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## Stem Cell Decision Continues to Pay Dividends

*From the desk of Paul Pescatello, President and CEO of CURE*

The State of Connecticut's wise decision to provide public funding for stem cell research continues to pay dividends in terms of the science and investment it has attracted to the state. Recently both Yale and UConn announced new stem cell facilities, and in the second year of the state's grant program, requests for funding have increased. Moreover, a recent tour of UK stem cell facilities by an official Connecticut delegation confirms that Connecticut is on the international map for this emerging area of bioscience activity.



A state-of-the-art facility, the new Yale building on Amistad Street will house stem cell research facilities and two other interdisciplinary research programs aiming to harness the latest discoveries in medical science to the advancement of clinical care. ([See related story in this issue.](#)) Director Haifan Lin and Associate Director Diane Krause of the Yale Stem Cell Center are continuing to recruit distinguished faculty members, bringing their expertise and experience to the state.

For its part, UConn has announced official approval by its board of trustees of a Stem Cell Center that will unite Jerry Yang's activities in Storrs with Marc Lalande's activities at the UConn Health Center. A new building being constructed in Farmington will also house Ren-He Xu's Stem Cell Core, the stem cell bank supported by state grants to UConn and Wesleyan. ([See related story in this issue.](#))

In September the Connecticut Stem Cell Research Advisory Committee, which oversees the state's stem cell grant program, received 87 "letters of intent," or preliminary proposals, up from 75 last year. Sixty of the proposals were from UConn, 15 from Yale, and one from the University of Hartford. But interest was not confined to academic research -- local biotech firms submitted six proposals.

In total the proposals sought \$45 million in funding; \$10 million will be available this year. (The Connecticut program set aside \$100 million, of which \$20 million was awarded last year, the first year of the program. For the next eight years, \$10 million per year is scheduled to be awarded.)

My recent trip to the UK as part of an official Connecticut delegation confirms that the state's early decision to commit to stem cell research has put it on the map in this emerging area of science.

Traveling with me as guests of Her Majesty's Government were Marc Lalande, Ph.D., who is professor and chair, Department of Genetics and Biology, University of Connecticut Health Center; and Joan McDonald, the Commissioner of the Connecticut Department of Economic and Community Development.

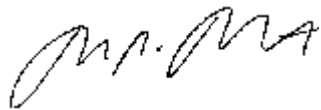
Our tour included visits to the University of Newcastle and the University of Edinburgh, as well as several meeting with researchers and regulators in London. The Edinburgh visit featured discussions at the Scottish Centre for Regenerative Medicine, whose director, Professor Ian Wilmut, serves on Connecticut's Stem Cell Research Peer Review Committee. Prior to the official tour, I also attended a privately-organized stem cell symposium in Edinburgh.

In the xml:namespace prefix = st1 />UK, seeing new stem cell research facilities and hearing about the fascinating work of researchers, I was struck by both the quality and speed of the research to date. It must be underscored, though, how much basic research is still needed. Many novel therapeutic applications will likely come from this research, but in the short-term

stem cell research is likely to have its greatest impact as a means to speed traditional drug discovery.

It was also satisfying to sense the high level of awareness of Connecticut among the stem cell community in the UK, and indeed, among other Europeans I met. There is no question that our StemConn symposium last March made a good impression, underscoring Connecticut's early championing of this important new area of bioscience.

As I complete this month's column, I'm delighted to note that Connecticut Innovations has announced the appointment of Peter V. Longo as president and executive director. This is an outstanding choice. The combination of Peter and CI chairman Ned Bowman brings together an effective team at this important organization, whose early-funding of new technologies is a critical dimension of Connecticut bioscience development.



*Paul R. Pescatello is President and CEO of CURE.*

## **New Amistad Facility Houses Yale's State-of-the-Art Stem Cell Research**

Yale School of Medicine Oct 5 celebrated the opening of a new four-story building on Amistad Street that will house three interdisciplinary research programs: a human and translational immunology program, a program in vascular biology and therapeutics, and the Yale Stem Cell Center.

"This building," said Yale Medical School Dean Robert Alpern, "focuses on what everybody calls the future of medicine: interdisciplinary science."



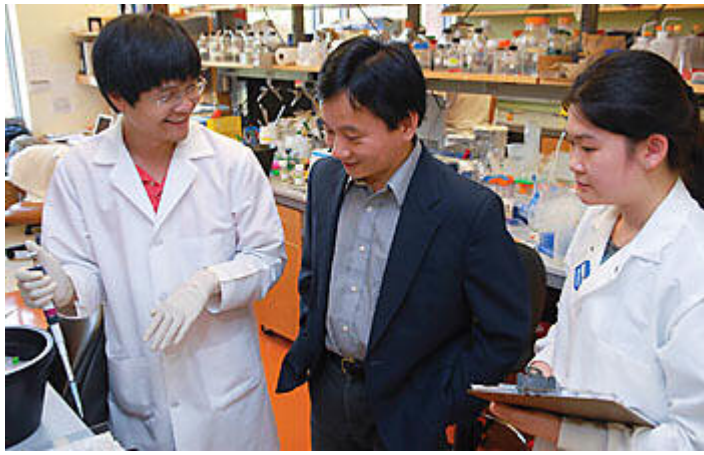
The Oct 5 celebration included a scientific symposium featuring presentations by Salvador Moncada of University College, London; Marc Feldman of Imperial College, London; and Douglas Melton of Harvard University. Melton, introduced by Haifan Lin, the director of the Yale Stem Cell Center, spoke on "Stem Cells for Pancreatic Development and Diabetes."

Unlike traditional biomedical research teams — often composed of members of one discipline working in a single animal model — the three research programs housed in the new building draw from multiple departments and have shifted their focus from animal studies alone to better understanding what works, and doesn't work, in humans.

One of the three new research programs in the building, the Interdepartmental Program in Vascular Biology and Therapeutics, focuses on heart disease and cancer, as well as on engineering artificial tissues to replace diseased blood vessels, heart valves, and other parts of the human body. Vascular biology is the study of the cells and molecules that interact in the vascular system, which supplies the organs and every cell in the body with oxygen and nutrients.

The mission of the new Human and Translational Immunology program is to accelerate the application of new developments in immunology to the treatment of human diseases such as diabetes. Some of the diseases the group will be targeting relate to organ transplantation. They will also be studying the application of immunotherapies to infectious disease or cancer, and the basis for autoimmune disorders, such as asthma, type 1 diabetes and lupus. In addition, the group will look at other diseases, such as arteriosclerosis, which lend themselves to therapeutic interventions by means of the immune system.

The Yale Stem Cell Center focuses on understanding the basic



fixtures, and dual-flush toilets.

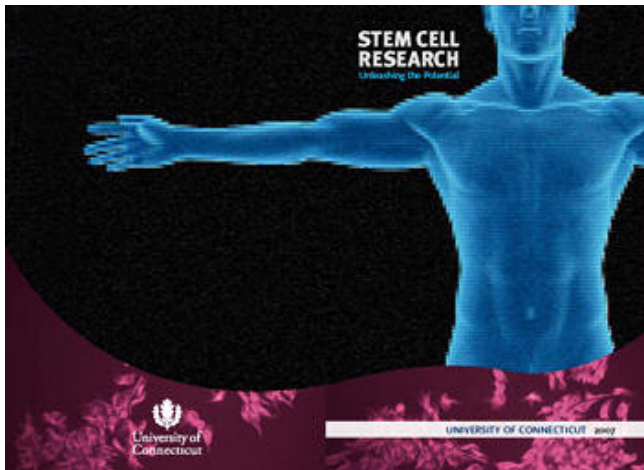
properties of stem cells in order to pave the way for future medical therapies.

With his associate director, Diane Krause, professor of laboratory medicine and pathology, Haifan Lin is recruiting four more faculty members to conduct basic stem cell research and to investigate applications. They recently recruited Natalia Ivanova, formerly of Princeton University.

The 120,000-square-foot building at 10 Amistad Street contains many environmentally friendly features, such as high-efficiency and occupancy sensors for lighting, a rainwater collection cistern, bike racks and showers to encourage biking to and from work, recycled construction materials, ultra-low-flow water

## University of Connecticut Creates Stem Cell Institute

The University of Connecticut's board of trustees has officially approved creation of a Stem Cell Institute that will unite two major UConn programs, the Center for Regenerative Biology in Storrs, and the Department of Department of Genetics and Developmental Biology and Center for Regenerative Medicine and Skeletal Development at the UConn Health Center in Farmington.



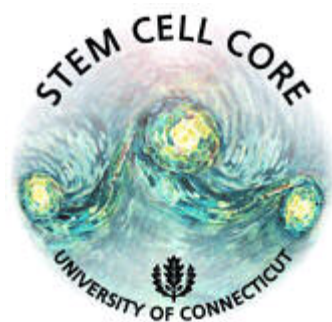
Dr. Marc Lalande, professor and chair of the Department of Genetics and Developmental Biology and associate dean for research planning and coordination at the Health Center, will direct the new Institute.

Eventually, the Institute's home will be in Farmington, where the University has purchased the former FarmTech building, located across the street from the Health Center campus. The nearly 113,000-square-foot building will be completely renovated by 2010.

Also housed in the Institute will be the [Stem Cell Core](#), directed by Dr. Ren-He Xu, a program funded by state grants to UConn and Wesleyan University that creates and banks human embryonic stem cell lines for use by qualified researchers in Connecticut and beyond.

Summarizing developments in a [new brochure](#) devoted to the university's stem cell capabilities, Dr. Lalande states: "Stem cell

research is a hugely complex, yet immensely fascinating, area of research with the potential to unlock the greatest scientific and medical discoveries ever, and UConn is well positioned with a wide range of dedicated scientific teams to continue to be a pioneer in what will be the most important research area of the 21st century."



The brochure traces UConn's roots in stem cell research to 1996, when Xiangzhong "Jerry" Yang, one of the world's foremost animal biotechnologists, joined UConn as an associate professor of animal science and biotechnology and head of the Biotechnology Center's Transgenic Animal Facility. Spearheaded by Yang, the Center for Regenerative Biology opened in 2001, signaling UConn's commitment to advancing the frontiers of regenerative biology.

## Life Sciences Get Top Share of VC Funding in 3Q

According to the PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ Report based on data from Thomson Financial, six Connecticut companies received \$26.8 million in venture capital funds during the third quarter of 2007, a 52% decrease from \$56.4 million invested in ten companies in the third quarter of 2006.

In Q3 2007, the largest investment in Connecticut went to Ophtherion, Inc., a Branford developer of diagnostic and therapeutic solutions for macular degeneration that received \$10.0 million in investment dollars in their first round of financing. HistoRx, Inc. a New Haven company that provides quantitative biomarker assays, received \$6.6 million in their second round of financing. Rounding out the top three deals for the quarter, Danbury based Odyssey Logistics & Technology Corporation, a provider of outsourced logistics and transportation management services, received \$5.0 million in their third round of financing.

Nationally, venture capitalists invested \$7.1 billion in 887 deals in the third quarter of 2007. Quarterly investment activity was down slightly from the second quarter of 2007 when \$7.2 billion was invested in 1,000 deals, suggesting ongoing stability within the venture capital arena. The quarter saw notable increases in both the CleanTech and Internet specific sectors as well as ongoing strength in first rounds of venture capital financing.

“While Software and Biotechnology upheld their historical placements as the top funded industries, venture capitalists seemed to diversify across various industries this quarter,” said Tracy Lefteroff, global managing partner of the venture capital practice, PricewaterhouseCoopers. “In some cases, investment trends reflected top issues facing the nation. Clean Tech, for example, demonstrated its viability as an emerging sector by producing three of the top five deals this quarter, with one deal reaching the \$100 million plateau, marking it as one of the largest deals ever for the sector. Overall there was strong deal activity this quarter keeping us on pace for the largest investment year since 2001.”

“The stability of the overall venture capital investment levels, coupled with an increased focus on the most innovative new industry sectors such as alternative energy suggests that the venture capital industry is continuing to support our country’s most promising start-up companies in a rational and deliberate manner,” said Mark Heesen, president of the National Venture Capital Association. “We were particularly pleased to see the sustainability of first time financings levels. Many new companies are seeking and winning venture capital investment which equates to growth for the US economy as a whole.”

In the third quarter, the Silicon Valley region placed first among major regions in terms of deals and dollars invested, followed by the New England region (which includes portions of CT). The New York Metro region (which includes Fairfield county) placed fifth in terms of dollars invested and third in terms of deals.

<b>Region</b>	<b># of Investments</b>	<b>Investment Amount</b>
Silicon Valley	287	\$ 2,484.5 million
New England	119	\$ 998.0 million
LA/Orange Co.	56	\$ 425.1 million
Texas	39	\$ 386.2 million
New York Metro	57	\$ 385.0 million

#### **Connecticut Results, Most Recent Quarters**

<b>Quarter and Year</b>	<b># of Investments</b>	<b>Investment Amount</b>	<b>Average Deal Size</b>
<b>Quarter 3, 2007</b>	<b>6</b>	<b>\$26.8 million</b>	<b>\$4.5 million</b>
<b>Quarter 2, 2007</b>	<b>9</b>	<b>\$103.4 million</b>	<b>\$11.5 million</b>
<b>Quarter 1, 2007</b>	<b>7</b>	<b>\$ 49.8 million</b>	<b>\$ 7.1 million</b>
<b>Quarter 4, 2006</b>	<b>7</b>	<b>\$53.1 million</b>	<b>\$7.6 million</b>
<b>Quarter 3, 2006</b>	<b>10</b>	<b>\$56.4 million</b>	<b>\$5.6 million</b>

<b>Quarter 2, 2006</b>	<b>9</b>	<b>\$111.7 million</b>	<b>\$12.4 million</b>
<b>Quarter 1, 2006</b>	<b>6</b>	<b>\$56.6 million</b>	<b>\$9.4 million</b>
<b>Quarter 4, 2005</b>	<b>6</b>	<b>\$37.4 million</b>	<b>\$6.2 million</b>
<b>Quarter 3, 2005</b>	<b>7</b>	<b>\$49.9 million</b>	<b>\$7.1 million</b>
<b>Quarter 2, 2005</b>	<b>8</b>	<b>\$22.9 million</b>	<b>\$2.9 million</b>

### Connecticut Results, Most Recent Six Years

<b>Year</b>	<b># of Investments</b>	<b>Investment Amount</b>	<b>Average Deal Size</b>
2006	32	\$277.7 million	\$8.7 million
2005	31	\$192.8 million	\$6.2 million
2004	32	\$195.9 million	\$6.1 million
2003	34	\$203.8 million	\$6.0 million
2002	38	\$182.7 million	\$4.8 million
2001	70	\$549.8 million	\$7.9 million

### Industry Sectors – Life Sciences Leads Third Quarter

In Connecticut, the Life Sciences sector (Biotechnology and Medical Devices combined) obtained the largest share of venture capital funds for the third quarter of 2007 – a total investment of \$17.6 million in three companies, or 65% of total investment dollars. Software followed with \$8.0 million invested in two companies and the Industrial/Energy industry ranked third with \$1.3 million invested in one company.

Nationally, the Software sector narrowly edged out Biotechnology as the number one industry sector for the quarter with \$1.11 billion going into 187 deals. This investment level was down from the previous quarter when Software hit a six year high with \$1.5 billion going into 253 deals.

The Life Sciences sector (Biotechnology and Medical Devices combined) had another strong quarter with \$1.9 billion going into 175 deals compared to the previous quarter when \$2.2 billion went into 233 deals. Both Biotech and Medical Device investing slowed in Q3 with fewer deals completed and dollars invested. Biotechnology had \$1.1 billion going into 99 deals; Medical Devices had \$825 million going into 76 deals in the quarter.

The Clean Tech sector, which crosses traditional MoneyTree sectors and comprises alternative energy, pollution and recycling, power supplies and conservation, saw record investment levels with \$844 million going into 62 deals in the third quarter. This represented 80 percent increase in the dollar level and 35 percent increase in the number of deals in the Clean Tech sector in the second quarter of the year.

Internet-specific companies garnered \$1.1 billion into 195 deals in the third quarter, a 17 percent increase in dollars over the second quarter when \$903 million went into 160 deals. Four of the last five quarters have seen Internet-specific investment of more than \$1 billion. 'Internet-Specific' is a discrete classification assigned to a company with a business model that is fundamentally dependent on the Internet, regardless of the company's primary industry category.

Media and Entertainment had a positive quarter with \$509 million going into 96 deals, an increase in both deals and dollars

from the second quarter when \$464 million went into 77 deals. Other industry sectors which saw increases in both dollars and deals include Financial Services, Healthcare Services, and IT Services. Both Telecommunications and Semiconductors saw more dollars but fewer deals in the third quarter.

### **Stage of Company Development – Startup/Seed Stage Leads Third Quarter in Connecticut**

For the third quarter of 2007 in Connecticut, three Startup/Seed Stage companies received \$12.3 million of the state's total in-bound funding or 46% of the total dollars invested in Connecticut. Also in Q3 2007, two Expansion Stage companies received \$9.6 million of funding, and one Later Stage company received \$5.0 million.

Nationally, Seed and Early stage investing dollars in the third quarter fell 15 percent to \$1.4 billion into 305 deals. This level compares to an extremely strong second quarter when venture capitalists invested \$1.7 billion into 395 deals. Seed/Early stage deals accounted for 34 percent of total deal volume in the third quarter compared to 40 percent in the second quarter of the year. The average Seed deal in the third quarter was \$2.4 million, up from \$2.0 million in the second quarter; the average Early stage deal was \$5.6 million, also up from \$5.0 in the second quarter.

Expansion stage dollars increased by 16 percent in the third quarter to \$2.7 billion from \$2.3 billion in the second quarter. The number of deals however, declined slightly from 302 deals in the second quarter to 294 deals in the third quarter. Overall, Expansion stage deals accounted for 33 percent of venture deals in the quarter. The average Expansion stage deal was \$9.2 million, up significantly from \$7.8 million in the second quarter.

Later stage deals fell slightly dollar value with \$3.0 billion going into 288 deals and accounting for 33 percent of total volume. In the second quarter of this year \$3.2 billion went into 303 deals. The average Later stage deal in the third quarter was \$10.3 million which was also slightly lower than the second quarter when the average Later stage deal size was \$10.6 million.

## **CURE in the News**

An April 16 article in *Business New Haven* describes the "rediscovery" of Connecticut by venture capitalists. CURE president Paul Pescatello says: "One of the real pockets of world-class expertise we've got is in the life sciences. Connecticut companies have really attracted significantly more than their share of venture and angel financing, which is probably the best test of how well the research is going in their labs. Venture capitalists are the best and most scrutinizing judges of what's going on – they vote with the pocketbook."

In a companion article on the medical device industry in the same issue of *Business New Haven*, Pescatello adds, "Some Connecticut manufacturers specialize in producing 'unique alloys' for medical devices."

An April 25 story in the *New Haven Register* notes that the BioBus has "gone green," thanks to a partnership with Greenleaf Biofuels of Guilford. The BioBus arrived at the Capitol in Hartford that day for a ceremony at which vegetable oil was collected from Connecticut school children, for later conversion to biofuel.

A June 9 story in the *New Haven Register* reports on the funding raised by start-up BioRelix, Inc. The successful spin-out "shows what an intellectual-property engine Yale's bioscience labs are," Pescatello says. The new company's research into "RiboSwitches", Pescatello says, "is in great demand in the market given the troubling, ever-increasing numbers of microbes resistant to existing classes of antibiotics."

A June 14 story in the *Hartford Courant* notes that Yale will acquire the Bayer property in West Haven. Pescatello praises the development, saying, "At the end of the day, what [drives] biotechnology economic development is what happens in the research universities. They spawn the research that causes companies to happen."

In a June 25 story in *Business New Haven* on the same subject, Pescatello adds that he's confident Yale's expansion will generate more biotech spin-offs and private-sector activity in the life sciences. "It's very good outcome," Pescatello says. "Yale is our crown jewel in bioscience research."

A July 30 article in the *Hartford Courant* reports that Connecticut's stem cell peer review committee, which grades applications for stem cell grants from the state, may expand to as many as 15 members. Warren Wollschlager, chief of research and development for the Connecticut Department of Public Health, said the department sought the change because volunteers had each put in close to 100 hours of their own time — taken away from their own work — in support of the state. The expansion is a good idea, Pescatello says, adding that the initial round of reviews was "an amazing volunteer response."

An Aug 8 article in the *New Haven Register* reports on the surge of venture capital into Connecticut in 2Q 2007. Pescatello

says the surge shows that Connecticut's biotechnology sector is going strong. "It's a modestly sized cluster but it's certainly able to garner a lot of support from venture capital firms," he said of the state's biotech and high-tech industry. "There is a steady stream of new ventures coming out of Connecticut." Pescatello also noted that the report shows the Connecticut biotech cluster is not dependent on any one area of development, but instead is involved in projects ranging from antibiotics to spinal cord devices.

An Aug 10 article in the *New Haven Independent* noted that more than 150 CURE members flocked to the CURE summer cookout in Branford, where Pescatello welcomed the guests, stating that he was delighted to be adding a summer networking event to the CURE calendar.

On Sept 2, the *Hartford Courant* ran a letter to the editor from Pescatello, calling attention to shortcomings in the federal Patent Reform Act of 2007. "In the bioscience industry it is not just established pharmaceutical companies that look to patents to support their research efforts," Pescatello writes. "If anything, robust patent protection is even more important as a safeguard and incentive for up-and-coming biotechs and academic researchers considering whether to pursue the commercialization or promising new therapies."

A sidebar in the Sept 18 issue of *Connecticut Science Connection* notes that the BioBus is gearing up for its seventh school year in 2007-08. Science teachers are invited to visit the BioBus Educational Programs website to request visits by the BioBus and classroom equipment lending via the BioConnection program.

In a Sept 20 article in the *Hartford Courant*, Pescatello says he finds the recent changes at Branford-based CuraGen encouraging. He mentions that proceeds from the sale of CuraGen's subsidiary 454 Life Sciences were reinvested in the parent company. "It wasn't distributed out to investors. Most of us take that as a sign of the confidence that the investors, the board and the scientists at CuraGen have in the compounds."

Commenting on Yale biotech spinoffs for an article in *Yale Medicine*, Pescatello says, "I travel to meetings around the world. My sense is that qualitatively Yale is regarded as highly as any academic medical center in the world" for developing biotechnology enterprises. But quantitatively the region lags, he said, behind Cambridge, South San Francisco, San Diego and other areas with more prominent biotechnology sectors. Those areas, he says, have "other engines" to generate new ventures, while New Haven relies almost solely on Yale.

## CURE Member News Digest

**Achillion Pharmaceuticals, Inc.** (New Haven) on Oct 15 announced preliminary 12-week results from an ongoing Phase II clinical trial studying elvucitabine in patients infected with wild-type Human Immunodeficiency Virus (HIV). Elvucitabine, Achillion's lead HIV product candidate, is an L-cytosine nucleoside analog reverse transcriptase inhibitor (NRTI) that has previously demonstrated potent antiviral activity against HIV, including strains resistant to other NRTIs. "We are extremely pleased that these preliminary results support the use of elvucitabine as part of a triple-drug combination," said Milind S. Deshpande, Ph.D., Executive Vice President of Research and Chief Scientific Officer. "The results from this trial are an important positive step in validating the safety and efficacy of elvucitabine in a 10 mg daily dose. Taken together with its demonstrated long half-life, and its favorable resistance profile, elvucitabine is emerging as a potentially important alternative to currently available nucleosides in the treatment of HIV patients."

**Bayer HealthCare** (Leverkusen, Germany/West Haven) and development partner Regeneron Pharmaceuticals, Inc. announced positive results from a Phase II study evaluating the VEGF Trap-Eye in the neovascular form of age-related macular degeneration, one of the leading causes of blindness in adults. VEGF (the vascular endothelial growth factor) is a naturally occurring protein in the body whose normal role is to trigger the formation of new blood vessels. The VEGF Trap-Eye is a fully human, soluble VEGF receptor fusion protein that is a highly potent blocker of growth factors. Blockade of VEGF can prevent abnormal blood vessel formation.

**Boehringer Ingelheim** (Ingelheim, Germany/Danbury) and Vitae Pharmaceuticals, Inc., announced that they have established a major collaboration to develop and commercialize 11beta-HSD1 inhibitors. Compounds which inhibit 11beta-HSD1, an enzyme involved in cortisol production, may have utility in the treatment of diabetes and metabolic syndrome related diseases, including obesity, dyslipidemia and hypertension. The companies will combine their respective 11beta-HSD1 programs and work together to identify and advance candidates for clinical development.

**Bristol-Myers Squibb Company** (New York/Wallingford) and ImClone Systems Incorporated announced that they have established an agreement with Merck KGaA for the co-development and co-commercialization of ERBITUX® (cetuximab) in Japan for the treatment of epidermal growth factor receptor (EGFR)-expressing metastatic colorectal cancer (mCRC), as well as for the treatment of any other cancers the parties agree to pursue.

**Connecticut Innovations** (Rocky Hill) announced that it has appointed Peter V. Longo president and executive director.

Longo is currently deputy director and serving as the organization's acting executive director. "The board has made an outstanding choice," said Ned Bowman, chairman of CI. "Peter's solid performance as chief investment officer demonstrated he has the knowledge and experience needed."

**CuraGen Corporation** (Branford) announced that its Phase II dose-confirmatory clinical trial (CLN-12) evaluating a single dose of velafermin for the prevention of severe oral mucositis demonstrated that velafermin was safe and well-tolerated but did not meet its primary endpoint. Based on these results, the Company is discontinuing the development of velafermin, and will continue to focus its resources on belinostat, a Phase II histone deacetylase (HDAC) inhibitor for the treatment of solid tumors and hematologic malignancies, and CR011-vcMMAE, a Phase I/II antibody-drug conjugate for the treatment of metastatic melanoma.

**GlaxoSmithKline** (London, UK/Research Triangle Park, NC) announced the appointment of Andrew Witty as CEO Designate, GlaxoSmithKline. Witty, currently President, Pharmaceuticals Europe for GlaxoSmithKline, will succeed Dr. Jean-Pierre Garnier following his retirement as Chief Executive Officer at the end of May 2008.

**Hartford Hospital** (Hartford) recently hosted a forum on altered standards of care during a pandemic. The event was organized by the hospital's Center of Excellence for Bioterrorism Preparedness. In the event of a catastrophic public health- or terrorism-related event, the resulting victims will likely overwhelm the resources of a community's health care system, the hospital said.

**Helix Therapeutics LLC** (Cheshire) will receive financial assistance from Connecticut Innovations through CI's new Pre-Seed Support Services Program. Helix is pursuing therapies for HIV/AIDS and genetic diseases, such as sickle cell anemia and b-Thalassemia, two of the most common human genetic diseases. The founders of Helix include: Gerald F. Vovis, Ph.D., member of Helix's board of directors; Peter Glazer, M.D., Ph.D., inventor of Helix's technology platform and professor and chair of the Department of Therapeutic Radiology at the Yale University School of Medicine; Ranjit Bindra, M.D., Ph.D., resident at Memorial Sloan-Kettering Cancer Center; and Kevin Rakin, M.B.A., member of Helix's board of directors.

**HistoRx** (New Haven), which provides quantitative biomarker assays, received \$6.6 million in their second round of financing.

**Invitrogen** (Carlsbad, CA/Branford) has reached an agreement with Blue Heron Biotechnology and is now the co-exclusive worldwide distributor with Blue Heron for its custom gene synthesis services. Blue Heron's proprietary GeneMaker(R) platform can accurately synthesize gene sequences, making it of interest to researchers studying anything from single genes up to entire genomes as in the biofuels and synthetic biology markets, the company says.

Connecticut Innovations has completed a follow-on investment of \$680,000 in **Ipsogen** (Marseille, France/New Haven) to help the company expand its operations in Connecticut. Ipsogen recently established its North American corporate headquarters in New Haven. CI's investment was part of a \$3.36 million round, also involving Matignon Technologies, Société Générale Asset Management and Sofipaca.

**Johnson & Johnson** (New Brunswick, NJ) said that clinical data show that REMICADE® significantly reduces the incidence of colectomy surgeries for patients with moderately to severely active ulcerative colitis.

**Neurogen Corporation** (Branford) announced that Kenneth J. Sprenger, M.D., M.B.B.Ch., B.Sc. has been appointed to the position of vice president, clinical development and operations. William H. Koster, CEO, said, "Ken has been responsible for all clinical development activities for our most advanced compound, adiplon, for the treatment of insomnia--eight clinical studies in over 600 subjects, including two successful Phase IIb studies announced earlier this year." Sprenger holds a B.Sc. in medicine and his M.B.B.Ch. from the University of the Witwatersrand in Johannesburg. He also holds a doctorate in immunology from the University of Cape Town.

**Ophtherion, Inc.** (New Haven) has received \$37 million in start-up financing. The company plans to use discoveries by scientists at Yale and the University of Iowa to develop products to diagnose and treat Age-related Macular Degeneration and other related chronic diseases. Among the sources of capital for the financing are: Quaker BioVentures, Philadelphia; Domain Associates, Princeton, NJ and San Diego; Johnson & Johnson Development Corporation, New Brunswick, NJ; Purdue Pharmaceutical Products L.P., Stamford, CT; Pappas Ventures, Research Triangle Park, NC; Biogen Idec New Ventures, Cambridge, MA and GE Healthcare Financial Services, Chicago, IL.

Commenting on 3Q results. Jeff Kindler, chairman and CEO of **Pfizer Inc.** (New York, NY/Groton/New London), said: "We are encouraged by our operating results in the third quarter, and we remain on track to achieve our full-year 2007 revenues and adjusted diluted EPS goals. Meanwhile, we have concluded that further investment in Exubera is unwarranted. We will work with physicians to transition Exubera patients to other treatment options in the next three months. We remain committed to investing significant resources in the development of new and innovative medicines to manage diabetes, including monitoring inhalation technologies and other innovative delivery systems for insulin and other medicines."

**Quinnipiac University** (Hamden) has officially purchased the Blue Cross and Blue Shield campus on Bassett Road in North Haven from WellPoint, Inc. "Completing the purchase agreement for the North Haven Campus is an important milestone in our plans to create a Graduate Education Center on the site," said President John L. Lahey.

The new president of **Wesleyan University** (Middletown), Michael Roth, was profiled in a [Hartford Courant article](#).

Following is recent news from **The University of Connecticut** (Storrs) and the **University of Connecticut Health Center** (Farmington).

The creation of a Stem Cell Institute at UConn was recently approved by the UConn Board of Trustees, marking an important milestone in the University's stem cell research efforts. ([See related story in this issue.](#))

*Leslie Loew, professor of cell biology and computer science and engineering, and director of the R.D. Berlin Center for Cell Analysis and Modeling, has been named to the Boehringer Ingelheim Chair in Cell Sciences at the Health Center. Since joining the Health Center in 1984, Loew has established a broad research program characterized by innovations in technology applied to fundamental problems of cell biophysics.* [more](#)

UConn researchers working on five different projects will share in more than \$1.5 million in state grants to study cancer, heart disease, and other tobacco-related illnesses. The grants are from the Biomedical Research Trust Fund, which the state bankrolls with a portion of the annual payments received from the settlement with the tobacco industry. Jennifer Tirnauer, MD, was awarded \$299,044 to study how colon cancer develops and to provide new therapeutic targets. John Peluso, Ph.D., was awarded \$281,016 for research of a therapy that could improve the overall effectiveness of chemotherapy and reduce undesirable side effects. David Gregorio, Ph.D., was awarded \$107,409 to study the accuracy and adequacy of tobacco-use data in cancer research. Lance Bauer, Ph.D., (together with Godfrey Pearlson, MD, of Yale) was awarded \$538,605 for a project that investigates whether the effects of tobacco on brain structure and function are amplified by the presence of specific genotypes. Quing Zhu, an associate professor of electrical and computer engineering at Storrs, and Dr. Molly Brewer, director of gynecologic oncology at the Carole and Ray Neag Comprehensive Cancer Center at the Health Center, are working on a way to measure two different aspects of early ovarian cancer by joining technologies. They've been awarded more than \$315,000. [more](#)

*A drug that is primarily used to treat seizure disorders and prevent migraines significantly helped reduce heavy drinking among alcoholics compared to a placebo, according to a new study published Oct. 10 in the Journal of the American Medical Association. "The drug had a very robust effect on drinking," according to Dr. Henry Kranzler of the UConn Health Center, one of the investigators on the study.* [more](#)

Research conducted by Allison MacKay, an associate professor of civil and environmental engineering, aims to help scientists better understand how antibiotics and other organic compounds enter the nation's waterways, disperse, and change over time. [more](#)

*Dr. Robert Arciero, chief of the sports medicine division in the Department of Orthopaedic Surgery at the UConn Health Center, is one of a handful of orthopaedic surgeons in the country offering a new procedure for repairing the knee's anterior cruciate ligament (ACL), called "double-bundle" reconstruction.* [more](#)

Following is recent news from **Yale University** and the **Yale School of Medicine** (New Haven).

The Yale School of Public Health has received a \$15 million grant to take part in a national study that will follow 100,000 children from before birth to age 21 to understand factors that contribute to their health and development. The study, believed to be the largest of its kind ever undertaken, is a collaboration between the U.S. Department of Health and Human Services and the U.S. Environmental Protection Agency. The goal is to seek information that can be used to prevent and treat some of the nation's most pressing health problems, including autism, birth defects, diabetes, heart disease, and obesity. Funding is by the National Institute of Child Health and Human Development.

*Yale School of Medicine researcher David A. Fiellin, M.D., has received a five-year \$2.9 million grant from The National Institutes of Health to advance his research on substance abuse. The National Institute on Drug Abuse awarded Fiellin the grant to support his research evaluating whether gradual withdrawal from prescription opioid medications (narcotic painkillers) such as buprenorphine is most effective at reducing drug use.*

There is no evidence that "chronic Lyme disease" exists and if it does, the risks of prolonged antibiotic treatment outweigh any benefits, according to a review article by researchers at Yale and other institutions in the October 4 New England Journal of Medicine. The review article, written by Eugene D. Shapiro, M.D., of Yale and colleagues from other institutions, focused on what the authors refer to as the "imprecisely defined" condition "chronic Lyme disease." The authors note that this term is used by a small number of physicians to describe patients they claim have persistent *B. burgdorferi* infection, a condition that they say requires long-term antibiotic treatment and may be incurable.

*Erol Fikrig, M.D., a Yale School of Medicine researcher who specializes in the study and treatment of Lyme disease, West Nile virus, and other vector-borne diseases, has been named a Howard Hughes Medical Institute (HHMI) investigator. Fikrig, the Waldemar Von Zedtwitz Professor of Medicine, also studies human granulocytic ehrlichiosis, a newly described pathogen transmitted by ticks. His research focuses on molecular strategies the biological agent uses to survive in white blood cells.*

**For more member news, see the [Oct 2007 issue of CURE News](#)**

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