

Bonding Subcommittee Testimony
President Susan Herbst
University of Connecticut
-February 2013-

Co-Chairs, Ranking Members, and members of the Committee, thank you for having us here today and for all of your support of the University of Connecticut. Your tremendous investments in UConn are the reason we are a top choice for Connecticut residents, and are ranked 21st among public research universities in the nation.

My remarks today are similar to those that I delivered to the Appropriations Committee on the same subject earlier this month, so apologies if this is a rerun for those who may have seen it on CT-N.

The primary reason I came to UConn is how well-supported it has been by this body over many years. We are so very lucky that our governors and legislators realize the importance of their flagship university in educating our future leaders, and being a key lever in economic development. Few *legislatures in the nation* understand this right now, and ours is one, thanks to you.

Nothing speaks as loudly about the success of a university than student demand. Students and parents know value, and they seek the kind of excellence we have, at such a competitive price. President Obama raised this in his State of the Nation speech – that we need to focus on value. You should be proud of both UConn and the CT State colleges in this regard. Our students leave UConn with an average debt under the national average because we are so good at supporting our students in need.

Demand to attend UConn is astounding and keeps growing. In 2012, we had approximately 31,400 applications for our freshman class of 4,400 (at all our campuses).

Of course the current fiscal year and the proposed FY14 state appropriation will challenge the University to make difficult decisions, and to do even more with less. But we fully understand the enormity of Connecticut's fiscal constraints.

The cuts to our block grant have been very tough, as you know, and this has affected what we can do for our students. But in any case, we share the sacrifice, and look to the future. It may be a terrible few years, but if we can see a brighter future, we will hang in there and do our best of course.

As you can imagine, the University of Connecticut is very grateful to Governor Malloy for including the extraordinary *Next Generation Connecticut* proposal in his budget. While there is a major 10-year capital component of this initiative that stretches out the UCONN 2000 program until 2024, there is also an operating budget component, reflected in the University's FY15 state appropriation.

Let me make some general remarks about this initiative and then ask Mun Choi, our Provost, to explain it in more detail. After that, I'm happy to answer questions about this, but also any others you may have on any aspect of the university.

You may be wondering, with such a large state deficit, is this the appropriate time for the type of initiative represented by Next Generation CT?

I believe that the answer is an emphatic “YES.” Just as the Research Triangle in North Carolina has allowed that region to thrive despite economic downturns, this initiative will create a more prosperous, economically dynamic Connecticut.

It will create and support the very jobs we need to be an economically vibrant and successful state in the future. In this era, more than ever, states must rely on their public research universities to be the backbone and the driver of economic success. And that is exactly what this proposal would accomplish. It is the perfect complement to Bioscience Connecticut, Jackson Labs, and the Storrs Technology Park.

Next Generation Connecticut will expand critical STEM activities at UConn and drive innovation, enhancing job creation and economic growth. With targeted strategic investments in facilities, faculty and students, UConn will be an increasingly vital STEM institution, fueling Connecticut’s economy with new technologies, highly skilled graduates, new companies, patents, licenses, and high-wage STEM jobs. *Next Generation Connecticut* will allow UConn to:

- Enroll an additional 6,500 talented undergraduate students
- Build STEM facilities to house expanded materials science, physics, biology, engineering, cognitive science, and genomics programs, to name a few.
- Construct new STEM teaching laboratories and renovate current STEM facilities.
- Hire 259 new faculty above and beyond the faculty we are hiring under our current plan
- Upgrade infrastructure to accommodate these new faculty and students
- Facilitate moving the Greater Hartford Campus to downtown Hartford
- Increase digital media and risk management degree programs and provide student housing in Stamford

Next Generation Connecticut will create both construction jobs and sustainable long-term employment. Additionally, by 2024, *Next Generation Connecticut* will deliver:

- \$146M per year in new research expenditures
- \$285M per year in new business activity in Connecticut, or a 118% increase resulting from research at UConn
- 4,050 permanent jobs

- 30,000 total construction jobs through 2024

Other states have made similar investments in STEM research, creating jobs and increasing their economies. In each state, positive outcomes have accrued; jobs have been created, with strong returns on their investments.

Thankfully, we don't have to guess about return on investment. We have empirical data from other states demonstrating exactly how investments in research boost regional and state economies. This is covered in many journal articles, reports, and newspapers from around the nation, and we can get those to you if you'd like.

It is now Connecticut's time to act. *Next Generation Connecticut* will enable our state to compete effectively in the global marketplace, revive innovation and create jobs. And this initiative will finally enable us to reach the top. I believe that Connecticut is a great enough state to have a top research university that leads scientific discovery. Why should Michigan or North Carolina have one and not us? We are as talented and as important, here in Connecticut.

I believe it is my duty to help get us there, to the top, and to always be honest with you about what it will take. I assure you that, if we pursue *Next Generation Connecticut*, we will have our University of Michigan for this state – an international university of the highest order. Connecticut deserves it and we can actually make this happen.

To riff off the great Rabbi Hillel: If not us, who? And, if not now, when? We must get started or we'll never get there.

One of the wonderful things about spending your life with young people, primarily 18-22, as I have, is that they are so positive all the time. They are effervescent; they have that life force that makes a university campus a positive place, no matter the trauma of the larger economy, the wars that have wounded so many, and the other horrors of recent adult life we know so well. We want a better world for them.

I hope that we can work together to achieve the kind of greatness we can actually reach, for our state, *in our own lifetimes*, with the right strategic investments.

Again, my thanks for your incredible support of the University of Connecticut.



University of Connecticut

NEXT GENERATION CONNECTICUT

Building Connecticut's Economic
Future through STEM

February 2013

The Need for CT STEM Investment



Connecticut Rankings:

- #25 in Entrepreneurial Activity (Kauffman Foundation)
- #39 in Non-Industry R&D Investments (KF)
- #50 in Job Churn (KF)
- 2nd Quartile - State funding for public research university per number of enrolled students (NSF)
- 1st Quartile – Engineers as a % of workforce (NSF)
- 3rd Quartile – BS degrees in natural science & engineering per 1,000 degree conferrals (NSF)
- 3rd Quartile – Science & engineering Ph.D. conferrals as % of S&E degrees
- 4th Quartile – New high tech business formation as % of all business establishments

STEM: A SMART INVESTMENT FOR CT



- Strong support from industry partners to grow STEM enrollment, research & economic development
- STEM jobs grew 3 times faster than non-STEM jobs (2000-2010)
- 2/3 of GDP growth is driven by STEM innovations
- Nearly 20% of STEM workforce is 55+ years old
- Increased STEM activities will leverage CT's current STEM initiatives: Bioscience CT, JAX Genomics Medicine & Tech Park

Sources: Bureau of Labor Statistics, National Academy of Engineering, National Science Foundation

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STEM: A SMART INVESTMENT FOR UCONN



STEM Education in 2012:

- More than 240% increase in STEM applications since 2001
- More than 120% increase in STEM degrees awarded since 2001
- STEM attracts high-potential students based on SAT & GPA

STEM Research in 2012

- \$900M in STEM research proposals (\$460M @ Storrs)
- \$170M in STEM research awards (\$98M @ Storrs)

Workforce & Economic Development in 2012:

- 70% of UConn graduates work in CT to support the economy
- Over 100 intellectual property applications per year
- \$332M in business & economic activity from faculty research

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STEM INVESTMENTS TO BE COMPETITIVE



- STEM education involves learning through laboratory experience, capstone design, research and industry projects
- UCONN 2000 STEM facilities are at full capacity:
 - Chemistry, Info Technology & Engineering, Pharmacy/Biology, Biology/Physics, Marine Science, Ag-Biotech, etc
- Pre-1960's era STEM facilities are outdated and at full capacity:
 - Gant, Torrey, Beach, Koons, Atwater, Engineering II, Bio-Science Laboratory, Bronwell, Longley, *UTEB*, etc.
- Faculty cannot compete for major research grants or effectively teach students using outdated STEM facilities
- Needs include facilities & staff for Manufacturing, High Performance Computing, Bio-Safety Laboratories, fMRI, Electron Microscopes, Systems Genomics, etc.

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NEXT GENERATION CT OVERVIEW



Increase Undergraduate (UG) Enrollment by 6,580 (30%)

- Increase STEM UG students by 3,290 (42%)
- Increase Engineering UG students by 1,410 (70%)
- Increase other STEM UG students by 1,800 (33%)
- Create Premier STEM Honors Program, Scholarships & Living/Learning Communities
- Increase Digital Media UG students by 840
- Increase Risk Management & Global Business UG students by 680

Hire Faculty & Improve Infrastructure

- 259 new faculty (in addition to 290 from current plan)
- 200 STEM faculty (in addition to 175 STEM faculty from current plan)
- Develop critical facilities for research & teaching

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Capital Program Goals and Needs



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NEXT GENERATION CT COMPONENTS



\$902M to construct new facilities

- Multiple STEM buildings: \$760M for 750K gross square feet of research/teaching labs & offices for 375 STEM faculty
 - Additional floors for Engineering/Science building
 - Torrey addition
 - 2 new science buildings
 - Institute for Materials Science & Physics
- General Education Faculty Building: \$60M
- Classroom Building: \$50M for 80K gross square feet of new space
- Housing: \$32M for 2 dorms with 800 beds total & \$10M for housing in Stamford

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NEXT GENERATION CT COMPONENTS



\$415.5M to renovate/repurpose facilities

- Repurpose Torrey & Gant research space for teaching labs and classrooms and general renovations: \$295.5M
- Housing: \$40M to convert existing housing to a STEM Living & Learning Community
- Greater Hartford Campus: \$70M to relocate & consolidate the West Hartford Campus, School of Social Work & Financial Accelerator to downtown Hartford

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NEXT GENERATION CT COMPONENTS



\$457.5M for equipment & infrastructure

Equipment

- Information Technology data center & capacity upgrades: \$50M
- Faculty start-up equipment: \$67.5M
- fMRI, biosafety labs, additive manufacturing equipment: \$30M

Infrastructure

- Steam line repair: \$100M
- Water system & upgrade: \$17M (add'l \$8M from Tech Park)
- Sewer system upgrades: \$42M
- Other upgrades (electrical/heating/cooling): \$58M
- Parking, public transportation & roadways: \$93M

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NEXT GENERATION CT COMPONENTS



Stamford Component of New School of Fine Arts & Digital Media

- Undergraduate/graduate degrees in animation, visual effects & production, game development, motion media design, sports entertainment, data visualization & 'Big Data Analytics'

Stamford Business Programs

- Undergraduate degrees & graduate certificates* in financial risk management, crisis management, sports management, global business, business/engineering (dual graduate degree)

| Proposed Growth | |
|-------------------------|------------|
| Undergrad Enrollment | 1,520/110% |
| Undergrad Degrees | 304/119% |
| Faculty | 35 |
| State Operating Request | \$2.3M |
| UConn Commitment* | \$3.6M |

\$10M Capital Request for Housing and Campus Enhancements

* The expansion of the graduate degree and advanced certificate programs will all be funded by UConn

NEXT GENERATION CT COMPONENTS



Downtown Hartford Campus Relocation

- Greater Hartford Campus serves the most diverse student group at UConn
- Enhanced accessibility & service to low income/high-potential students
- Enhanced service learning & internship opportunities for undergraduate & graduate education programs
- Expanded economic activity through increased interaction with local businesses
- Direct contributions to state workforce development from professional graduate programs in Business, Engineering, Public Administration & Social Work
- Proximity will increase transfer access for community college students

RETURN ON INVESTMENT



- Median income of CT residents with STEM degrees earn \$11K more per year than graduates with other degrees
- Every \$1M in NIH research funding supports 15 jobs (salary of \$60K)
- Each new science/technology job creates more than one additional job
 - A chemical manufacturing job creates 3.1 additional jobs
 - A computers & electronics job creates 1.3 additional jobs
- For every new research \$1, CT will gain \$1.95 in business activity
- Every \$2M in research expenditures yields a patent
- Investments will increase research productivity to \$300K for STEM faculty
- By 2024 this initiative will yield Connecticut:
 - \$146M in new research awards & \$285M in new business activity
 - 135 patents & disclosures per year
 - 2,190 new permanent jobs
 - 30,000 total construction jobs

Sources: State Higher Education Executive Officers, National Institutes of Health, Connecticut Economic Resource Center

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FY 2015 OPERATING PROPOSAL: \$25.9M



- \$17.4M State request; \$8.5M UConn commitment
- Increase undergraduate enrollment by 785 (285 @ Stamford)
- Hire 38 faculty (20 STEM faculty)
- Establish premier Connecticut STEM Honors Program
 - 325 scholarships for Connecticut's best students
 - 325 "Big Idea!" grants for undergraduate research projects with top faculty
 - STEM industry internship/co-op experiences
- Award 15 STEM fellowships to train outstanding doctoral students
- Increase Stamford Campus programs by expanding Digital Media & Business

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FUNDING PROPOSAL



| Operating (\$M)* | FY15 | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 |
|------------------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| State Request | \$17.4 | \$33.8 | \$54.0 | \$70.3 | \$80.6 | \$92.7 | \$102.4 | \$113.0 | \$123.8 | \$137.0 |
| UConn Commitment | \$8.5 | \$13.1 | \$20.2 | \$28.9 | \$35.4 | \$41.3 | \$48.2 | \$54.8 | \$62.4 | \$69.8 |

* Amounts shown are cumulative & in addition to support of current faculty hiring plan of \$79M

| Capital Request (\$M)* | FY15 | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 |
|--------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|
| Academic & Research Facilities | \$45.0 | \$60.0 | \$90.0 | \$120.5 | \$128.0 | \$187.0 | \$97.0 | \$45.5 | \$68.0 | \$29.0 |
| Deferred Maintenance | 33.5 | 46.5 | 59.9 | 99.1 | 97.0 | 65.0 | 50.0 | 31.5 | 30.0 | 30.0 |
| Equipment | 14.0 | 14.0 | 17.5 | 14.0 | 14.0 | 17.0 | 14.5 | 14.0 | 14.0 | 14.5 |
| Hartford Relocation | 30.0 | 40.0 | | | | | | | | |
| Residential Life Facilities | 20.0 | 20.0 | | | 12.0 | | | 20.0 | | |
| Parking Garage # 3 | | | | | | | 30.0 | 33.0 | | |
| Stamford Campus Housing | 5.0 | 5.0 | | | | | | | | |
| Total Request | \$147.5 | \$185.5 | \$167.4 | \$233.6 | \$251.0 | \$269.0 | \$191.5 | \$144.0 | \$112.0 | \$73.5 |

* Amounts shown are annual increments and include the reallocation of existing UCONN 2000 funds

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ENROLLMENT & FACULTY INCREASES



| Enrollment* | FY15 | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 |
|-------------------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Storrs STEM | 325 | 627 | 1,075 | 1,503 | 1,808 | 2,098 | 2,404 | 2,692 | 2,998 | 3,290 |
| Storrs non-STEM | 175 | 338 | 580 | 810 | 975 | 1,130 | 1,294 | 1,451 | 1,615 | 1,770 |
| Stamford | 285 | 575 | 955 | 1,310 | 1,430 | 1,520 | 1,520 | 1,520 | 1,520 | 1,520 |
| Total Enrollment | 785 | 1,540 | 2,610 | 3,623 | 4,213 | 4,748 | 5,218 | 5,663 | 6,133 | 6,580 |
| Faculty* | FY15 | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 |
| Storrs STEM | 12 | 24 | 46 | 66 | 86 | 116 | 136 | 156 | 176 | 200 |
| Storrs non-STEM | 8 | 16 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Stamford | 18 | 26 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| Total Faculty | 38 | 66 | 105 | 125 | 145 | 175 | 195 | 215 | 235 | 259 |

* Amounts shown are cumulative

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EXAMPLES FROM OTHER STATES

- Over 20 years, Georgia’s \$400M investment in research yielded \$2B in federal and private funds and created 5000 new technology jobs and 120 new technology companies
- In the University of California system, every dollar of state-funded research in 2000-2001 led to an additional \$3.89 in federal and private funding
- At UConn: Four new faculty in Pharmacy increased research expenditures in the department from \$2.9M in FY08 to \$5.3M in FY12 (up to \$600K per faculty member per year)

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IMPACT OF STATE INVESTMENT

| | FY96 (Fall 1995) | FY13 (Fall 2012) |
|-----------------------------|------------------|------------------|
| Undergraduate Students | 14,667 | 22,301 |
| Grad/Professional Students | 7,804 | 7,427 |
| Tenure/Tenure-Track Faculty | 1,012 | 1,061 |
| Full-Time Staff | 2,662 | 3,028 |
| UConn SAT (National Avg) | 1113 (1013) | 1226 (1010) |
| Bachelor’s Degrees | 2,839 | 5,149 |
| 6 Year Graduation Rate | 70% | 82% |
| MS/PhD Degrees | 1,310/239 | 1,573/341 |
| Research Awards (w/UCHC) | \$56M (\$98M) | \$124M (\$200M) |
| Scholarships/Grants | \$28M | \$142M |

From FY96-FY12:

- Research awards totaled \$1.5B (\$2.9B w/UCHC)
- Business activity from research totaled \$3.0B (\$5.6B w/UCHC)

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University of Connecticut

Appendix

Capital Plan



UCONN

To accommodate the additional faculty and staff and over 6,500 students, major capital investment is required. This investment includes new and renovated facilities for research and teaching labs, classrooms, academic support, dormitories, dining, parking, water, steam lines, information technology, equipment and various infrastructure upgrades.

Capital Plan



New STEM facilities will provide state of the art research space to accommodate a growing faculty, students and their research. To enable the University to recruit outstanding faculty and develop emerging interdisciplinary research collaborations, expansion of research space is necessary. This includes multi-disciplinary laboratories, centralized core facilities and equipment. Funding of \$760 million will construct approximately 750,000 gross square feet of space to meet the needs of 375 STEM faculty and their students. The University anticipates expanding the new Engineering & Science building as well as the addition of new science facilities and/or the expansion of existing buildings.

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Capital Plan



Other University initiatives include consolidation of programs and creation of new and renovated academic learning environments for various STEM and supporting initiatives which includes development of academic program space. A \$50 million building will provide 80,000 gross square feet of new classroom space to support the expansion of the student population and introduce new learning technologies. \$60 million will support other new buildings to replace out dated facilities and provide additional academic program support areas to ensure student success. \$295.5 million will allow the University to repurpose existing space into teaching laboratories in the Gant and Torrey complexes.

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Capital Plan



The consistently high demand for on-campus housing at the University and the planned enrollment growth will require new dormitories. To enable the University to recruit high achieving STEM students, \$40 million will be utilized to convert existing housing into a STEM Living & Learning Community. In addition, to meet the housing demands of the expanded student body, two new dorms will be constructed and will provide another 800 beds.

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Capital Plan



The University expects to undertake, in consultation with local communities, improvements to its parking, public transportation and roadways to accommodate the growth in student enrollment and faculty populations. This includes \$93 million for centralizing parking through new structured facilities, relocation of existing parking lots and various traffic improvements throughout campus.

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Capital Plan



\$217 million in funding is included for infrastructure upgrades such as steam line replacement, sewer system upgrades in coordination with additional water supply, and various other underground utilities improvements such as power will be required to support the renovation of existing buildings and the development of new facilities.

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Capital Plan



\$30 million is for acquisition of shared equipment such as the functional magnetic resonance imaging system (fMRI), Bio-safety laboratories, and additive manufacturing equipment that will enable faculty collaborations across diverse disciplines in STEM. \$67.5 million is for startup equipment to recruit 200 new STEM faculty. Startup equipment can include advanced lasers, sensors, cell culture facilities, atomic force microscopes, polymer extruders, metals processing equipment, etc. This equipment will be critical in growing the capabilities of the faculty to compete for major research grants in emerging areas of manufacturing, materials, energy, biomedical technologies, information science and systems genomics. In addition, \$50 million will be used for information technology data center and capacity upgrades.

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University of Connecticut
Next Generation Connecticut: Science, Jobs and Retaining Connecticut's Best Minds
Funding Request

| Operating Request | FY15 | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | |
|---------------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|------------------------|
| Positions | | | | | | | | | | | |
| Faculty | 38 | 66 | 105 | 125 | 145 | 175 | 195 | 215 | 235 | 259 | |
| Staff | 28 | 48 | 68 | 88 | 108 | 118 | 128 | 138 | 148 | 158 | |
| Total Positions | 66 | 114 | 173 | 213 | 253 | 293 | 323 | 353 | 383 | 417 | |
| Personal Services | \$11,457,782 | \$17,620,818 | \$26,426,387 | \$34,131,791 | \$42,649,201 | \$53,015,575 | \$62,000,408 | \$71,853,632 | \$82,644,007 | \$95,598,530 | |
| Other Expenses | | | | | | | | | | | |
| Operating Needs/Student | 6,000,000 | 11,580,000 | 19,860,000 | 27,756,000 | 33,396,000 | 38,736,000 | 44,376,000 | 49,716,000 | 55,356,000 | 60,720,000 | |
| Staff Operating Support | 800,000 | 1,600,000 | 2,600,000 | 3,400,000 | 4,200,000 | 5,000,000 | 5,600,000 | 6,200,000 | 6,800,000 | 7,480,000 | |
| STEM Scholarships | 5,224,200 | 11,158,800 | 17,511,648 | 24,235,624 | 25,250,517 | 26,304,492 | 27,093,626 | 27,906,435 | 28,743,628 | 29,605,937 | |
| Big Idea Grants | 1,625,000 | 3,250,000 | 5,000,000 | 6,750,000 | 7,500,000 | 8,000,000 | 8,500,000 | 9,000,000 | 9,500,000 | 10,000,000 | |
| STEM Fellowships | 811,710 | 1,670,580 | 2,812,851 | 2,878,494 | 2,946,668 | 3,017,502 | 3,091,127 | 3,167,683 | 3,247,317 | 3,330,183 | |
| UConn Contribution | (8,508,845) | (13,094,827) | (20,220,981) | (28,859,209) | (35,373,891) | (41,332,414) | (48,241,921) | (54,835,435) | (62,446,926) | (69,782,608) | |
| Total Other Expenses | \$5,952,065 | \$16,164,553 | \$27,563,518 | \$36,160,908 | \$37,919,294 | \$39,725,579 | \$40,418,832 | \$41,154,683 | \$41,200,019 | \$41,353,512 | |
| Total Operating Expenses^A | \$17,409,847 | \$33,785,372 | \$53,989,905 | \$70,292,699 | \$80,568,495 | \$92,741,154 | \$102,419,240 | \$113,008,315 | \$123,844,026 | \$136,952,041 | |
| Capital Request | | | | | | | | | | | Total |
| Academic & Research Facilities | \$45,000,000 | \$60,000,000 | \$90,000,000 | \$120,500,000 | \$128,000,000 | \$187,000,000 | 97000000 | 45500000 | 68000000 | 29000000 | \$870,000,000 |
| DM: Water & Steam | 15,000,000 | 20,000,000 | 15,000,000 | 27,000,000 | 20,000,000 | 20,000,000 | | | | | 117,000,000 |
| DM: General Renovations | 18,500,000 | 26,494,000 | 44,900,000 | 72,106,000 | 77,000,000 | 45,000,000 | 50,000,000 | 31,500,000 | 30,000,000 | 30,000,000 | 425,500,000 |
| Equipment | 14,000,000 | 14,000,000 | 17,500,000 | 14,000,000 | 14,000,000 | 17,000,000 | 14,500,000 | 14,000,000 | 14,000,000 | 14,500,000 | 147,500,000 |
| Hartford Relocation Acquisition/Renovation | 30,000,000 | 40,000,000 | | | | | | | | | 70,000,000 |
| Residential Life Facilities | 20,000,000 | 20,000,000 | | | 12,000,000 | | | 20,000,000 | | | 72,000,000 |
| Parking Garage #3 | | | | | | | 30,000,000 | 33,000,000 | | | 63,000,000 |
| Stamford Campus Improvements/Housing | 5,000,000 | 5,000,000 | | | | | | | | | 10,000,000 |
| Total Capital Proposal | \$147,500,000 | \$185,494,000 | \$167,400,000 | \$233,606,000 | \$251,000,000 | \$269,000,000 | \$191,500,000 | \$144,000,000 | \$112,000,000 | \$73,500,000 | \$1,775,000,000 |
| Existing UCONN 2000 Funding | 42,500,000 | 75,494,000 | 61,900,000 | 55,106,000 | | | | | | | 235,000,000 |
| Total Capital Request^B | \$105,000,000 | \$110,000,000 | \$105,500,000 | \$178,500,000 | \$251,000,000 | \$269,000,000 | \$191,500,000 | \$144,000,000 | \$112,000,000 | \$73,500,000 | \$1,540,000,000 |

^A Amounts shown are cumulative and are in addition to support of current faculty hiring plan of \$79 million.

^B Amounts shown are annual increments.

Next Generation Connecticut

Building Connecticut’s Economic Future through STEM

Background & Overview

Connecticut has historically been known as the birthplace of invention and innovation. Connecticut inventors created the cotton gin, anesthesia, the first submarine, helicopter, color television, the portable typewriter and a range of industrial technologies. The technical proficiency that contributed to Connecticut’s economy has declined dramatically. According to the Kaufmann Foundation New Economy 2010 Report, Connecticut ranked #14 in high-tech jobs, #15 in patents, #22 in entrepreneurial activity and #37 in non-industry R&D investments. Connecticut’s long-term economic competitiveness can be re-invigorated with key investments for pioneering R&D and vital educational programs in the STEM (science, technology, engineering, and math) disciplines. This proposal, *Next Generation Connecticut*, will expand critical STEM activities at UConn and drive innovation, enhancing job creation and economic growth. With these key, targeted strategic investments in facilities, faculty and students, UConn will be an increasingly vital STEM institution, fueling Connecticut’s economy with new technologies, highly skilled graduates, new companies, patents, licenses, and high-wage STEM jobs.

Next Generation Connecticut

As part of this ambitious, ten-year plan, the University proposes to hire innovative faculty, build new facilities and enroll talented students, as follows:

- Hire 259 new faculty (of which 200 will be in STEM)
- Enroll an additional 6,580 talented undergraduate students
- Build STEM facilities to house materials science, physics, biology, engineering, cognitive science, genomics and related disciplines
- Construct new STEM teaching laboratories
- Create a premier STEM Honors program
- Upgrade aging infrastructure to accommodate new faculty and students
- Expand digital media and risk management degree programs and provide student housing in Stamford
- Relocate Greater Hartford Campus to downtown Hartford

Proposed Funding

Proposed capital and operating funding for *Next Generation Connecticut* will be allocated incrementally between FY15 and FY24.

| Operating (\$M)* | FY15 | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| State Request | \$17.4 | \$33.8 | \$54.0 | \$70.3 | \$80.6 | \$92.7 | \$102.4 | \$113.0 | \$123.8 | \$137.0 |
| UConn Commitment | \$8.5 | \$13.1 | \$20.2 | \$28.9 | \$35.4 | \$41.3 | \$48.2 | \$54.8 | \$62.4 | \$69.8 |

*Amounts shown are cumulative & in addition to support of current faculty hiring plan of \$79M.

| Capital Request (\$M)* | FY15 | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 |
|--------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|
| Academic & Research Facilities | \$45.0 | \$60.0 | \$90.0 | \$120.5 | \$128.0 | \$187.0 | \$97.0 | \$45.5 | \$68.0 | \$29.0 |
| Deferred Maintenance | 33.5 | 46.5 | 59.9 | 99.1 | 97.0 | 65.0 | 50.0 | 31.5 | 30.0 | 30.0 |
| Equipment | 14.0 | 14.0 | 17.5 | 14.0 | 14.0 | 17.0 | 14.5 | 14.0 | 14.0 | 14.5 |
| Hartford Relocation | 30.0 | 40.0 | | | | | | | | |
| Residential Life Facilities | 20.0 | 20.0 | | | 12.0 | | | 20.0 | | |
| Parking Garage # 3 | | | | | | | 30.0 | 33.0 | | |
| Stamford Campus Housing | 5.0 | 5.0 | | | | | | | | |
| Total Request | \$147.5 | \$185.5 | \$167.4 | \$233.6 | \$251.0 | \$269.0 | \$191.5 | \$144.0 | \$112.0 | \$73.5 |

* Amounts shown are annual increments and include the reallocation of existing UCONN 2000 funds.

UConn will commit significant institutional resources to launch *Next Generation Connecticut* by contributing \$235M in reallocated UCONN 2000/21st Century UConn funds for the building program and \$149M in operating funds to support the academic program components.

Emphasis on STEM

According to a recent study by *Georgetown University's Center on Education & Workforce*, eight million U.S. jobs will be available in STEM fields. Nationally, overall employment is projected to grow 9.6% from 2010 to 2020. Connecticut labor analysis projects a similar trend. For example, the Connecticut Department of Labor, projects the need for 54% more biomedical engineers. But report after report shows that the next generation of American employees will be unprepared for these jobs. Of 34 industrialized countries, American students rank 17th in science and 25th in math scores. This gap between demand and supply limits our nation's ability to solve the complex problems of our time, inhibits the innovation required to remain competitive, and results in severe long-term economic consequences for our country. However, this situation also provides Connecticut with a unique opportunity.

Next Generation Connecticut will have a tremendous impact on the reversal of these trends and grow Connecticut's STEM workforce to enable our state to compete effectively in the global marketplace. According to the National Academy of Engineering, two-thirds of the growth in our GDP has its roots in STEM. The U.S. Bureau of Labor Statistics reports that:

- STEM jobs grew 3 times faster than non-STEM jobs in the last decade
- STEM jobs are projected to continue to grow by 17% ('08-'18), as compared to 10% in non-STEM
- It is anticipated that approximately 20% of the STEM workforce is over the age of 55+ and may retire over the next 10 years.

For these reasons, increasing our STEM enrollment, hiring additional STEM faculty, doubling our research funding, and constructing and renovating STEM facilities comprise the components of this bold proposal.

Return on Investment (ROI)

Next Generation Connecticut will create both construction jobs and sustainable long-term employment. This proposal will also leverage and maximize the state’s related investments in Bioscience CT, JAX, UCONN 2000/21st Century UConn and the UConn Tech Park.

- By 2024, *Next Generation Connecticut* will yield:
 - \$146M per year in new research awards (118% increase)
 - \$285M per year in new business activity in CT (118% increase) resulting from research at UConn
 - 2,190 new or 4,050 total permanent jobs
 - 30,000 total construction jobs through 2024

| ROI | FY15 | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 |
|-----------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| New Research Awards | \$43 | \$65 | \$77 | \$86 | \$96 | \$108 | \$117 | \$126 | \$136 | \$146M |
| New Business Activity | \$84 | \$127 | \$151 | \$169 | \$187 | \$210 | \$228 | \$246 | \$264 | \$285M |
| New Jobs | 643 | 975 | 1,158 | 1,296 | 1,435 | 1,618 | 1,757 | 1,895 | 2,034 | 2,190 |

Other states (Appendix A) have made similar investments in STEM research, creating jobs and increasing their economies. In each state, positive outcomes have accrued; jobs have been created, with strong ROI. It is now our time and the University is prepared to join the ranks of the top STEM institutions and states in the country.

Return on Previous Investments

Why does the University need an additional infusion for *Next Generation Connecticut*? Due to chronic under funding, UConn focused UCONN 2000 and 21st Century UConn on numerous teaching facilities, general utilities, information technology, residence halls, and infrastructure. Additionally, the University constructed science facilities, including the new Chemistry, Information Technology, Pharmacy/Biology, Marine Sciences and Agriculture Biotechnology buildings. Additionally, the University renovated a number of current facilities for Life Sciences, Biobehavioral Science, Education, and Nursing. The University has major projects underway, including our new Engineering and Psychology buildings, and the renovation of our Agricultural research facilities. While these university-wide investments have allowed us to increase STEM enrollment by 115 percent, UConn must do more to produce many more STEM graduates to meet workforce shortages and drive discoveries that will fuel Connecticut’s long-term economic growth.

The UCONN 2000 and 21st Century UConn investments are the major contributors to UConn’s growing reputation for academic excellence and its emergence as a leader in higher education in the Northeast, drawing top students from Connecticut and the rest of the nation. UConn’s rise during the past 16 years has been astounding, the result of strategic state support that was wisely invested in both facilities and infrastructure. Beginning in 1996, UConn’s

- Research awards increased by 119%
- Undergraduate enrollment increased by 52%
- Undergraduate STEM enrollment increased by 115%
- Average freshman SAT scores increased by 113 points to 1226

- Undergraduate degrees awarded per year increased by 75%
- Graduate/professional degrees awarded per year increased by 40%

Record numbers of applications from high-caliber students and support for student success resulted in UConn's increase in national rankings from #38 to #21 among public universities, according to *U.S. News and World Report*. UConn currently enrolls 13% of Connecticut's high school seniors and our fall 2012 class, once again, included the largest, most diverse, and most academically talented students ever admitted.

This further investment in STEM will result in dramatic increases in both STEM research and STEM graduates, in turn producing innovations and inventions that will directly contribute to sustainable economic growth for Connecticut.

Capital Program:

To accommodate the additional faculty and staff and over 6,500 students, major capital investment is required. This investment includes new and renovated facilities for research and teaching labs, classrooms, academic support, dormitories, dining, parking, water, steam lines, information technology, equipment and various infrastructure upgrades.

New STEM facilities will provide state of the art research space to accommodate a growing faculty, students and their research. To enable the University to recruit outstanding faculty and develop emerging interdisciplinary research collaborations, expansion of research space is necessary. This includes multi-disciplinary laboratories, centralized core facilities and equipment. Funding of \$760 million will construct approximately 750,000 gross square feet of space to meet the needs of 375 STEM faculty and their students. The University anticipates expanding the new Engineering & Science building as well as the addition of new science facilities and/or the expansion of existing buildings.

Other University initiatives include consolidation of programs and creation of new and renovated academic learning environments for various STEM and supporting initiatives which includes development of academic program space. A \$50 million building will provide 80,000 gross square feet of new classroom space to support the expansion of the student population and introduce new learning technologies. \$60 million will support other new buildings to replace out dated facilities and provide additional academic program support areas to ensure student success. \$295.5 million will allow the University to repurpose existing space into teaching laboratories in the Gant and Torrey complexes.

The consistently high demand for on-campus housing at the University and the planned enrollment growth will require new dormitories. To enable the University to recruit high achieving STEM students, \$40 million will be utilized to convert existing housing into a STEM Living & Learning Community. In addition, to meet the housing demands of the expanded student body, two new dorms will be constructed and will provide another 800 beds.

The University expects to undertake, in consultation with local communities, improvements to its parking, public transportation and roadways to accommodate the growth in student enrollment and

faculty populations. This includes \$93 million for centralizing parking through new structured facilities, relocation of existing parking lots and various traffic improvements throughout campus.

\$217 million in funding is included for infrastructure upgrades such as steam line replacement, sewer system upgrades in coordination with additional water supply, and various other underground utilities improvements such as power will be required to support the renovation of existing buildings and the development of new facilities.

\$30 million is for acquisition of shared equipment such as the functional magnetic resonance imaging system (fMRI), Bio-safety laboratories, and additive manufacturing equipment that will enable faculty collaborations across diverse disciplines in STEM. \$67.5 million is for startup equipment to recruit 200 new STEM faculty. Startup equipment can include advanced lasers, sensors, cell culture facilities, atomic force microscopes, polymer extruders, metals processing equipment, etc. This equipment will be critical in growing the capabilities of the faculty to compete for major research grants in emerging areas of manufacturing, materials, energy, biomedical technologies, information science and systems genomics. In addition, \$50 million will be used for information technology data center and capacity upgrades.

Selected References:

Association of University Technology Managers. Web. 24 Jan. 2013 www.autm.net/Home.htm

Bioscience Discovery Evaluation Grant Program. Colorado BioScience Association, varies. Web. 24 Jan. 2013 www.cobioscience.com/resources/bioscience-discovery-evaluation-grant-program

Bioscience Initiative. Greater Baltimore Committee, varies. Web. 24 Jan. 2013 www.gbc.org/page/bioscience-initiative

Bureau of Labor Statistics. Web. 24 Jan. 2013 www.bls.gov

California, Economic Impact of Health Research. Research America: An Alliance for Discoveries in America, varies. Web. 24 Jan. 2013 www.researchamerica.org/econ_california

Carnevale, Anthony P., Nicole Smith, and Michelle Melton. Stem State-Level Analysis. Georgetown University Center on Education and the Workforce. (20 Oct. 2011): 68. Print

Families USA's Global Health Initiative. In Your Own Backyard: How NIH Funding Helps Your State's Economy. (June 2008): 28. Print

Florida, Economic Impact of Health Research. Research America: An Alliance for Discoveries in America, varies. Web. 24 Jan. 2013 www.researchamerica.org/econ_florida

Georgetown University Center on Education. New Report on the Economic Value of 171 College Majors Links College Majors to Earnings. UA Management Information Systems, 24 May 2011. Web. 24 Jan. 2013 uamis.wordpress.com/2011/08/02/georgetown-university-center-on-education-and-the-workforces-new-report-on-the-economic-value-of-171-college-majors

IMPLAN CT 2010 Model. Web. 24 Jan. 2013 implan.com

National Academy of Engineering of the National Academies. Web. 24 Jan. 2013 www.nae.edu

National Science Foundation. Web. 24 Jan. 2013 www.nsf.gov/#4

O'Malley, Martin. Governor O'Malley Announces Maryland Bio 2020 Initiative. Office of Governor Martin O'Malley, 16 June 2008. Web. 24 Jan. 2013 www.governor.maryland.gov/pressreleases/080616b.asp

Ohio, Economic Impact of Health Research. Research America: An Alliance for Discoveries in America, varies. Web. 24 Jan. 2013 www.researchamerica.org/econ_ohio

Pellerito, Peter M. Successful State Initiatives That Encourage Bioscience Industry Growth. Biotechnology Industry Organization, 9 Feb. 2012. Web. 24 Jan. 2013 www.bio.org/node/5771/node/6551

The Washington Economics Group, Inc. Economic Impacts and Return on Investment to Florida from Public Financial Support of the Jackson Laboratory Institute for Personalized Medicine. (2009): 27. Print

Zaback, K., A. Carlson, and M. Crellin. A Report from the State Higher Education Executive Officers. (Dec. 2012). Print

Appendix A. State Investment Examples

A. California

United for Medical Research's 2011 study, *An Economic Engine* shows that in 2010, NIH invested \$4,021,000,000 in California, producing 71,633 new jobs. The National Institutes of Health contribute more than \$3 billion per year to the state economy through biomedical research facilities. This supports an industry that provides 267,000 California jobs with an average annual wage of more than \$71,000 according to the Los Angeles Biomedical Research Institute at Harbor-UCLA Medical Center and the Los Angeles Area Chamber of Commerce. The Association of American Medical Colleges reports that the member medical schools and teaching hospitals in the state had a combined economic impact of \$41.6 billion (ranked 3rd in the country) and a total employment impact of 238,000 in 2008. California's Proposition 71 authorized \$3 billion to support stem cell research and is expected to save between \$6.4 and \$12.6 billion in health care costs.

Each dollar of spending by the California State University (CSU) system generates another \$2.13 to the economy. The CSU system supports 150,000 jobs annually and pays over \$995 million in taxes to California.

Each dollar produced in the life sciences sector in San Diego generates \$1.10 beyond it through indirect and induced impacts. The life sciences industry in San Diego supports 55,600 jobs and has an economic impact of \$5.8 billion dollars (accessing report requires registration).

Within the University of California system, every dollar of state-funded research in 2000-2001 led to an additional \$3.89 through federal and private funding. Overall UC expenditures had an economic impact between \$14 and \$17 billion and supported 370,000 California jobs.

In 2005-2006, the UC Berkeley had a total economic impact of more than \$1.5 billion in the Bay Area and supported more than 31,000 area jobs. In addition, UC Berkeley spent \$469 million on research and reported 128 inventions.

UC Davis reports that every dollar the state invests in the university returns \$5 to the state. UC Davis generated 45,000 jobs for California and contributed \$2.7 billion to the state economy in 2001-2002.

UC Irvine has an annual economic impact of \$3.6 billion in Orange County and employs more than 17,000 people.

Every taxpayer dollar invested in the University of California, Los Angeles generates nearly \$15 in economic impact in the region. UCLA has a \$9.3 billion impact on the area and supports 70,000 jobs.

The University of California, San Diego had a national economic impact of \$5.1 billion and generated 319,000 jobs nationwide.

The University of California, San Francisco generates more than 23,000 jobs and reported \$1.8 billion in sales in 2003.

B. Maryland

Governor Martin O'Malley, joined by scientists and researchers at the Johns Hopkins Institute for Cell Engineering, today unveiled a new vision for the bioscience industry in Maryland. Under the BIO 2020 Initiative, the State of Maryland will invest \$1.3 billion in Maryland's bioscience industry over the next 10 years – the largest per capita investment in the biosciences made by any state in the country – to attract and grow biotechnology companies in Maryland. Recognizing potential for the region's growth in the emerging bioscience industry, the GBC has emerged as a leading organization, supporting the development of two bioscience parks. The University of Maryland Baltimore's BioPark on Baltimore's west side and the Science + Technology Park Johns Hopkins, coupled with an 80-acre neighborhood revitalization on Baltimore's east side are projected to generate up to 10,000 new jobs. Through communications and outreach, the GBC also works to educate business, community and political leaders about the regional economic growth potential in the life science industry.

C. Washington

The State of Washington has earmarked a portion of its tobacco settlement dollars to fund bioscience R&D through the \$350 million Life Sciences Discovery Fund (SB 5581), and in 2006 began allocating \$35 million annually to research projects with economic development potential, including recruitment and facility enhancements. The state projects to leverage \$1 billion in additional external research funding over its 10-year lifetime and create 20,000 jobs with about 15 years. The fund adopts a broad definition of the life sciences, encompassing biotech, pharmaceuticals, biomedical technologies, life system technologies, nutraceuticals, and food processing, environmental and biomedical devices. It is governed by an 11-member board of trustees that evaluates grants for their potential health-care impact, future employment impact, and geographic diversity. A 2-1 match from external sources is required.

D. Georgia

The Georgia Research Alliance Eminent Scholars Program was created by business and university leadership to attract the world's pre-eminent scientists to Georgia's universities to lead programs of research and development in areas with the most potential for generating new high-value companies, helping established companies grow and creating new high-wage jobs. With the financial backing of the state legislature in 2010, the state's research universities, private foundations and other supporters, the Eminent Scholars Program is marshalling the required talent and resources and driving an effective strategy for achieving these results. To date, the Alliance has invested some \$400 million, which has helped to attract more than 50 Eminent Scholars, leverage an additional \$2 billion in federal and private funding, create more than 5,000 new technology jobs, generate some 120 new technology companies, and allow established Georgia companies to expand into new markets.

E. Ohio

The Biosciences industry directly supports over 62,000 jobs in Ohio. Ohio's bioscience employees' average salary is more than \$68,000. The overall average salary for Ohio workers is about \$41,000. The biosciences industry paid employees from 1,800 + locations in Ohio more than \$4.2 billion dollars in 2009.1 \$796 million in NIH-funding supports more than 13,000 in-state jobs.

F. Colorado

The Bioscience Discovery Evaluation Grant Program (BDEGP) was created in 2006 by the Colorado General Assembly to grow the bioscience industry in the state. The BDEGP provides gap funding to advance promising research from Colorado's outstanding research institutions into the market place. The bioscience industry in Colorado is strengthened by such efforts, resulting in long-term job creation and company formation.

The State leverages this investment in the industry by requiring a one-to-one match for both Proof of Concept and Early-Stage Company grants. The economic benefit is realized near-term in the strengthening of our research institutions, the jobs required to fulfill the grant work, and the products and services purchased to complete grant work. Longer-run payouts come in the form of additional capital investment into the technologies and companies, the creation of new companies, and growing businesses adding high quality jobs. Approximately \$22.1 million from the BDEGP Cash Fund has been granted and will garner at least an equal amount in matching funds (excluding Commercialization Infrastructure grants). Of 184 grants made or approved under the program by the end of 2011, 96 have completed work while the others are in process. To date, the program successes include the creation of 34 new Colorado companies and the direct creation of 302 jobs. Additionally, these funds have helped the technologies acquire an additional \$95 million dollars in grants and investments to further commercialize these bioscience technologies.

G. Florida

United for Medical Research's 2011 study, An Economic Engine shows that in 2010, NIH invested \$509,000,000 in Florida, producing 13,741 new jobs. The Association of American Medical Colleges reports that the member medical schools and teaching hospitals in the state had a combined economic impact of \$19.4 billion (ranked 9th in the country) and a total employment impact of 147,000 in 2009. Florida's Jackson Laboratory Institute for Personalized Medicine attracts \$60,000,000 million annually in NIH grants for their research in genetic therapy. In 2005-2006, the University of Florida had an economic impact on the state of \$5.85 billion and supported 74,900 jobs. The University of South Florida has an economic impact of \$3.2 billion on the Tampa Bay area. In 2001, the State of Florida's investments in University Research Centers generated nearly 7,000 jobs. The return on investment of state funding of research was 217%. The Scripps Florida Biotech Research Institute is expected to support nearly 6,500 jobs and contribute \$3.2 billion to the Gross State Product during its first 15 years.



UConn Technology Park



Collaborating. Innovating. Accelerating.

University of Connecticut



State of US Manufacturing

- US Manufacturing Jobs in 1993: **17M**
- US Share of Printed CB in 1998: **29%**
- US Share of PV Market in 1999: **30%**
- US Share of Vehicles in 1999: **14.5%**
- US Manufacturing Jobs in 2009: **12M** ↓
- US Share of Printed CB in 2009: **8%** ↓
- US Share of PV Market in 2008: **6%** ↓
- US Share of Vehicles in 2008: **7.5%** ↓

University of Connecticut

2





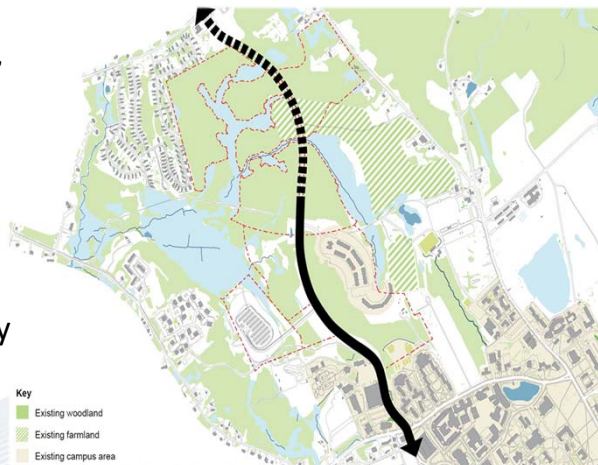
Industry Demand for Innovation

- More than 8,000 Companies in region involved in:
 - Advanced Manufacturing
 - Sustainable Energy & Environment
 - Bioscience & Biotechnology
 - Chemicals & Pharmaceuticals
 - Electrical & Electronics Equipment
 - Data Intensive Applications
- Core Competencies & New Tech to maintain competitive advantage



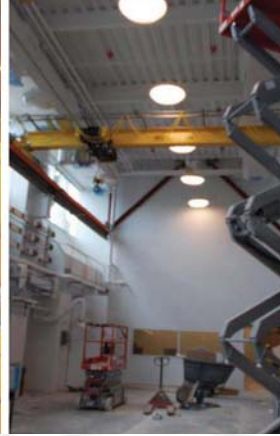
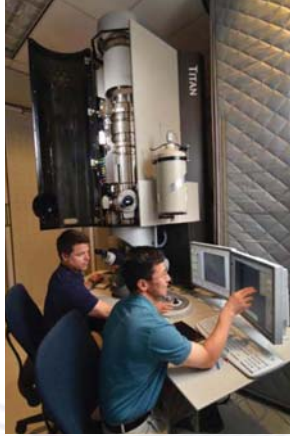
UConn Tech Park Overview

- Provide intellectual, physical and cyber assets for industry partnerships
- Hub for Innovation
 - \$132M R&D Facility
 - Incubators
 - \$40M in Advanced Equipment





UConn Tech Park



Advanced Materials

- \$7.5M GE Partnership
 - \$1.5M Professorships
 - \$2.7M Graduate Fellowships
 - \$3.3M Research Grants/Equipment
- Advanced Manuf. & Materials
 - Composite Molding
 - Materials by Design
- Magnetics, Arc Interruption & Thermal Performance
 - Materials Joining Process
 - Advanced Modeling





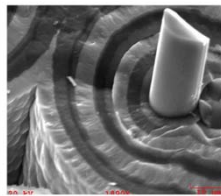
Advanced Manufacturing

- \$7.5M Pratt & Whitney investment
 - 2 ARCAM Electron Beam Melting Machines
 - EOS Laser Sintering Machine
 - CAD to metal production parts
- Collaborations with small to medium companies for new frontier in manufacturing



Energy & Environment

- \$7M Fraunhofer-DEEP-UConn Partnership
 - Energy storage, super-capacitors & batteries
 - Fuel cells, microgrid, combined heat & power
- \$2M Northeast Utilities Center
 - Storm damage prediction & recovery
 - Grid hardening





Electronics Security

- Develop secure and trustworthy CAD tools to insert security mechanisms into ICs
- Novel hardware and software platforms for evaluation of security and trust



United Technologies

Honeywell



Raytheon



ORACLE



Comcast



LOCKHEED MARTIN

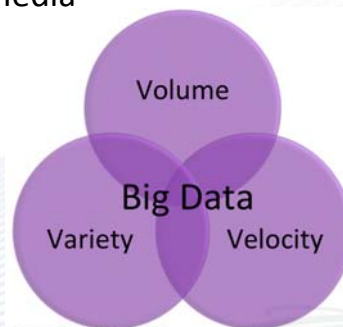
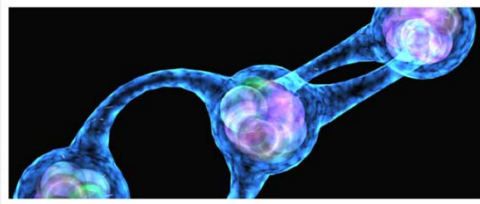
NORTHROP GRUMMAN

University of Connecticut



Big Data

- CIGNA Mobile Computing, Data Fusion and Analytics Partnership
- Big Data, Deep Analytics & Digital Media
 - High Performance Computing
 - Scientific Visualization
 - Business Informatics
 - Data Fusion



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University of Connecticut

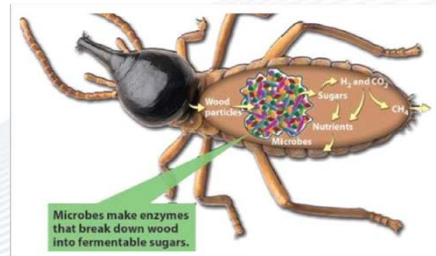
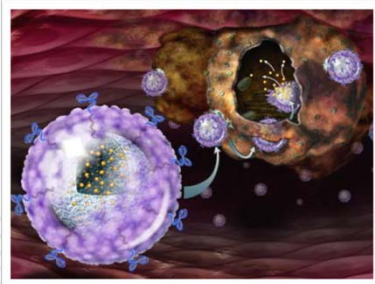
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Systems Genomics

- \$9.3M NIH & \$2M NSF Projects
 - Human, Animal & Environmental Genomics
 - Computational Biology, Pharmaceutical Chemistry & Drug Discovery



Microbes make enzymes that break down wood into fermentable sugars.



UConn Tech Park Update

- Master plan framework for development & conservation of parcel completed
- State environmental impact evaluation for new water supply underway-anticipated completion summer 2013
- North Hillside Road design plans & permit applications submitted to DOT and DEEP-approvals anticipated April 2013
- North Hillside Road construction-anticipated to start July 2013 & be completed late 2014
- Architect (SOM) and construction manager at risk (Skanska) under contract
- Construction anticipated to begin in late 2014





UCONN fact sheet 2013

Campus Information

Founded 1881

Main Campus: Storrs

5 Regional Campuses:

Avery Point, Greater Hartford, Stamford, Torrington, Waterbury

School of Law and Graduate Business Learning Center: Hartford

School of Social Work: Greater Hartford Campus

Health Center: Farmington

(Schools of Medicine & Dental Medicine, graduate programs, medical & dental clinics & John Dempsey Hospital)

Land Grant & Sea Grant college, Space Grant consortium institution

Storrs & Regionals = 4,067 acres; Health Center = 205 acres

UCONN 2000

As of October 2012:

- 108 projects totaling \$2.1 billion in bonds have been authorized
- \$2.0 billion in construction-related contracts issued from all fund sources
 - 64% of funds to Connecticut contractors
 - 19% of funds to set-aside contractors
- In excess of 10 million square feet of new and renovated space completed
- Bond Credit Ratings by Fitch, Moody's and Standard & Poor's remain consistently strong

Academic Programs & Degrees

14 Schools & Colleges

Agriculture & Natural Resources, Business, Dental Medicine, Neag Education, Engineering, Fine Arts, Graduate, Law, Liberal Arts & Sciences, Medicine, Nursing, Pharmacy, Ratcliffe Hicks, Social Work

8 undergraduate degrees: 102 majors

17 graduate degrees: 88 research and professional practice fields of study

5 professional degree programs (J.D., LL.M., M.D., D.M.D., Pharm.D.)

Degrees 2011-12 7,770

| | |
|-------------------------------------------|--------------|
| Bachelor's | 5,149 |
| Master's | 1,573 |
| Doctorates | 341 |
| Law (J.D., LL.M.) | 234 |
| Pharm.D. | 94 |
| Medicine | 87 |
| Dental Medicine | 47 |
| Graduate/Professional Certificates | 141 |
| 6 Yr. Education | 79 |
| 2 Yr. Agriculture | 25 |

Degrees by: Female 53%

Minority 19%

Total Fall 2012 Student Enrollment: 30,256

| | |
|---------------|---------------------------------------------------|
| 17,528 | Undergraduate at Main Campus |
| 4,773 | Undergraduate at Regional Campuses |
| 22,301 | Subtotal Undergraduate |
| 6,613 | Graduate (M.A./Ph.D., incl. 321 at Health Center) |
| 623 | Law |
| 191 | Pharm.D. |
| 359 | Medicine |
| 169 | Dental Medicine |
| 7,955 | Subtotal Graduate/Professional |

Fall 2012 Entering Freshmen at Main Campus: 3,114

- 48% were in top 10% of high school class
- 84% were in top 25% of high school class
- 63 valedictorians and 63 salutatorians
- 213% more minority freshmen than in Fall '95
- Since 1995: 1,538 valedictorians and salutatorians enrolled at all campuses

Student Characteristics Fall 2012

| | Undergraduate 22,301 | Grad/Professional 7,955 |
|------------------------------------------|-------------------------|----------------------------|
| Female | 50% | 51% |
| Minority | 26% | 17% |
| International¹ | 3% | 18% |
| Connecticut Residents² | 81% | 70% |

¹ 98 countries were represented in the Fall 2012 international student population.

² 76% of undergraduates on Main Campus are Connecticut residents.

All 169 Connecticut towns and 46 of 50 states are represented in the Fall 2012 total undergraduate student population.

SAT Scores and Retention & Graduation Rates

| 2012 SAT Scores (Critical Reading and Math) | National High School | Connecticut High School | Storrs Entering Freshmen |
|------------------------------------------------|-------------------------|----------------------------|-----------------------------|
| | 1010 | 1018 | 1226 |

| Main Campus | All | Minority |
|----------------------------|------------|------------|
| Freshmen Retention: | | |
| 1-Year Rate | 93% | 91% |
| Graduation: | | |
| 4-Year Rate | 67% | 59% |
| 6-Year Rate | 82% | 77% |

UConn (Main Campus) ranks 12 out of 58 public research universities in graduation rate for all freshmen and 21 out of 58 public research universities for minority freshmen. (Sources: *U.S. News 2013 America's Best Colleges & 2011 IPEDS Graduation Rate Survey*) UConn (Main Campus) average time to graduate is 4.2 years among those who graduate within 6 years, and ranks 4 out of 58 public research universities.

Total Undergraduate Student Cost 2012-13

| | In-State | Out-of-State |
|----------------------------------------------------------------|-----------------|-----------------|
| Tuition, Fees, Room¹ & Board² | \$22,502 | \$40,334 |
| Tuition & Mandatory Fees | 11,362 | 29,194 |
| Tuition Only | 8,712 | 26,544 |

¹ 72% of Main Campus undergraduates live in campus housing (117 residential halls).

² Board rate shown reflects most popular plan available.

Student Financial Aid FY 2012

Financial Aid Support: \$406.5 million

| | Main Campus/ Regional ¹ | Health Center |
|----------------------------------|---------------------------------------|----------------------|
| Scholarships & Grants | \$137.9 million | \$5.3 million |
| Loans | 177.1 million | 16.1 million |
| Student Employment | 21.3 million | |
| Tuition Waivers | 48.8 million | |

¹ 40.1% of all tuition dollars are dedicated to financial aid. Approximately 21,000 students received financial aid packages in FY 2012.

Total Current Funds Budget FY 2013: \$1.9 billion

STORRS & REGIONAL CAMPUSES

| Revenue | In Millions |
|----------------------------------------------|------------------|
| State Appropriation | \$205.6 |
| Fringe Benefits | 86.9 |
| Student Tuition & Fees | 533.0 |
| Gifts, Grants & Contracts | 176.1 |
| Sales/Services - Auxiliary Enterprises | 34.0 |
| Sales/Services - Educational | 17.5 |
| Investment Income | 0.8 |
| <i>Total</i> | <u>\$1,053.9</u> |
| Expenditures | |
| Academic Services | \$434.8 |
| Research Services | 78.1 |
| Student Services | 383.6 |
| Operating, Support & Physical Plant Services | 158.4 |
| <i>Total</i> | <u>\$1,054.9</u> |

HEALTH CENTER

| Revenue | In Millions |
|----------------------------------------------|----------------|
| State Appropriation | \$112.7 |
| Fringe Benefits | 48.0 |
| Tuition & Fees | 18.5 |
| Gifts, Grants & Contracts | 84.9 |
| Interns & Residents | 55.2 |
| Net Patient Care | 365.2 |
| Correctional Managed Care | 85.6 |
| All other revenues | 41.3 |
| <i>Total</i> | <u>\$811.4</u> |
| Expenditures | |
| Hospital & Health Services | \$428.6 |
| Academic Services | 168.4 |
| Research Services | 94.6 |
| Operating, Support & Physical Plant Services | 119.8 |
| <i>Total</i> | <u>\$811.4</u> |

[†]The net loss is due to a planned use of fund balance.

Private Giving FY 2012

- Total Endowment: At the close of FY 12, the University's endowment, which stood at \$42 million at the start of 1995, was valued at approximately \$329 million.
- In FY 12, private fundraising receipts totaled \$60 million: \$27.4 million for Storrs and the regional campuses, \$10.9 million for the Health Center, and \$21.8 million for Athletics.
- Alumni contributed \$21 million in FY 12. Additional commitments included \$19 million from parents and other individuals, and \$20 million from corporations, private foundations and other organizations.

Staff Characteristics (Fall 2012)

Number of Full-time & Part-time Faculty & Staff: 9,872

| | Main Campus/ Regional | Health Center |
|----------------------------------------|--------------------------|---------------|
| Full-time & Part-time Faculty & Staff | 4,624 | 5,248 |
| Full-time Faculty & Staff | 4,405 (95%) | 4,002 (76%) |
| Part-time Faculty & Staff [†] | 219 (5%) | 1,246 (24%) |
| Full-time Faculty | 1,377 | 505 |
| Tenured & Tenure Track | 1,061 (77%) | 190 (38%) |
| Non-Tenure Track | 316 (23%) | 315 (62%) |
| Full-time Staff | 3,028 | 3,497 |
| Full-time & Part-time Faculty | | |
| Female | 40% | 39% |
| Minority | 22% | 28% |
| Full-time & Part-time Staff | | |
| Female | 58% | 77% |
| Minority | 17% | 24% |

[†]An additional 686 adjunct lecturers teach one or more courses at Storrs and Regional Campuses.

Staff Covered by Collective Bargaining Agreements:

| | |
|---------------------------------|-----|
| Main Campus & Regional Campuses | 90% |
| Health Center | 80% |

Research, Training & Public Service

FY 12 external funding, sponsored activities: \$207.4 million (excluding financial aid):

| | |
|---------------------------|-----------------------|
| Main & Regional Campuses: | \$122.5 million (59%) |
| Health Center: | \$ 84.9 million (41%) |

Total by Funding Source

Federal: 73% State: 11% Private/Other: 16%

Sponsored Activities at Main & Regional Campuses

| | |
|---------------------------------|-------|
| Research | 80.9% |
| Education and Training Programs | 1.7% |
| Public Service | 17.4% |

Sponsored Activities at the Health Center

| | |
|---------------------------------|-------|
| Research | 93.0% |
| Industry Support | 1.2% |
| Education and Training Programs | 3.6% |
| Other | 2.2% |

UConn Alumni

- More than 217,000 total alumni worldwide
- More than 121,000 alumni live in Connecticut