Co-Chairs, Ranking Members, and members of the Committee, thank you for the opportunity to testify on Senate Bill 1130, An Act Concerning Initiatives at the University of Connecticut. My name is Kazem Kazerounian and I am the Dean of the School of Engineering at the University of Connecticut. President Herbst sends her apologies for not being here today. Unfortunately, her schedule could not be changed to allow her to attend.

SB 1130 reflects a positive desire to promote economic growth and innovation in Connecticut by fostering entrepreneurship and technology transfer. UConn enthusiastically shares this desire and is working aggressively to accomplish the goals of the bill. UConn is committed to increasing innovation and entrepreneurship in what we are already doing, and we hope to do more should resources allow. While we have significant concerns with the legislation, we hope to work with the Committee to develop a bill that meets our shared objectives and addresses some of the problematic provisions of SB 1130.

UConn has been engaged in growing entrepreneurship for many years, with increasing energy and success. In December of 2017, the University received a $22.5 million investment by Peter Werth – representing the second largest gift in UConn history. The Werth Institute brings together student and faculty programs fostering entrepreneurship and innovation with the goal of creating new companies. An Executive Director of the Werth Institute has been hired, and in a short time, has tremendously increased student involvement and student exposure to innovation and entrepreneurship including 350 students enrolled in entrepreneurship classes and many more involved in our growing portfolio of innovation programs. The University now offers 22 undergraduate and graduate courses in entrepreneurship that lead to 7 degrees, minors and concentrations. There are 110 alumni mentors helping student and faculty entrepreneurs. Over $100,000 in scholarships is available annually to support student entrepreneurship. Finally, the number of student teams participating in Innovation Quest – UConn’s largest startup competition -- has risen from 31 in 2013 to nearly 100 in 2018.

To give you some highlights of our activities in this area, last year our Technology Incubation Program (TIP) was home to 39 companies – and continues to grow with occupancy at 95% and companies raising a record $118M. Our Farmington TIP location is fully subscribed and currently has a waiting list.
We are far from satisfied with these accomplishments and are poised to do more within the constraints of our available resources. A new entrepreneurship course will be offered in the spring of 2020 by our School of Business which has the potential to reach hundreds of freshmen and sophomores across the University. UConn is also in the process of revising its General Education requirements for undergraduates and hope to have courses in entrepreneurship available to all students in the near future. Additionally, our Vice-President of Research is hoping to expand staffing to increase the technology transfer efforts of our faculty.

Please see the attached document which reviews the number of courses, concentrations and degree programs in entrepreneurship. It also lists the wide-array of programs in which students can get involved in innovation activities. The last page of the document also details what UConn identifies as the current gaps in our programs – these are essentially areas for which we have no funding. One large gap that is not listed is the need to hire more research faculty who create new knowledge and discoveries which are key to the formation of new startups. We have intentionally excluded hiring new faculty because the fiscally prudent thing to do is to hire faculty through permanent increases to UConn’s state appropriation and we realize that is close to impossible given the current budgetary climate the University and state are experiencing.

While UConn is supportive of the overarching goals contained in SB 1130, the University has significant concerns about certain provisions in the legislation which run counter to accomplishing the aims of the bill, and, indeed, may unintentionally have a negative impact on governance at UConn and diminish our ability to attract and retain the best faculty and students.

Changing UConn’s Statutory Objective Problematic

Universities do evolve over time, but significantly changing the statutory objective of the University of Connecticut – or any longstanding major research university – is rarely or if ever done. Adding to our statutory objective through a single piece of legislation without significant public discussion, research, debate, and planning with countless stakeholders across the University and state is inadvisable. Further, doing so is not necessary to achieving the aims of the legislation.

The best, most productive research and academic learning happens when it is not immediately constrained or directed by business ventures or profit margins. Narrowing or subordinating important aspects of the university’s statutory objective would result in the loss of creative capacity and severely diminishes the possibility of future—and more spectacular—discoveries and new directions for research, technological advances, and business development.

Lack of Funding to Accomplish the Bill’s Goals

Another major concern about the bill is that the University lacks the funding to accomplish its key goals. The state block grant to the University has been cut by $50 million since 2016 and we are projecting to end FY20 with a deficit of $16.4 million. In addition, UConn is grappling with paying for the state’s ballooning unfunded pension and health liabilities with non-state funds (tuition, research, housing, dining, other fees etc.) and as a result, our ability to do more in this area is limited. With these financial challenges, there is no way we could develop and implement a faculty hiring plan to increase the number of faculty with experience in starting successful businesses. We would also need additional dollars for many other provisions of the bill. The substantial costs that the bill
would trigger for UConn have not been budgeted, and could not be accomplished absent increased state funding.

**Governance Issues**

The consultant report process outlined in the bill appears to give outside entities control over aspects of academic programs, faculty hiring and funding priorities at UConn. UConn's administration and the Board of Trustees must retain this authority if the University is to remain functional and nationally ranked.

Specifically, the major provisions of concern in the bill include (apologies for the reiteration of some of those already mentioned above):

- **Changing the Statutory Objectives of the University**: This should not be done lightly and requires comprehensive input from faculty, students, alumni and other key stakeholders. Legislative history reveals that the statutory objective has not substantively been amended since 1982 when academic freedom protections were added. (Sections 1 & 6)

- **Changes to the University Board of Trustees**: UConn defers to the Executive Branch on this issue, but these changes may be unnecessary to accomplish the goals of the bill. (Sections 2 & 3)

- **Mandating the University create a Vice President for Innovation and Entrepreneurship Position**: The creation or elimination of administrative positions at UConn should not be dictated in statute; making these choices is why UConn has a president, reporting to a board of trustees. (Section 4)

- **Faculty Hiring Plan to Increase the Number of Faculty Skilled in Starting Companies**: The University’s top priority is to hire more research faculty but funding is simply not available. The University is also concerned about retaining the ability to hire the research faculty it deems necessary and not be constrained by the role other entities would play in this process as noted below. (Section 5 & 8)

- **Mandating Consultant Report with CTNEXT**: The consultant report is unnecessary since UConn has done a lot of benchmarking of its tech transfer policies and student entrepreneurship activities in the past year. Further, the consultant report process outlined in the bill is cumbersome and appears to give outside entities control over critical University decisions like academic programming, faculty hiring and funding priorities, usurping the responsibilities of the university administration and the Board of Trustees. (Section 8)

- **Requiring UConn to use Next Generation Connecticut (NextGenCT) funds to Construct or Renovate “a Facility on Each Campus of the University, Not More Than One-Quarter Mile From the Student Union or Student Center of the Campus, that is Designed to Meet the Needs of Student Entrepreneurs”**: While this has been accomplished for our Storrs campus, space would have to be constructed at our regional campuses and current NextGenCT funds would have to be reallocated for this purpose jeopardizing other key projects. (Section 7)
Despite these concerns, UConn stands ready to work with the Committee to resolve these issues in the coming weeks as the legislative process continues.

Even in these fiscally challenging times, we will continue to do all we can to expand innovation and entrepreneurship within existing resources and continue our philanthropic work in this area.

In closing, let me reiterate that the University is not suggesting that we have accomplished all that we seek to accomplish when it comes to economic development but do believe that the progress is further along than many realize. Moreover, we are anxious to work with the Committee to accelerate that progress and enhance economic growth and development in Connecticut while also addressing the concerns noted above.

As always, we thank you for your continued support of the University of Connecticut.
Entrepreneurship at UConn
Academic Programs, Entrepreneurial Resources and Funding to Learn, Connect, Create, Explore and Launch.

At UConn, we have deployed a strong framework for our entrepreneurship ecosystem. With over 40 programs ranging from a one-day conference to entire degree programs, entrepreneurship permeates nearly every corner of UConn. We are developing new programs every day as entrepreneurship at UConn continues to evolve to serve the needs of our students and faculty, as well as the community-at-large and alumni. A growing number of courses and curricular activities to support student innovators offer a multidisciplinary approach and few pre-requisites. Our support programs allow students and faculty to build deep ties with entrepreneurial minded peers through student clubs, events and networking. Our innovation spaces allow students to take their first steps toward entrepreneurship as we provide the nascent entrepreneur with the resources they need to move beyond the idea to launch and grow a company.

Degrees, minors and concentrations
including Masters of Engineer in Global Entrepreneurship

Mentors including successful alumni, entrepreneurs and industry experts

in new entrepreneurship scholarships

Teams in the Innovation Quest venture competition in 2019 up from 31 in 2013

Graduate and Undergraduate Entrepreneurship Classes
over 350 students in those classes

pizza slices served at student networking events in 2018-19 so far

Degrees, Minors & Concentrations

1. Masters in Engineering in Global Entrepreneurship
2. Concentration in Management Major
3. Concentration in MBA Program
4. Entrepreneurship Minor for non-business students
5. Entrepreneurship Minor for business students
6. Technology Innovation & Entrepreneurship Minor
7. Creativity and Innovation Minor

Student Clubs

1. Management and Engineering for Manufacturing Society
2. Business Management Society
3. Information Management Association
4. Creating Economic Opportunity CEO
5. Artificial Intelligence Club
6. PE & VCs Society
7. Unmanned Aerial Vehicle Urones
8. Entrepreneurship and Innovation Society
9. Association of Computer Machinery
10. Makers Club
11. 3D Printing Club
12. UConn Consulting Group
<table>
<thead>
<tr>
<th>Program Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthcare Innovation Certificate</td>
<td>Offered by the School of Nursing and is one of the first programs in the country to educate nurses, healthcare professionals, and beyond on innovation theories and applications for changes in healthcare.</td>
</tr>
<tr>
<td>OPIM Innovate</td>
<td>A program of the Operations and Information Management (OPIM) Department that provides students of all disciplines with opportunities and resources to learn, explore, and develop industry-valued skills outside the classroom around emerging technology.</td>
</tr>
<tr>
<td>Management and Engineering for Manufacturing</td>
<td>A unique bachelor's degree conferred by both the Schools of Business and Engineering and includes senior design projects for entrepreneurial firms or student starting their own business.</td>
</tr>
<tr>
<td>Service Learning (within CETL)</td>
<td>Actively engages students in the community promoting opportunities for social entrepreneurship.</td>
</tr>
<tr>
<td>Innovation House</td>
<td>A living learning community that enables students to access, and leverage campus resources and networks during their personal exploration of creativity, innovation and entrepreneurship skills.</td>
</tr>
<tr>
<td>Essentials of Entrepreneurship - School of Nursing Event</td>
<td>An annual event to spark new innovation among entrepreneurial minded students and faculty.</td>
</tr>
<tr>
<td>Entrepreneurship Abroad Travel</td>
<td>Allows students interested in innovation and entrepreneurship with a chance to visit places where this type of activity thrives and is an embedded part of the culture, and bring lessons back to their own communities.</td>
</tr>
<tr>
<td>Digital Media &amp; Design</td>
<td>An undergraduate degree program or minor that applies creativity to various sectors such as entertainment, science, engineering, business, communications, the humanities, and social sciences and is a source and resource for entrepreneurial companies.</td>
</tr>
<tr>
<td>Plant the Seeds of Innovation School of Nursing Event</td>
<td>A 2-day immersion program that prepares health care innovators to move an early innovation (or idea) toward entrepreneurship.</td>
</tr>
<tr>
<td>Biomedical Entrepreneurship Course</td>
<td>Train future life science entrepreneurs, and focuses on entrepreneurship in the medical device and biopharmaceutical space.</td>
</tr>
<tr>
<td>Innovation and Creativity Minor</td>
<td>An interdisciplinary program that provides students with the ability to be creative, innovative, and entrepreneurial as is vital in any number of fields where creation, implementation, and evaluation of original ideas is valued.</td>
</tr>
<tr>
<td>InsurTech Venturing Course</td>
<td>A three-credit course to gain knowledge about the foundations of the insurtech industry and develop entrepreneurial skills within the realms of a growing industry.</td>
</tr>
<tr>
<td>Department of Management</td>
<td>Offers an Entrepreneurship major and minor which trains students to think innovatively preparing them to start ventures or grow existing firms.</td>
</tr>
<tr>
<td>Masters of Engineering in Global Entrepreneurship</td>
<td>A new program to provide a nurturing ecosystem for early-stage, international, student entrepreneurs, and is a partnership between UConn's Schools of Engineering and Business, Trinity College, University of New Haven, and CTNext.</td>
</tr>
<tr>
<td>Engineering Senior Design</td>
<td>A two-semester capstone course that allowed 228 teams, of nearly 800 seniors in 2018 to provide innovative solutions to more than 100 companies including UConn startups.</td>
</tr>
<tr>
<td>Independent Study - School of Nursing (and other Schools)</td>
<td>Promotes the ability of students to take their ideas and gain course credit as they work to commercialize them.</td>
</tr>
<tr>
<td>Athena Scholarship Day - School of Nursing</td>
<td>Includes speakers promoting cultures of innovation for impacting the voice of the clinician in the design and development of health technology.</td>
</tr>
<tr>
<td>Honors Program</td>
<td>Encourages students to become producers of knowledge which provides opportunities for students to explore, create, and lead gaining essential entrepreneurial skills.</td>
</tr>
<tr>
<td>Center for Excellence in Teaching &amp; Learning</td>
<td>Provides resources for teaching entrepreneurial concepts across all disciplines and courses.</td>
</tr>
<tr>
<td>High Value Talent Retreats</td>
<td>Offered through targeted learning to attract and retain high-value faculty, researchers and encourage engagement in the innovation and entrepreneurship ecosystem with an interconnected network of business executives and mentors.</td>
</tr>
</tbody>
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**KEY**
- Red Heading - Entrepreneurship Support
- Blue Heading - Entrepreneurship Focus
First Year Programs & Learning Communities
Learning communities such as Innovation House utilize innovative strategies to personalize the experience of first-year students reinforcing academic and experiential offerings that encourage individual student growth and encouragement which are key determinants of success.

Experience Innovation xpo
An annual showcase hosted by Werth Institute members where UConn students explore the wide range of programs and resources available to support their interests in entrepreneurship, innovation, and creativity.

InsurTech Fellowship
Offers students an opportunity to increase their understanding of InsurTech startups, learn how to apply theoretical and practical skills using real world examples, and interact with industry leaders.

Small Business Development Center
Provides no-cost, confidential advising services to prospective and existing entrepreneurs to help them start or grow their business. Professional business advisors provide expertise in all aspects of running a business.

Family Business Program
Helps grow entrepreneurial companies as firms evolve through the next generation with education, courses, networking opportunities, a summer internship program, or referrals to experts who can assist with a specific task.

Partnership in Innovation and Education Internship Program
Public and private institutions of higher learning in central Connecticut partner with CNTech to engage students and faculty in innovation in the biohealth and bioscience sector.

Husky Mentor Network
Connects students with UConn alumni & professionals for one-on-one career conversations, including discussing choosing a major, resume critiques, practice interviews, and entrepreneurial interests.
CREATE.
INNOVATION SPACES

IDEA Grant Program
Awards undergraduate up to $4,000 to support student-designed and student-led projects, including creative endeavors, community service initiatives, research projects, prototype development, and other entrepreneurial ideas.

HackUConn
An annual event where students from all areas of study come together, form teams, and identify solutions to problems for a predefined theme and encourages creativity and new venture opportunities in a fun setting that culminates in team presentations for cash prizes.

The Connecticut Manufacturing Simulation Center
Offers access to high-end simulation and modeling technology to Connecticut manufacturers to promote innovation, economic growth and next-generation workforce development.

Greenhouse Studios
A collaborative and creative resource for design processes that can benefit innovators and entrepreneurs.

Learning Community Innovation Zone
A makerspace utilizing innovative strategies for learning among cohorts of first- and second-year students in the Wech Tower dorm, allowing them to utilize equipment to complement their learning through building with their own hands.

Summer Undergraduate Research Fund (SURF) Awards
Support undergraduate students in summer research or creative projects.

The Frontiers in Undergraduate Research
Posters exhibitions held each fall and spring are venues for students to share their research, scholarship, and creative projects from across the disciplines including those focused on entrepreneurial opportunities.

Puppetry Maker Space
A one-of-a-kind makerspace for students in undergraduate and graduate programs in puppetry, where almost every student will go on to become an entrepreneur, hone their skills in anticipation of future innovations in puppetry.

UConn Coop Legacy Fellowship
Provides support to undergraduate students who are completing self-designed projects that have a public-engagement, social impact, or innovation component.

Library Maker Studio
Fosters a community of cross-discipline innovation among UConn students, faculty, and staff with a variety of equipment for turning ideas into tangible objects.

EXPLORE & LAUNCH.
PROGRAMS

UConn Innovation Fund
A partnership with Webster Bank and CT Innovations makes selective investments of up to $300,000 in high-potential, early-stage growth companies affiliated with UConn, including students, faculty, alumni, or Technology Incubation Program (TIP) participants to help them move towards attaining SBIR/STTR, Angel, or other later-stage investments.

Sustainable Community Outreach and Public Engagement (SCOPE)
A student-focused program that promotes social entrepreneurship and social innovation by working with non-profit organizations and for-profit companies that have social outreach and community impact as a significant part of their strategic missions.

The Office of the Vice President for Research Technology Commercialization Services
Offers services for the transformation of UConn discoveries into products and services that benefit patients, industry, and society and assists in the development of companies based on UConn intellectual property where a startup company is a viable option.

KEY

Red Heading - Entrepreneurship Support
Blue Heading - Entrepreneurship Focus
<table>
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<tr>
<th>Program Name</th>
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<tbody>
<tr>
<td>Third Bridge Grant</td>
<td>Provides up to $75,000 to companies started by a School of Engineering D or advanced degree student(s) with plans to commercialize their research or innovation, and is used for prototypes or market validation.</td>
</tr>
<tr>
<td>Technology Incubation Program</td>
<td>A leading business incubator that offers technology startups wet and dry labs, co-working space, access to instrumentation, research services, and collaboration with scientific experts in Storrs and Farmington.</td>
</tr>
<tr>
<td>SPARK Technology Commercialization Fund</td>
<td>Provides grants of up to $50K support innovative proof-of-concept studies seeking to translate research discoveries into products, processes, and other commercial applications.</td>
</tr>
<tr>
<td>Consortium to Create Innovation for Underwater Sea</td>
<td>UConn and the regional effort aimed at rapid development, testing and commercialization of innovative underwater marine technology for commercial, academic and nonprofit organizations contributing to the defense and security of our nation.</td>
</tr>
<tr>
<td>START Preliminary Proof of Concept Fund</td>
<td>A partnership with CTNext, supports grants of up to $10K for preliminary validation of early stage technologies emerging from Central Connecticut State University (CCSU), Southern Connecticut State University (SCSU), University of Bridgeport (UB) an UConn to become more attractive for significant translational funding.</td>
</tr>
<tr>
<td>BioScience Pipeline</td>
<td>Supports biomedical commercialization with milestone-based funding of up to $30,000 per project for ventures from Yale, UConn and Quinnipiac University to position the state's strategy, market definition, and prototyping activities.</td>
</tr>
<tr>
<td>Wolff New Venture Competition</td>
<td>Awards $15,000 to five startup teams from the CCEI Summer Fellowship Program who are selected by an independent panel to submit a plan for these top entrepreneurial teams and take thier beyond business concepts towards market readiness and keeping an entrepreneurial focus on venture concepts during the summer months.</td>
</tr>
<tr>
<td>UConn Innovation Quest Program</td>
<td>Provides funding and mentoring for students in their journey from idea to prototype to company.</td>
</tr>
<tr>
<td>Get Seeded</td>
<td>Allows students to receive small amounts of seed funding to help move their ideas forward.</td>
</tr>
<tr>
<td>CCEI Summer Fellowship</td>
<td>An intensive 8-week summer program at the Connecticut Center for Entrepreneurship and Innovation (CCEI) designed to move ventures out of the conceptual stage and into the marketplace with support from mentors, industry experts and strategic workshops.</td>
</tr>
<tr>
<td>TIP Innovation Fellows</td>
<td>Pairs students with on-campus UConn affiliates to startups for mentorship and internships/fellowships in Business or STEM areas as they work on projects of value to the companies.</td>
</tr>
<tr>
<td>Verge Consultants</td>
<td>Graduate and professional school students who work with CCEI, the UConn School of Law, and Connecticut's SBDC to help UConn startups overcome the hurdles of entrepreneurship.</td>
</tr>
<tr>
<td>NSF iCorps program that trains student and faculty teams as they determine the market potential of their technologies or scientific discoveries through customer discovery.</td>
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</tbody>
</table>

**KEY**
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- Blue Heading - Entrepreneurship Focus
UConn Entrepreneurship and Innovation Programs

The attached document offers details on the many resources available to students within the UConn Ecosystem. Below we include a comprehensive list programs for both faculty and students along with an indication of where gaps exist at this time.

### Existing Ecosystem Resources

**LEARN.**
- Healthcare innovation Certificate
- Senior Design Projects
- OPIM Innovate
- Entrepreneurship Majors/Minors
- Global Entrepreneurship Masters
- High Value Talent Retreats*
- Management and Engineering for Manufacturing
- Korean Program
- Biomedical Entrepreneurship Course
- Innovation and Creativity Minor
- Plant the Seeds of Innovation – Nursing
- Essential of Entrepreneurship – Nursing
- Entrepreneurship Abroad
- Innovation House
- InsurTech Course
- Independent Study – School of Nursing
- (and other Schools)
- Athena Scholarship Day – School of Nursing
- Center for Excellence in Teaching and Learning
- Service Learning (within CETL)
- Digital Media and Design

**CONNECT.**
- First-Year Programs & Learning Communities
- Experience Innovation Expo
- Small Business Development Center
- Entrepreneurship & Innovation Society
- Husky Mentor Network
- InsurTech Fellowship
- 12 Student Clubs
- Partnership in Innovation & Education Internship Program
- Family Business Program

**CREATE.**
- Hack UConn
- Surf Awards
- IDEA Grant Program
- The Connecticut Manufacturing Simulation Center
- Learning Community Innovation Zone
- Creating Economic Opportunity CEO Puppetry Makerspace
- Library Maker Studio
- Greenhouse Studios
- UConn Coop Legacy Fellowship
- Frontiers in Undergraduate Research

**EXPLORE & LAUNCH.**
- Third Bridge Grant
- Accelerate UConn Entrepreneurship Bootcamp for Veterans
- Innovation Quest (IQ)
- CCEI Summer Fellowship
- Tech Transfer & Venture Development
- Technology Incubation Program (TIP)
- UConn Innovation Fund
- Industry 4.0
- BioPGCine CT
- GetSeedEd
- IP and Entrepreneurship Law Clinic
- Wolff New Venture Competition
- Verge Consulting Program
- Spark/START Commercialization Program
- SCOPE
- LOEB NYC Program
- CT Center for Entrepreneurship and Innovation (CCEI)
- Consortium to Create Innovation for Undergraduate Research (CTCI)
- TIP Innovation Fellows

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**Gaps In Resources**

**LEARN.**
- Entrepreneur-in-Residence with technology commercialization experience or expanded, sector-specific, entrepreneurship education

**CONNECT.**
- Expanded Alumni Mentor Network focused on Entrepreneurship and with MIT-like structure including recruiting and vetting capacity

**CREATE.**
- FUND for translational research mentoring and validation modeled after Yale Blavatnik Fund
- Post-Graduate Entrepreneurship Fellowships

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* Primarily for Faculty