 560 supervised hours per year providing services in a social agency.

College of Liberal Arts and Sciences:

- *Audiology and Speech Pathology Clinic* in the Communication Sciences Department serves approximately 1,000 clients per year on site and 500 more through visits to elementary schools, the Mansfield Nursing and Rehabilitation Center, and the Visiting Nurse Association.
- *Psychological Services Clinic* in the Psychology Department provides mental health services to individuals, children, and families in eastern Connecticut.
- *Center for Health-HIV Intervention and Prevention (CHIP)* develops health behavior change programs, including diabetes management, in hospitals.

Neag School of Education:

- Department of Kinesiology, with funding from the Dr. Robert C. Atkins Foundation, is expanding its research into the many facets of carbohydrate restriction for the treatment of obesity, cardiovascular disease, and related metabolic syndromes. The Atkins Foundation funds independent scientific research on the role of metabolism and nutrition on a number of diseases, including diabetes, Alzheimer's, and cancer.

School of Engineering:

- *Biomedical Engineering (BME) Program* serves disabled individuals through several projects funded by the National Science Foundation and the U.S. Department of Education's Research Center on Accessible Medical Instrumentation, including a national design competition open to senior engineering students across the U.S. to help people with disabilities better interface with society and life. Senior BME students at UConn recently developed a scale tailored for those in wheelchairs who need to monitor their weight daily and a method blind customers may use to administer their diabetic medications. The students interviewed Connecticut residents with disabilities and then collaborated in teams to build devices to help them. Completed devices, given to the individual with the disability, have ranged from special jar openers for people with arthritis and exercise devices for the disabled, to special toys and bicycles.
- *Breast Imaging for Cancer Detection* - Electrical and Computer Engineering faculty work with Health Center and Hartford Hospital colleagues and have developed a device that – when used complementarily with ultrasound – yields more accurate diagnoses of breast malignancies. Hartford Hospital clinical trials have involved more than 180 patients.
- *Bone Repair* - Chemical, Materials and Biomolecular Engineering faculty have researched materials used in bone repair and orthopedic and dental implants. New types of materials, with hydroxyapatite as a central component, and new synthetic composite material, woven from apatite and polymer fiber, have been explored to improve bone repair, spinal fusion, other skeletal healing, and prostheses. Traditional materials – metal and ceramic tooth fillings, artificial joints and cardiovascular implants – have drawbacks, such as wear and failure, unexpected interactions with existing biosystems, and need for replacement.

Social Services

College of Agriculture and Natural Resources:

- *Cooperative Extension System* offers non-credit programs, fact sheets and advice on a variety of topics including pest management, costal habitats, gardening, water quality, food safety and nutrition education for limited resource families.
- *People Empowering People (PEP)* program serves limited resource youth and adults, including incarcerated women working to develop self-esteem related skills.
- *Opening Doors*, a collaborative effort with the Waterbury Youth Services, Inc. and Waterbury Regional Workforce, trains teens of limited resources in leadership education, workforce preparation and animal science. Teen-conducted workshops reach some 200 children each year.
- *Allied Health Sciences* faculty work with the Mashantucket Pequot Tribal Nation on public health and cancer risk assessment issues.

College of Liberal Arts and Sciences:

- Department of Family Studies publications (*KIDS Newsletter*, *All Children Considered*, and the *Birth to Five Newsletter*) provide helpful information on child care.
- Humphrey Center for Marital & Family Therapy offers counseling services.
- Department of Modern and Classical Languages, with a grant from the Defense Advanced Research Projects Agency (DARPA), the research and development arm of the U.S. Department of Defense, is involved in research with podcasts and various computer technologies to improve learning in what are considered “level 4” language studies (i.e. Arabic and Chinese) that take three to four times longer to learn than languages such as French or Spanish. The iPods, used in conjunction with laptop computers, language software and other technology tools, are loaded with language files that reinforce and expand what the students learn in weekly instruction with native-speaking conversation partners, making language studies easier to learn.

School of Law:

- The public interest is served through a variety of live-client in-house law clinics staffed by law students working pro bono under supervision of faculty members, public interest law clinics (*Center for Children’s Advocacy* and *Connecticut Urban Legal Initiative*), and externship courses on legal and human rights topics.
- Several School-produced Journals (*Connecticut Law Review*, *Connecticut Insurance Law Journal*, *Connecticut Journal of International Law*, and the *Public Interest Law Journal*) examine societal and public policy issues in Connecticut.
- The Bingham McCutchen Diversity Programming Fund supports programs sponsored by, or hosted at, the Law School to further racial, ethnic, cultural, religious, sexual-orientation, or gender-identity diversity on campus and within the legal profession. The Bingham McCutchen Scholarship Fund awards scholarships to academically strong first- or second-year law students who have overcome significant economic, linguistic, cultural, or educational obstacles, or who belong to a group historically underrepresented in law schools and the legal profession.

School of Social Work:

- Faculty members and students, through School institutes on violence prevention and reduction, international social work studies and political social work practice, provide community services such as school anti-bullying programs, multicultural and human rights oriented events, and voter registration drives.
- In partnerships with community agencies, the School offers certificate programs on Post-Adoption Services and Clinical Supervision to social work professionals.
- Faculty members serve many agencies as consultants and leaders of Latino and African American community conferences, programs and advisory boards.

Local Government and Commerce

A Center for Entrepreneurship is being developed to train faculty and student inventors in commercialization, business development, and venture capital, and to develop an intellectual property law clinic. An Eminent Faculty Program is being planned to bring top faculty in the fields of science and technology (with a special focus on fuel cells, nanotechnology, functional foods, and cancer/stem cell research) to Connecticut to work on research that would develop products that could be transferred to the state's businesses and enhance the state's economy. These two programs will promote and serve the state's economy in a focused partnership between the university, the state and industry.

College of Agriculture and Natural Resources:

- *NEMO (Non-point Education for Municipal Officials) Program*, in partnership with the CT Department of Environmental Protection and the firm of Fuss and O'Neill Engineering, provides towns across the state with better storm water management practices for land use plans and regulations.
- *Putting Communities in Charge* is distributed to the chief elected official and planning commission chair of each of the state's 169 municipalities.
- As a result of *Green Valley Institute* work, 4 communities developed new Conservation Subdivision Regulations; 2 developed new Fee-In-lieu of Open Space Subdivision Regulations; 1 developed a new scenic road ordinance; 2 amended their design guidelines; and 2 incorporated new land use economic goals into their Plans of Conservation and Development.
- A special juice processors program, in cooperation with the CT Department of Consumer Protection, focuses on issues with unpasteurized juice sold directly to the consumer at farm stands, farmers' markets and other (retail) outlets without wholesaling the product.
- Over 1,000 producers recently attended conferences and growers association meetings at which crop insurance/risk management information was presented and/or displayed.
- *UConn Plant Database* receives over 100,000 web page views from over 2,000 visits to the site each day.
- The *Soil Nutrient Analysis Lab* supports the needs of industry to reduce the inputs of production by determining the composition of the soil.

College of Liberal Arts and Sciences:

- Actuarial Science Program provides interns for the financial services industry. Its Professional Master's Degree program in Financial Services is accessible to working professionals and to students.
- Connecticut Center for Economic Analysis publishes the quarterly, *The Connecticut Economy*, which analyzes each previous quarter's economic activity in the state and provides forward outlooks.
- Center for Applied Genetics and Technology holds intensive weekend workshops teaching the latest forensic and DNA-typing techniques to professionals in the judicial system, state police, and biotechnology industry.
- Graduate Certificates in Public Financial Management and Nonprofit Management are offered by the Department of Public Policy.

School of Business:

- Small Business Institute, *Family Business Program*, GE Capital Global Learning Center, Institute of Developing Entrepreneurial Advantage, Office of Diversity Initiatives, *Volunteer Income Tax Assistance*, Connecticut Information Technology Institute, Center for Health Systems Management, *edgelab*, and *SS&C Technologies Financial Accelerator*: all provide valuable support to Connecticut's business community.
- *Connecticut Information Technology Institute (CITI)* programs—customized financial services courses and Project Management certification training—serve the business community and strategic partners such as GE, UBS, Diageo, Pitney-Bowes, AOL, and Xerox.

School of Engineering:

- *Connecticut Institute for Supercomputing and Visualization* in the Booth Engineering Center for Advanced Technologies was recently initiated with the installation of a new supercomputer system to provide faster, more accurate and realistic predictions in such computer-intensive research as biomolecular and metabolic engineering, fuel cells and alternative energy development, parachute dynamics and uncertainty analysis in biological system. The School plans to offer the supercomputer system to pre-collegiate students and teachers for simulation research on problems facing modern society, such as energy, environment, biotechnology, and transportation.
- *Voting Machine Validation* is a contribution of a team of Computer Science & Engineering faculty who recently helped the State of Connecticut evaluate and select electronic voting technology in compliance with the national Help America Vote Act (2002). Through its Voting Technology Research (VoTeR) Center, the team also provided certification and acceptance testing of electronic voting equipment for the November 2006 mid-term elections. The VoTeR team also helped develop audit procedures for the 25 Connecticut towns that installed the new optical scan voting technology and vote-by-phone machines for disabled citizens.
- *Improved Transportation Safety & Planning* is the priority of faculty members associated with the Connecticut Transportation Institute (CTI) at UConn have conducted transportation research studies to better understand the factors influencing highway crashes, including teen drivers (the research results influenced the State's decision to adopt graduated

licensing for teens). Other research has included bridge structural monitoring, new roadway materials, winter snow removal strategies and road/community designs to enhance safety and quality of life for communities. CTI also offers conferences and training programs for transportation professionals.

- *Biofuels* are being developed by faculty in the Chemical, Materials & Biomolecular Engineering Department. Biofuels is an alternative cleaner and renewable energy for the future that would reduce dependence upon fossil fuels. Connecticut Global Fuel Cell Center and the Biofuels Consortium, whose scope of research and development activities will complement the broader mission of sustainable energy initiative, work closely with Connecticut's energy industry.
- *Computer Storage Subsystems* research is being conducted by Electrical and Computer Engineering faculty with a multi-year grant from the National Science Foundation. The research seeks to solve the problem of slow access times for network disk storage performance, which limit computer system performance. The faculty work will benefit high performance computing used, for example, in physics, weather modeling, oil exploration, and genome sequencing.
- *Flood Prediction* research using satellite data is being conducted by Civil and Environmental Engineering faculty with a multi-year grant from National Aeronautics and Space Administration (NASA). The research to improve flood is part of NASA's Global Precipitation Measurement (GPM) mission, a program that supports use of satellites to study precipitation throughout the world.

School of Social Work:

- In a long-standing contract with the State Department of Social Services, the School has continued to provide extensive organizational and skill development to state employees. Faculty and graduate students, in collaboration with community agencies, have produced research reports to help with management of services and program development.

Center for Continuing Studies (CCS):

- CCS assists municipal and state agencies with outreach through its Labor Education Center, Workforce Development Institute, and Professional Studies, including on-line courses in project management and healthcare information technology for business professionals around the world.

Culture

College of Liberal Arts and Sciences:

- Biologists recently created a *Butterfly Atlas of Connecticut* and published *Caterpillars of Eastern North America*, a definitive field guide.
- The *State Ornithologist*, a biology faculty member, provides advice to citizens and birdwatchers about bird migration and habits.
- The *State Archaeologist* conducts research on New England folk beliefs and burying practices.

- The Connecticut State Museum of Natural History and Connecticut Archaeology Center offers lectures, workshops, exhibits, traveling programs, and field excavations. Archaeology Center staff work with historical societies, schools, local governments, the Mashantucket Pequot Tribe, and Connecticut state government to excavate and document Connecticut artifacts.
- The *State Historian* delivers lectures about early American and Connecticut history throughout the state and partners with the Connecticut Humanities Council on a website of Connecticut history.
- Public lectures sponsored by the College and its departments regularly feature prominent experts speaking on the environment, history, and political developments. A Venture Smith study group of faculty in the College (an archaeologist, a poet, a historian and a genetics expert) has begun documenting the history of an 18th century Connecticut slave who purchased his own freedom and share their findings through public readings, lectures, and site visits.
- A *Stone Wall* initiative provides information and lectures to the public and advice to town planners on the history and preservation of Connecticut's stone walls.

School of Fine Arts:

- Many cultural opportunities are offered to the public, including programs and events on and off campus and activities at the Puppetry Museum, Benton Museum, Center for Visual Arts and Culture, Connecticut Repertory Theatre, Jorgensen Auditorium, von der Mehden Recital Hall, and the Nafe Katter Theatre.
- Each year School of Fine Arts events in art, music and dramatic arts serve 200,000 on campus and 150,000 in locations throughout the state.

Center for Continuing Studies (CCS):

- *Community School of the Arts* links individuals of all ages in Eastern Connecticut with the artistic and performance resources of the University.