



**Finance, Revenue and Bonding Committee
General Bonding Subcommittee**

March 17, 2016

Testimony

By

Mun Choi

Provost and Executive Vice President, University of Connecticut

And

Andrew Agwunobi

CEO UConn Health and Executive Vice President for Health Affairs

Co-Chairs, Ranking Members, and Members of the Committee, thank you for giving us the opportunity to update you on the transformative building initiatives that you have made possible at the University of Connecticut. My name is Mun Choi and I am the Provost at the University.

With me today is Scott Jordan, CFO, UConn and Andrew Agwunobi, CEO of UConn Health and Executive Vice President for Health Affairs.

I will begin by providing a capital program overview, an update on Next Generation Connecticut and the Tech Park and then turn it over to my colleagues at UConn Health.

The UCONN 2000 Infrastructure Improvement Program is designed to modernize, rehabilitate and expand the physical plant of the University, including UConn Health. The legislation provides for a twenty-nine year capital budget program in three phases, estimated to cost \$4.3 billion. The first two phases totaling \$962 million are complete and have been fully bonded and expended. The third phase of the program totaling \$3.3 billion includes the Next Generation Connecticut and Bioscience Connecticut initiatives. To date, \$1.2 billion of Phase III has already been expended. The remainder of the program is well underway with over \$850 million of projects in construction and almost \$1.2 billion of projects in planning or design.

In 2013, the General Assembly enacted Next Generation Connecticut. The goals are to hire and support outstanding faculty, train graduates to meet the future workforce needs of Connecticut, develop preeminence in our research and innovation programs, and initiate industry partnerships that lead to economic development. The cornerstone of this effort is the development of new facilities and renovation of critical infrastructure. Next Generation Connecticut will also support the historic move of the Greater Hartford campus to downtown Hartford and expansion of critical programs at the Stamford campus.

We completed a bold Academic Plan – **UConn’s Path to Excellence** – and the **Campus Master Plan** to guide Next Generation Connecticut investments for the next 10 years.

We've already realized important gains through the strategic investments. Since fall 2012, we've funded 94 new faculty and enrolled 1,298 additional undergraduate students at the Storrs campus (with 867 in engineering). Our faculty also made dramatic increases in research productivity. For example:

- research awards increased from \$79M in 2012 to \$121M in 2015 (a 53% increase)
- research proposals increased from \$511M in 2012 to \$795M in 2015 (a 36% increase)

Next Generation Connecticut Capital Program Overview

Major investment has been necessary to support new and renovated laboratories for STEM research and teaching, classrooms, academic support, residence halls, parking, utilities, information technology, equipment and critical infrastructure upgrades.

To foster and enable faculty collaborations across diverse disciplines in STEM, shared equipment has been purchased, such as the functional magnetic resonance imaging system (fMRI), additive manufacturing equipment and materials characterization instruments. In addition, startup resources have been used to recruit and retain outstanding faculty. Startup equipment may include advanced lasers, sensors, cell culture facilities, atomic force microscopes, polymer extruders, metals processing equipment, etc. Faculty also use these instruments to successfully compete for major research grants in emerging areas of manufacturing, materials, energy, biomedical technologies, information science and systems genomics.

This fall, a new residence hall will open, which will accommodate students in exciting living-and-learning communities including Innovation House, Women in Math, Science & Engineering, Eco-House among others.

The planned expansions will also require infrastructure upgrades, such as steam line replacement, sewer system upgrades, a supplemental water supply, and various other underground utility improvements.

Status of Current Facility Projects

The University has already begun to move forward on several projects to meet the needs of our expanded enrollment and new faculty. These projects include a new Engineering & Science Building, Next Generation Residence Hall, the Hartford Campus relocation to the renovated and expanded Hartford Times building, and the Stamford Campus housing initiative.

Engineering and Science Building

The School of Engineering is housed in several buildings throughout the campus. The three oldest and least modern buildings on the main campus were built between 1959 and 1987 and cannot support emerging interdisciplinary programs. A planning study identified program components for a new Engineering & Science building that will include a state-of-the-art laboratory for research in Bio-Nano Engineering, Cyber-Physical System Engineering, Advanced Manufacturing and other trans-disciplinary programs that will catalyze innovation. Construction on this five-story \$95 million facility began in June 2015 and completion is scheduled for summer 2017.

Next Generation Residence Hall

A new residence hall and the renovation of a shared dining hall are currently in construction. The Next Generation Residence Hall (NGRH) will house approximately 725 students who will be participating in one of eight Living & Learning Communities. The 212,000 square foot housing complex is expected to be completed by August 2016. A renovation of the Putnam Refectory dining facility is underway as well with construction to be completed at the same time. This renovation will improve and increase the seating capacity and self-service buffet areas and will accommodate students in the adjacent NGRH.

Hartford Campus Relocation

Relocating the Greater Hartford Campus to downtown Hartford will provide unparalleled educational, service learning and internship opportunities for undergraduate and graduate students. The new campus will also bring together the professional programs in the School of Business, School of Social Work and the Department of

Public Policy to serve industries and governmental agencies in Hartford. The downtown Hartford location will increase transfer access for community college students. UConn Hartford will become a neighborhood campus with one central iconic structure, supplemented by classrooms and support spaces located in surrounding institutions that include the Athenaeum, Hartford Public Library and the Amos Bull House. Existing parking facilities will be utilized and the streets of Hartford will be enlivened as students, faculty and staff walk to their destinations. The current target date for completion is fall 2017.

Future Projects in Various Stages of the Planning / Design Process:

Academic and Research Facilities

Expansion of research space is necessary to enable the University to recruit outstanding faculty and develop emerging interdisciplinary research collaborations. We are currently in the final phase of the planning process for a new STEM research facility with construction scheduled to begin in 2017.

The Gant Building complex, which includes the Institute of Materials Science as well as the Physics and Math departments, was built more than 50 years ago. The Gant complex has a total of 238,000 gross square feet of space with offices, research labs, classrooms and computer facilities. A major renovation of this space is required to address the physical deterioration and to update the research and teaching facilities to meet modern program requirements. We are currently in the schematic phase of the design process for the Gant renovation and are expected to begin construction in 2016.

The Henry Ruthven Monteith Building has 73,000 GSF, 4 floors and was constructed in the 1950s. The \$25 million building renovation includes new partitions and finishes in the Andre Schenker Lecture Hall, classrooms, and faculty offices, as well as new mechanical systems, infrastructure upgrades and exterior envelope repairs. The completion of the work, scheduled for July 2016, will allow the Math Department to move from Gant, enabling the start of the Gant renovation.

Infrastructure Improvements

The University completed an expansion to the existing heating plant when the Cogeneration system was completed in 2006. The University will need additional chilled water, emergency power for life safety as well as emergency power to accommodate the new growth in faculty, students, research and teaching. Planning has begun to model the need for a Supplemental Utility Plant to serve new facilities in the north end of the campus.

A new Main Accumulation Area facility for short-term storage of regulated biological, chemical and radiological wastes from academic labs is in the construction phase with anticipated completion in spring 2017. Future infrastructure projects include steam distribution lines in the central campus, an electrical substation and capacity improvements.

UConn Tech Park

In collaboration with industry partners and entrepreneurs, UConn is developing a Technology Park at the Storrs campus. As a result of PA 11-57 & 14-98, \$169.5 million of funds have been authorized and allocated by the Bond Commission. The Innovation Partnership Building (IPB) construction began in June 2015. This 115,000 square foot building will comprise flexible-use laboratories that will serve key industry partnership with an emphasis on engineering and materials science. When completed in fall 2017, the IPB will be the most innovative research facility for materials science, systems engineering, cyber-security and manufacturing in Connecticut. Its advanced materials characterization laboratories, fitted with a suite of state-of-the-art electron microscopes, will be truly world-class. The IPB will feature highly specialized equipment to support collaborative R&D activities with industry partners that will lead to significant economic and workforce development.

The Tech Park will enhance Connecticut's global competitiveness and will become a critical component of the State's future economic growth by attracting and retaining world-class industry partners to develop their new technologies in collaboration with the University of Connecticut.

School of Engineering and Institute of Materials Science faculty have already developed innovative partnerships with leading manufacturing, energy, cyber-security and materials companies that include:

- \$25M UConn-FEI Center for Advanced Microscopy & Materials Analysis
- \$9M Eversource Energy Center
- \$7.5M GE Advanced Technology Initiative
- \$7.2M Fraunhofer Center for Energy Innovation
- \$10M UTC Institute for Advanced Systems Engineering
- \$7.5M Additive Manufacturing & Innovation Center
- \$7.5M Flexible Hybrid Electronics Manufacturing Innovation Institute
- \$6M Comcast Center for Security Innovation
- \$3.2M Partnership in Cybersecurity that will soon be announced
- \$2M EDAX Partnership for Advanced Electron Microscopy Cameras & Detectors

Since 2010, which is the year prior to the announcement of the UConn Tech Park program, the School of Engineering has enjoyed significant increases in its research programs. For example:

- research proposals increased from \$158.8M in 2010 to \$242.3M in 2015 (a 53% increase)
- research awards increased from \$25.3M in 2010 to \$44.8M in 2015 (a 77% increase)
- research awards increased from \$24.5M in 2010 to \$30.5M in 2015 (a 25% increase)

UConn is well underway in the process of building new relationships that include:

- direct research contracts from industry
- joint development of products and processes
- joint proposals to federal agencies
- training of students through internships, senior design projects and co-operative education with companies will be a key priority

Conclusion

In conclusion, we are meeting key goals that we've established for Next Generation Connecticut and the Tech Park. We are very excited about the growth in enrollment, hiring of outstanding faculty who are nationally-competitive, growth in funded research and development, and key partnerships with world-class industry partners.

Thank you for your strong support of the University of Connecticut. I would now like to ask Andy Agwunobi to provide you with an update on Bioscience Connecticut.

UConn Health

I am Andy Agwunobi, CEO of UConn Health and Executive Vice President for Health Affairs.

On behalf of our employees and students, we thank you for your continued support of UConn Health and for the leadership you have shown by investing in us so that UConn can become a national bioscience leader and a premier academic medical center, able to provide exceptional and innovative education, breakthroughs in research and first-rate clinical care. Because of your support, there is a transformation underway on our campus. These changes have already begun to – and will continue to – contribute in real and positive ways toward creating jobs in our State, developing the State's future workforce, spurring bioscience innovation, and improving the healthcare needs of Connecticut's citizens.

As many of you know, UConn Health is the State of Connecticut's only public academic medical center. Our aim is to be a nationally recognized academic medical center that improves the health of Connecticut's citizens through the innovative integration of education, research, and clinical care.

Bioscience Connecticut Capital Program Overview

By way of background, in 2011, the General Assembly enacted the Bioscience Connecticut initiative, an important component of the Governor's and the State's plan to jumpstart Connecticut's economy by creating construction-related jobs immediately and generating long term sustainable economic growth in the State based on bioscience research, innovation, entrepreneurship and commercialization. The initiative sought to ensure Connecticut's position as a national and global leader in bioscience. As a catalyst for that growth, the state committed to making strategic investments in UConn Health.

Today, we would like to briefly review with you the progress we have made on the Bioscience Connecticut capital projects that have been supported by State bond funds. For those of you who have not been to Farmington recently, I encourage you to visit; we would be delighted to show you around to enable you to get an up-close view of the incredible transformation taking place on campus, and what we have accomplished over the past four years. It is really quite extraordinary.

I am pleased to report that our Bioscience Connecticut facilities and infrastructure projects are within budget and on schedule. The capital program is 75% complete with the remainder ending in 2018, just two years away. Through January 2016, over 5,000 construction related jobs have been created, and 82% of construction contracts have been awarded to Connecticut companies, with a value of more than \$340 million. We have far exceeded the State's set-aside goals for contracts awarded to minority-, women- and disadvantaged-owned businesses – thus far awarding approximately 23% of our contracts to companies with these certifications (the State's goal is 6.25%).

New Patient Care Tower

We are only about 6 weeks away from opening our new hospital tower at UConn Health. This new patient care building will allow UConn Health to offer 169 private patient rooms, an expanded emergency department, and modernized operating room suites, greatly improving the patient experience. Construction of this 381,000 sq. ft. building is 95% complete. The hospital design will allow more efficient delivery of outstanding care and includes advanced technologies for communication and information sharing between clinical team members.

The new hospital tower is designed for patient convenience, and will receive at least LEED silver certification for energy efficiency.

Research Laboratory Renovations

We continue to make significant progress in the renovations to our research facilities. The main building Lab Renovations are comprised of two multi-phase projects. These projects will renovate approximately 200,000 sq. ft. of space converting the outdated labs into open, flexible lab space that allows greater collaboration between research departments. The first project is complete and researchers along with their graduate students, postdocs, interns and technicians are working in fully renovated space. The second project is in construction and is on schedule to be completed in 2017.

New Incubator Lab Addition

The Incubator Lab Addition to the Cell and Genome Sciences Building was completed late last year. This project doubled UConn's incubator lab space and is ideal for start-up biotech companies. It offers office and wet lab space in a state-of-the-art, LEED-certified facility. Prior to opening the new addition, occupancy of our existing incubator lab space across the University was at nearly 93 percent. New tenants have been moving into the new space since it opened in January.

Academic Building

The academic mission of UConn Health will be enhanced by the Academic Building Addition and renovations to existing academic spaces. Construction for the addition began in April last year and will be completed in late May. The new classrooms will support the modernizing of our curriculum in which medical and dental students will participate in expanded interdisciplinary and small-group problem solving experiences. The design also

allows us to incorporate advanced technology into the teaching environment, such as simulation and interactive teleconferencing.

Clinical Care Renovations

The clinical area renovations will modernize the Dental School teaching clinics and expand the Pat and Jim Calhoun Cardiology Center. The design work is complete and the renovations will begin this summer.

Electronic Medical Record (EMR) System

Finally, we are moving forward with implementation of our integrated Electronic Medical Record (EMR) system. As we shared with you last year, our existing systems are disparate and outdated, and will not meet future federal requirements for interoperability or support enhancements that improve patient safety and clinical care. We anticipate that full implementation of this system will cost approximately \$98 million; \$41 million of which will be supported by State bond funds and the remainder supported by reallocated UCONN 2000 Storrs funds and UConn Health operating funds. Specifically, for the \$41 million in State bond funds, \$25 million has been authorized by the Legislature in FY16, and \$16 million in FY17. This past January, the State Bond Commission allocated the \$25 million authorized for FY16.

After a rigorous, open competitive procurement process, we have chosen an EMR vendor. We have established the necessary governance structures, and have engaged both experienced consultants as well as our own physicians, health care professionals and staff, to ensure that this project is fully successful. It is a mammoth undertaking and we will certainly continue to provide you with regular progress reports on its implementation.

Academic Programs

The importance of our transformed campus in recruiting world-class faculty, students and staff to UConn Health and positioning us for success in the era of personalized medicine cannot be overstated. Our success, however, will not be found in the construction of buildings alone; it is what goes on inside those buildings, with the people and resources that will guarantee our success and benefit the state most.

Our entering classes in the Schools are some of the brightest and most diverse in history, and we are proud that underrepresented minorities make up 18.4 percent of the expanded School of Medicine first year class (98 students) and 17 percent of the first years in the School of Dental Medicine (42 students). With operational dollars from the State for Bioscience Connecticut, we have successfully recruited 40 new faculty who continue to ramp up and will be instrumental in helping us grow our clinical services and expand our research portfolio to drive innovation and address the healthcare needs of Connecticut citizens. We have been working diligently with The Jackson Laboratory to jointly hire preeminent researchers; we have already hired two, have one offer out, and a number of candidates are in the interview pipeline. Clinical and research faculty are hired with the expectation that they will bring or receive grant funding or earn clinical revenues to support their salary.

As you see, we have been extraordinarily focused and productive. In addition to the immediate economic advantages to the State, we are even more excited about the economic growth that the Bioscience Connecticut initiative promises for Connecticut's future.

Thank you for allowing us the opportunity to provide this update today.

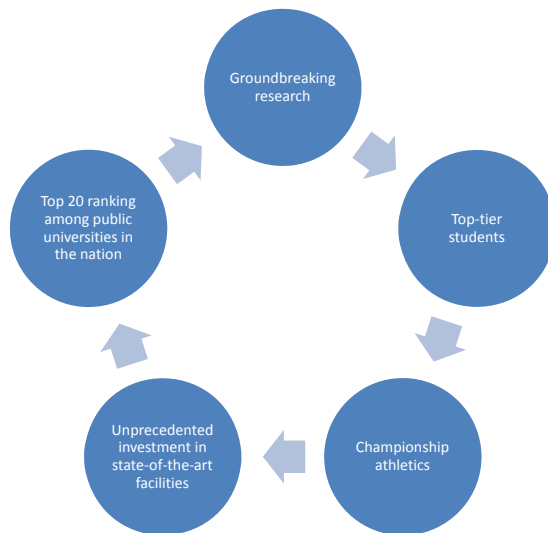
Finance, Revenue & Bonding Subcommittee



UConn

March 17, 2016

UConn Today



Together, we all strive to help propel UConn on its upward trajectory as one of the nation's premier public research universities and the premier provider of health care in Greater Hartford

UConn

Focus on excellence

Measures of a Great University



- Federal research
- Membership in national academies
- Faculty awards
- State/industrial research
- Doctoral degrees
- Post-doctoral fellows
- Undergrad education
- Academic reputation
- Student retention
- Faculty resources
- Student selectivity
- Financial resources
- Graduation rate
- Alumni giving rate
- Ability to attract & retain the best faculty & students
- Extensive resources to pursue teaching & research
- Freedom to pursue critical thinking, innovation & creativity

UConn 2000 Program

- Program Structure:
 - Project list in law
 - Annual bond caps
 - Authority delegated to Board of Trustees
 - University administers program
 - Semi-annual reports to Governor & General Assembly (Book 41)
 - Annual audit
- Board of Trustee Process:
 - Approval of capital plan
 - Approval of annual project list & supplemental indenture
 - Submit list to Governor
 - List triggers expenditure plan
 - Projects >\$500k approved at Planning, Design, Final stages
 - Program & planning adjustments via phasing schedule & indenture changes are ongoing

UCONN 2000 Capital Program

- 29 year program: \$4.3B State debt service commitment bonds
 - Phase I: \$382M (FY 1996-1999)
 - Phase II: \$580M (FY 2000-2005)
 - Phase III: \$3.3B (FY 2005-2024):
 - Storrs: NextGenCT=\$2.0B and \$0.5B Other
 - UCH: Bioscience CT=\$0.6B and \$0.2B Other
- \$189.2M in special obligation bonds authorized to date to be repaid by the University for 9 projects

UCONN 2000 Bond Fund Status

- Phases I & II - \$962M authorized & allocated, bonds fully issued & expended
- Phase III - \$1.7B (Storrs=\$1.0B, UCH=\$0.7B) authorized & allocated to date; \$1.2B of bonds issued & fully expended
- Phase III authorizations for FY17-FY24 not yet allocated of \$1.6B (Storrs=\$1.5B, UCH=\$0.1B)
 - Due to the phasing of funds over multiple years, most projects pending allocations in future years are already under construction or in planning/design
 - UCH funding ends in FY18

UCONN 2000 Phase III Cashflow Needs by Fiscal Year (\$M)

	FY05 - FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	Total Phase III
UConn	\$1,036.6	\$237.0	\$258.8	\$229.0	\$236.7	\$186.0	\$156.8	\$107.1	\$95.0	\$2,543.0
UCH	707.4	67.9	2.6							777.9
Total *	\$1,744.0	\$304.9	\$261.4	\$229.0	\$236.7	\$186.0	\$156.8	\$107.1	\$95.0	\$3,320.9
Authorization Per Statute	1,744.0	266.4	269.5	251.0	269.0	191.5	144.0	112.0	73.5	3,320.9
Difference		(38.5)	8.1	22.0	32.3	5.5	(12.8)	4.9	(21.5)	

*For FY17-FY24, reflects projected cashflow needs for all UCONN 2000 bond funded projects. While the entire program is in balance, the University may need to utilize operating funds to cover annual cashflow shortfalls.

UCONN 2000 Phase III Status

FY05-FY24 Summary (\$M)	Expended	Under Construction*	Planning & Design	Total
Academic & Research Facilities	\$241	\$111	\$451	\$803
DM/Infrastructure/Renovations	258	253	484	995
Residential Life Facilities	92	69	19	180
Parking			69	69
Equipment	97	55	100	252
Electronic Medical Record System (funding provided to UCH)			48	48
Regional Campuses	61	125	10	196
Total Storrs & Regional Campuses	\$749	\$613	\$1,181	\$2,543
Deferred Maintenance/Renovations	\$103	\$25	\$3	\$131
Equipment	44	9	4	57
Bioscience CT	377	213		590
Total UConn Health (ends in FY18)	\$524	\$247	\$7	\$778
Grand Total	\$1,273	\$860	\$1,188	\$3,321

Next Generation Connecticut Capital Plan: Building Excellence

- **Approximately \$600+ currently in construction**

- Selected projects:

- North Hillside Road (renamed Discovery Drive)
- Young Building Renovation/Addition Envelope Repairs
- North Eagleville Road Infrastructure, Phase II
- Gurleyville Road Pump Station & Sewer Replacement
- Next Generation CT Residence Hall
- Putnam Refectory Renovation
- Hartford Campus Relocation
- Innovation Partnership Building (State Tech Park funding)
- Engineering and Science Building
- Monteith Renovation
- Main Accumulation Area (chemical waste transfer facility)
- Main Water Line Replacement Phase I Completed, Phase II in Construction

Next Generation Connecticut Capital Plan: Building Excellence

- **Selected projects currently in planning**

- Science Facilities Space Planning
- Science 1 Building
- Student Health Services (UConn funded)
- Framework Engineer for Campus Infrastructure
- Infrastructure Projects
 - Northwest Quad – possible supplemental utility plant
 - South Campus
 - Central Campus

Next Generation Connecticut Capital Plan: Building Excellence

- **Selected projects currently in design**
 - Gant Building Renovation
 - Student Recreation Center (UConn funded)
 - Infrastructure Projects
 - North Eagleville Rd Infrastructure, Ph III
 - Central Campus Infrastructure
 - Energy Services Performance Contract (ESCO) – infrastructure and building retro-commissioning improvements (UConn funded)

Next Generation Connecticut

- Initiative will expand critical STEM activities at UConn and drive innovation, enhancing job creation and economic growth, allowing our State and its workforce to flourish
- Return on investment will transform University into a top 20 public research institution which will fuel CT's economy with new technologies, highly-skilled graduates, marketable patents and licenses, and create new companies and high-wage jobs



Next Generation Connecticut Initiative

- \$1.5B capital funds & request for \$137M increase in operating budget by 2024
- Hiring new research and teaching faculty
- Increasing enrollment of undergraduate students at the Storrs and Stamford campuses
- Building research facilities to house materials science, physics, biology, engineering, cognitive science, genomics and related disciplines
- Constructing new teaching laboratories
- Creating a premier STEM Honors program to attract increasing numbers of high achieving undergraduates
- Upgrading aging infrastructure to accommodate new faculty and students
- Expanding degree programs and providing student housing in Stamford
- Relocating Greater Hartford Campus to downtown Hartford
- Better integrating the research activities of the Storrs and regional campuses with the UConn Health campus

Next Generation Connecticut Funding

- Given the State's fiscal challenges, the FY15 and FY16 operating funds appropriated were significantly reduced compared to the plan
- This reduction in funding has impacted our capacity to hire new faculty and will create significant challenges in meeting the enrollment goals of the initiative
 - It also makes the capital funding more critical than ever to ensure faculty have labs/equipment needed to compete for grants & STEM students have great facilities to support research & education

\$M	Original Plan	Actual/Proposed*	Change
FY15	\$17.4	\$7.6	(\$9.8)
FY16	\$33.8	\$9.6	(\$24.2)
FY17	\$54.0	\$19.2	(\$34.8)

*Due to mid-year rescissions in FY15 & FY16, UConn has utilized one-time funds to fulfill the financial commitments of this initiative

Next Generation Connecticut Progress Applications/Enrollment/Degrees

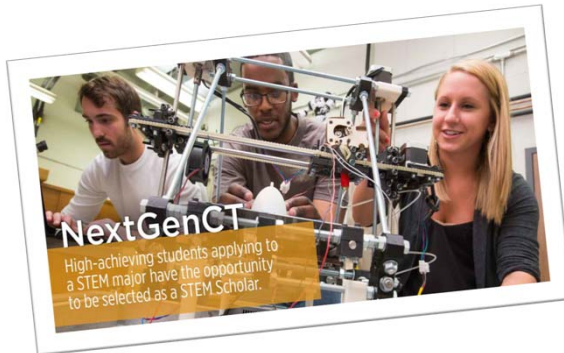
	FY16 Actual	Change from FY13	
Freshmen Applications: STEM (est)	17,540	2,624	+18%
Freshmen Applications: Total (est)	36,000	4,637	+15%
Storrs Undergraduates: STEM	9,760	1,765	+22%
Storrs Undergraduates: Total	18,826	1,298	+7%
Undergraduates: Total	23,407	1,106	+5%
Graduates: Total	6,945	332	+5%
Bachelor's Degrees: STEM (FY15)	2,634	247	+10%
Bachelor's Degrees: Total (FY15)	5,320	198	+4%
Masters & Doctoral Degrees: STEM (FY15)	687	95	+16%
Masters & Doctoral Degrees: Total (FY15)	2,085	218	+12%

UConn

Storrs Engineering Undergraduate Enrollment
increased from 1,995 in FY13 to 2,804 in FY16 or 41%

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Next Generation Connecticut Progress STEM Scholars



- Through research, courses, events and community engagement, STEM Scholars will make discoveries, build relationships with leading experts and peers, and prepare for their future
- STEM Scholar opportunities include: Living Learning Communities, STEM focused seminars/courses/events, special advisors & mentors, and research funding

STEM Scholars receive a renewable scholarship for up to 8 semesters: 154 awards given over last 2 years

*99% retention of first year awardees who have an average GPA of 3.5

UConn

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Next Generation Connecticut Progress Research Proposals/Awards/Expenditures

	FY15 Actual	Change from FY13	
Proposals: STEM (\$M)	\$639	\$178	+39%
Proposals: Total (\$M)	\$695	\$184	+36%
Awards: STEM (\$M)	\$107	\$43	+67%
Awards: Total (\$M)	\$121	\$42	+53%
Average Award Size/Faculty: STEM	\$204,519	\$69,765	+52%
Expenditures: STEM (\$M)	\$83	(\$1)	-1%
Est. Business Activity: STEM (\$M)	\$162	(\$2)	-1%

- The University has hired 94 NextGenCT faculty in FY15 - FY16 with 55 of those hires in the STEM fields
- These faculty have contributed to the increases in research proposals & awards which will positively impact expenditures and business activity in the next few years



UConn

FY16 Success To Date: \$87M in new research awards & \$345M in research proposals submitted

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Next Generation Connecticut & Bioscience Connecticut Progress Research & Innovation

- More than 100 research centers, institutes and programs serve UConn's teaching, research, diversity and outreach missions
- Undergraduate, graduate and faculty research drives business development & enhances quality of life – UConn's research operations make real & vital contributions to the State's economy

Licensing & Commercialization	FY15 Actual	Change from FY13	
Invention Disclosures Received	93	22	+31%
Patent Applications Filed	116	21	+22%
Patents Issued	30	10	+50%
Licenses & Options Executed	10	(9)	-47%
Licensing Revenue (\$M)	\$1.1	\$0.1	+10%
Startup Companies Formed	3	(1)	-25%

UConn

UConn inventions have led to more than 450 US Patents

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Next Generation Connecticut & Bioscience Connecticut Progress Technology Incubation Program

- Incubator facilities in Storrs, Farmington & Avery Point offer technically-based start-up companies a unique range of unparalleled resources
- The current facilities are 98% occupied with 26 companies - although, that number is expected to grow due to the opening of the new facility at UConn Health in 2016 that doubles the space available

Company Patents	FY15 Actual	Change from FY13	
Filed	62	25	+68%
Granted	19	(3)	-14%
In Process	40	21	+111%

Next Generation Connecticut Progress \$81.7M Breakthrough Industry Partnerships

- **\$25M UConn-FEI** Center for Advanced Microscopy & Materials Analysis
- **\$9M Eversource** Energy Center
- **\$7.5M GE** Advanced Technology Initiative
- **\$7.2M Fraunhofer** Center for Energy Innovation
- **\$10M UTC** Institute for Advanced Systems Engineering
- **\$7.5M** Additive Manufacturing & Innovation Center
- **\$7.5M** Flexible Hybrid Electronics Manufacturing Innovation Institute
- **\$6M Comcast** Center for Security Innovation
- **\$2M EDAX** Partnership for Advanced Electron Microscopy Cameras & Detectors



Next Generation Connecticut Capital Plan: Building Excellence

Next Generation Connecticut Hall

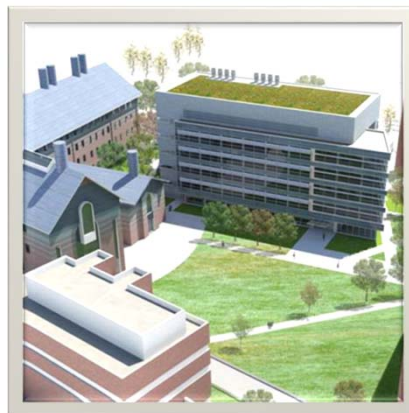
- This new 212,000 square-foot facility will house students participating in one of eight Living & Learning Communities who are developing skills in innovation and creativity to lead their generation
- Construction began in November 2014, with a budget of \$105 million and completion targeted for Fall 2016



Next Generation Connecticut Capital Plan: Building Excellence

Engineering and Science Building

- This 115,000 square-foot high-performance building and laboratory for interdisciplinary research will accommodate anticipated student and faculty growth in such fields as bio-nano engineering and cyber-physical systems engineering
- Construction on the five-story, \$95 million facility began in June 2015, with completion targeted for Summer 2017



Next Generation Connecticut Capital Plan: Building Excellence

Putnam Refectory Renovation

- This 42,000 square-foot dining hall is undergoing \$23 million in renovations to improve and increase its seating capacity and self-service buffet areas, making room for students who will live in the new Next Generation Connecticut Residence Hall nearby
- Construction began in September 2015, with completion targeted for Summer 2016



Next Generation Connecticut Capital Plan: Building Excellence

Infrastructure Repairs/Replacement

- Utility infrastructure is the backbone of campus operations, supporting all buildings, services, and student and faculty needs.
- These systems represent a significant investment over decades of growth, requiring that future development considers carefully the integrity of existing infrastructure before expansion or repairs are made
- UConn has begun planning, design, and construction to improve its utilities, and will continue to do so pragmatically on an annual basis with as little disturbance to campus life as possible



Technology Park Status

- \$169.5M of funds authorized per PA 11-57 & 14-98 for the purpose of the development of a technology park & related buildings including planning, design, construction & improvements, land acquisition, purchase of equipment, on-site and off-site utilities and infrastructure improvements
- 3 projects underway:
 - Innovation Partnership Building
 - North Hillside Road Completion
 - Water Supply Planning

Authorized & Allocated	Allocated but Unexpended	Unexpended but Encumbered
\$169.5M	\$126.5M	\$82.5M

Next Generation Connecticut Capital Plan: Building Excellence

Innovation Partnership Building

- This 115,000 square-foot facility, the first phase of UConn's expansive Technology Park, will house various specialized instruments, enabling UConn researchers to readily partner with industry scientists - in its first decade, those partnerships are expected to include collaborations on technologies such as 3-D printing and cybersecurity
- Construction began in June 2015, with completion targeted for Fall 2017



Electronic Medical Record: Project Budget \$98M

- With the evolution of healthcare reform (electronic medical systems, increasing compliance mandates and the need for access and interoperability of patient data across many healthcare organizations), the movement to more fully integrated healthcare systems has become crucial
- Implementation of an integrated Electronic Medical Record system was approved by the Board of Trustees in December 2015
- Funding sources approved through collaboration between:
 - State of Connecticut \$41M (\$25M approved by Bond Commission in January 2016)
 - University of Connecticut \$48M (UCONN 2000 funds in FY18 & FY19)
 - UConn Health \$9M

Electronic Medical Record: Steps Taken to Date

- Published an RFI in spring/summer 2014
- Used the data received from RFI responses to develop initial options, costs and benefits/risks
- Published RFP in March 2015
- July - October – Rigorous selection process, which included 36 selection team members, vendor demos, site visits and reference calls; expertise from outside firm specializing in EMR selection/implementation used throughout the process
- November – Vendor of choice selected and discussions re: contracting, phasing, staffing models and system hosting begin with vendor
- December 31, 2015 – Contract in place
- Project completion expected in FY19

Electronic Medical Record: Readiness

- UConn and UConn Health senior leadership aligned with project's objectives; full support necessary for project of this magnitude
- Governance structures established, following similar model as BioScience CT (Oversight and Steering Committees created)
- Utilizing expertise of internal staff and various experienced outside colleagues that have already undergone this type of transition
- External legal contract review (2 independent firms)
- Strategically planning to supplement existing staff

Bioscience Connecticut

Making Connecticut a Leader in Bioscience

- Stimulate short and long term economic activity / job creation
- Spur bioscience innovation
- Meet healthcare needs of Connecticut's future
- Provide access to state-of-the-art care

Bioscience Connecticut

Facilities and Infrastructure



- Overall program 75% complete
- Construction industry benefits

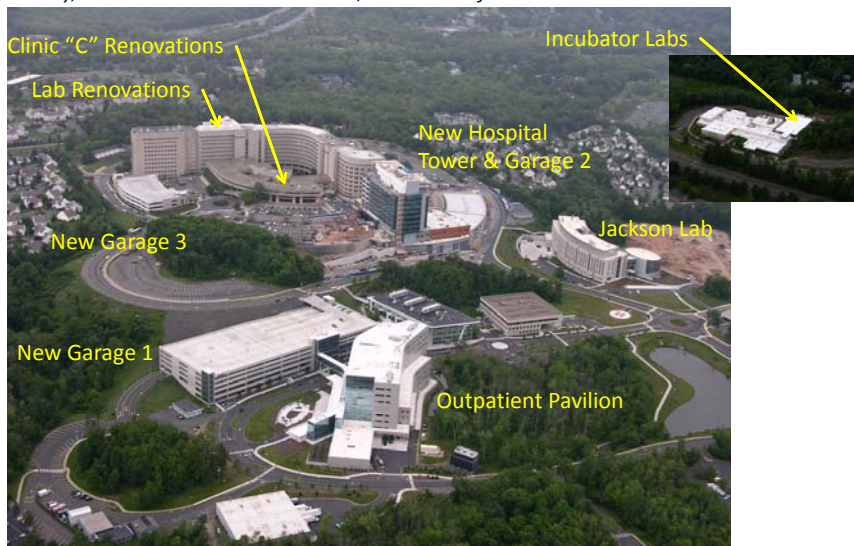
Programs and People



- Essential to success
- Sustainable economic benefits

BIOSCIENCE CONNECTICUT

Jobs Today, Economic Growth Tomorrow, Innovation for the Future



Facilities and Infrastructure

Construction Jobs

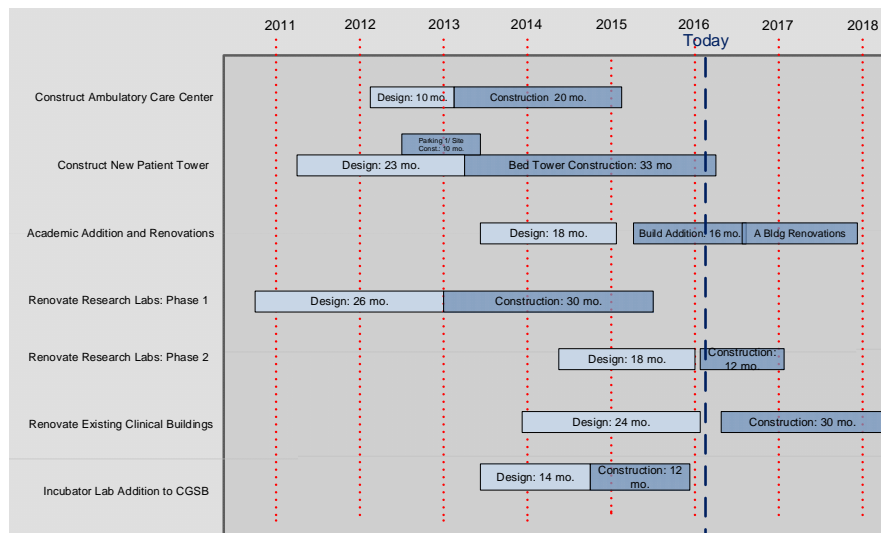
- 5,003 jobs created
- 2,361,700 hours worked on the project through January 2016
- 82% of construction contracts awarded to CT companies - valued at \$340M

Small/Minority Participation:

HOSPITAL CONSTRUCTION	REQUIREMENT	CURRENT
Small Businesses	25%	37%
Minority/Women's/ Disadvantaged Businesses	6.25%	22%

Facilities and Infrastructure Timeline

February 2016



New Hospital Tower

- 169 private rooms
- New and expanded Emergency Department and Operating Room suite
- 2 new parking garages (first garage opened April 2013, second garage January 2016)
- 95% complete, expected completion and move in: April 2016



Main Building Lab Renovations

- Renovates over 200,000 square feet of research space
- Project 1:
 - Project is complete
- Project 2:
 - Design is underway
 - Construction began in January 2016



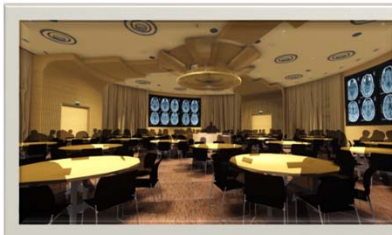
Incubator Lab Addition to the Cell and Genome Sciences Building

- 28,000 square foot addition to the Cell and Genome Sciences Building
- Fosters new business start-up
- Construction began in October 2014
- Work is complete



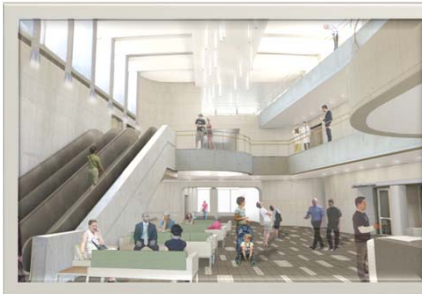
Academic Building Addition and Renovations

- Allows for the growth in schools
- Construction began in April 2015
- The addition is scheduled to be complete in May 2016
- Renovation work will be complete in 2017



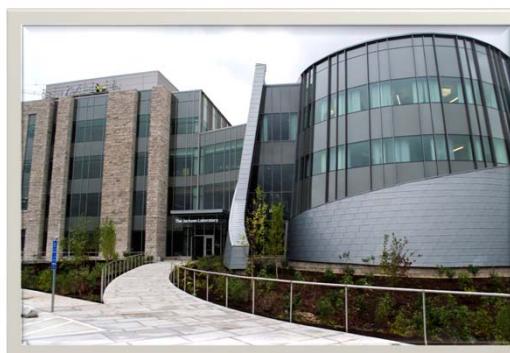
Clinic (“C”) Building Renovations

- Renovates and expands capacity of the Dental School teaching clinics and the Pat and Jim Calhoun Cardiology Center
- Design is complete
- Construction work is scheduled to begin in June 2016



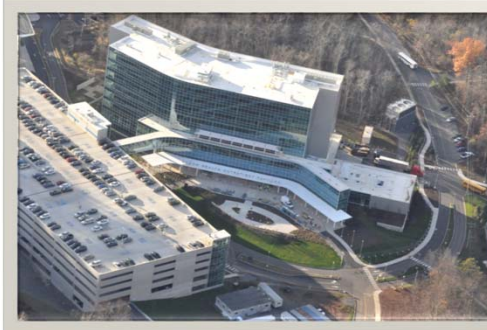
Jackson Laboratory for Genomic Medicine

- Internationally renowned research leader
- New building on UConn Health campus dedicated to personalized medicine
- Collaborating with universities and hospitals in the region
- Opened in October 2014



Outpatient Pavilion

- 306,000 square foot, state-of-the-art, multispecialty outpatient clinical building on lower campus
- 1,400 car parking garage (opened in November 2013)
- Private financing through TIAA-CREF \$203M
- Opened 2015
- Women's Center to open 2016



Our Transformation

Major Projects Completed since 1996

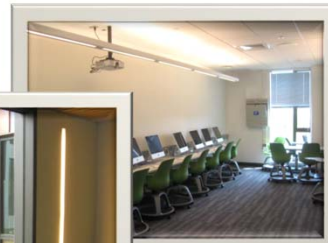
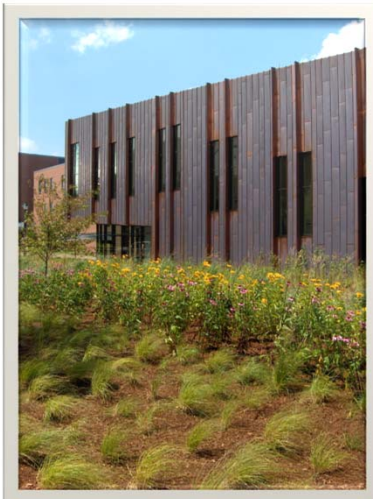
Agriculture Biotechnology Facility:
Completed in 1999 & 2002



Benton State Art Museum
Addition: Completed in 2004



Oak Hall & Laurel Hall Classroom Buildings: Completed in 2013





Avery Point Marine Science Research Center: Completed in 2001



Avery Point Campus Student Center: Completed in 2013



Business School Renovation (Rowe Center for Undergraduate Education): Completed in 2004

Chemistry Building: Completed in 1998



Gentry Renovations:
Completed in 2009



Floriculture Greenhouse:
Completed in 2012



Intramural, Recreational & Intercollegiate Facilities

Werth Family Basketball
Champions Center (private
funding): Completed in 2015



Burton Family Football
Complex: Completed in 2006



Parking Garages



North: Completed in 1998



South: Completed in 2002

Residential Life Facilities



Psychology Building
Renovation & Addition:
Completed in 2013



School of
Pharmacy/Biology:
Completed in 2005



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Pedestrian Spinepath &
Walkways (Fairfield Road
Pedestrian Mall):
Completed in 1999



Heating Plant Upgrade
(Cogeneration Facility):
Completed in 2006



UConn

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School of Business:
Completed in 2001

South Campus Complex:
Completed in 1999



UConn

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Storrs Hall Addition:
Completed in 2012



Student Union Addition:
Completed in 2006



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Technology Quadrant

Biology/Physics Building:
Completed in 2003



Information Technology
Engineering Building:
Completed in 2003



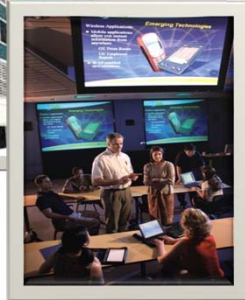
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Stamford Downtown Relocation:
Completed in 1998



Waterbury Campus
Relocation:
Completed in 2003



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Young Building Renovation:
Completed in 2015

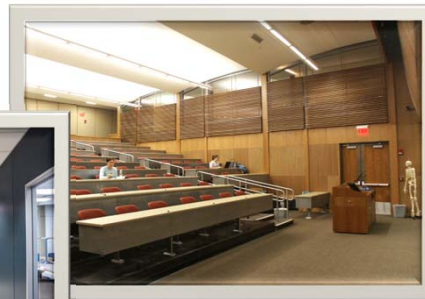
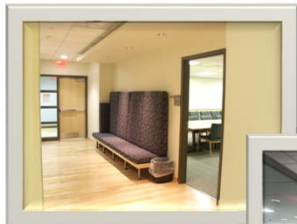


Wilbur Cross Building
Renovation:
Completed in 2002



Main Building Renovation
Clinical Skills Renovation:
Completed in 2008
Lab Renovations:
Completed in 2015

Medical School Academic
Building Renovation –
Patterson & Massey
Auditoria: Completed in 2008



Research Tower-Cell & Genome Sciences Building



Purchase & Renovation:
Completed in 2010

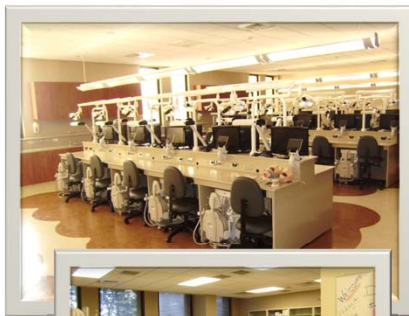
Addition:
Completed in 2015



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Dental School Renovation
Preclinical Teaching &
Prosthetics Labs:
Completed in 2010



New Construction &
Renovation – Roadway
Improvements:
Completed in 2014



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