June 17, 2016

President Barack Obama The White House 1600 Pennsylvania Avenue NW Washington, DC 20500

Dear President Obama:

The Maker Movement has gained incredible traction across the Nation, transitioning from a grassroots activity where anyone can 'tinker' or 'hack' new innovations, to one that has real impact on industry, research and education. Making comes with the opportunity to catalyze the emergence of new economies, identify new manufacturing processes, foster small businesses and job growth, accelerate design and prototyping, as well as to maintain our competitive advantage by incorporating agility into manufacturing. Recognizing this, in the summer of 2014, you hosted the first ever White House Maker Faire to celebrate Making's successes and highlight the opportunities for impact, innovation and creativity.

As part of this national effort to emphasize Making, dozens of Higher Education Institutions committed to 'Fostering a Generation of Makers' and committed to supporting Making on their campuses in a diversity of ways. Now, two years since the original commitment from Higher Ed institutions, we want to take this opportunity to again renew and reaffirm that each of our institutions is committed to take one or more of the following steps to promote Making, including:

- Allowing students that are applying for admission to our institutions to submit their Maker portfolio;
- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
- Supporting education, outreach and service-learning that is relevant to Making, such as encouraging students to serve as mentors for young Makers;
- Supporting research that advances making technologies and facilitates greater access to making experiences such as the development of new tools for desktop manufacturing;
- Expanding access to university shared facilities and scientific instrumentation to Makers;
- Encouraging students to use their senior design projects to experiment with Making and Maker-preneurship;
- Providing scholarships to students based upon excellence in making; and
- Participating in regional efforts to create a vibrant Maker ecosystem that involve companies, investors, skilled volunteers, state and local officials, libraries, museums, schools, after-school programs, labor unions, and community-based organizations.

Attached with this letter is a detailed list of our individual commitments as well as updates on milestone activities undertaken as part of this effort.

In addition to work on our own campuses, we have mobilized as a community of practice. Building on the momentum and recognition the 'Week of Making' has brought, our institutions are working together to coordinate shared agendas and develop best practice. To date we have undertaken the following:

- In December 2014, a subset of higher education institutions came together to form the MakeSchools Alliance (see http://MakeSchools.org). Its goals include increasing understanding of the role of maker-based education in higher education, developing and sharing best practices and fostering opportunities for our students. It is lead by Carnegie Mellon University, Case Western Reserve University, Cornell University and Bucknell University. Today, 48 institutions are participating and these institutions represent over 1.25 million US students.
- In Summer 2015, the Alliance surveyed members and prepared a special report for you on the 'State of Making in Higher Education' designed to articulate work to date, success, impact and next steps for Making at our institutions. This year, we will release a special report on makerspaces in higher education during the Week of Making.
- In Fall 2015, in partnership with VentureWell, launched a pilot track of the University Innovation Fellows program with a maker focus. This aims to develop a set of national student makers who will help drive innovation, outreach and cross-campus engagement and become ambassadors for making at their institutions. In Spring 2016, students from several of our universities completed the program.
- In October 2015, over 150 representatives convened at Case Western to identify, discuss and prioritize challenges facing making in US higher education. Recognizing many common agendas, issues and needs, we have called on every member institution to contribute a shared solution for the community-at-large. We believe that if each institution identifies a problem (or opportunity) facing Making in higher education and addresses it in a way that benefits the community as a whole, we can greatly and rapidly empower our community.
- In May 2016, we commissioned and launched a <u>web portal</u> to support the exchange of institutional knowledge and best practice as an open resource for the community and to provide templates for solving common challenges faced in the initial and on-going implementation of maker-based education and research at our institutions.

This year we also recognize the leadership we can provide in our communities and in advancing access to and adoption of the Maker movement beyond the wall of our campuses. To build true capacity for a new generation of makers and support K-12 maker-based learning experiences in our communities, several institutions have also committed to supporting their local K-12 maker-based learning environment, by:

- Opening access to one or more campus maker spaces to local teachers and students;
- Provide at least one training workshop designed to introduce educators to making;

- Provide formal maker learning training (e.g. professional development programs or certificates) to pre-service and/or existing teachers through colleges of education;
- Create service learning opportunities for higher education students to support and take part in K-12 maker experiences; and/or
- Provide mentorship and resources to support to local maker schools.

These 28 institutions from 19 states include: Arizona State University, Carnegie Mellon University, Case Western Reserve University, Cornell University, Duquesne University, Folsom Lake College, Lorain County Community College, Massachusetts Institute of Technology, North Carolina Central University, Northeastern University, Oregon College of Art and Craft, Oregon State University, Radford University, Rochester Institute of Technology, Santa Clara University, Southern Methodist University, Tennessee Technological University, The University of Texas at Austin, Tufts University, Tulane University, University of Delaware, University of Louisville, University of Maryland, University of Michigan, University of Vermont, University of Wyoming and Yale University.

Over the coming months, we will continue to work together in the year ahead to establish even more comprehensive steps for our colleges, schools and universities to support new Makers, increase K-12 and industry pipelines for students, as well as enhancing access and inclusion in higher education experiences and opportunities through Making.

With this in mind, representatives from our institutions will gather in Washington D.C. during the Week of Making on June 21st. This convening will share best practices of deploying maker-based education or makerspaces on US campuses; identify creative solutions to overcoming barriers to access and inclusion in higher education making; and address developing new pipelines for making across K-16 learning. This gathering will cement next steps and build our momentum.

Finally, to enable long-term sustainability of this initiative, 8 individuals have made personal commitments and volunteered their time as regional leadership within the Higher Ed Maker Alliance. Over the next 12 months, they will work to continue this conversation, gather best practice, and strengthen the community of Makers in US higher education.

We thank you for your continued support of Making and for your leadership and commitment to advancing U.S. research and education.

Signed,

Arizona State University Art Academy of Cincinnati ArtCenter College of Design Boise State University Bucknell University California College of the Arts California Polytechnic State University, San Luis Obispo California State University, Northridge Carnegie Mellon University Case Western Reserve University Cerritos College

College for Creative Studies Columbus College of Art & Design Cornell University **Denison University** Duquesne University Elon University Folsom Lake College Georgia Institute of Technology Jackson State University James Madison University Kansas City Art Institute Kent State University Lorain County Community College Marshall University Maryland Institute College of Art Massachusetts Institute of Technology Memphis College of Art Minneapolis College of Art and Design Morehouse College New Hampshire Institute of Art New York Institute of Technology North Carolina Central University Northeastern University Oregon College of Art and Craft Oregon State University Pennsylvania College of Art & Design Pratt Institute Radford University Ringling College of Art and Design Robert Morris University **Rochester Institute of Technology** Santa Clara University School of the Art Institute of Chicago School of the Museum of Fine Arts. Boston Sierra College Sonoma State University Southern Methodist University Sweet Briar College

Tennessee Tech University Texas State Technical College in North Texas The University of Pennsylvania The University of Tennessee Knoxville The University of Texas at Austin **Tufts University Tulane University** Union College University of Alabama in Birmingham University of California, Irvine University of Delaware University of Florida University of Iowa University of Louisville University of Maryland University Of Massachusetts Amherst University of Massachusetts Lowell University of Miami University of New Haven University of Oregon University of St. Thomas University of Texas at Dallas University of Texas at Tyler University of Vermont University of Wyoming Washington University in St. Louis Worcester Polytechnic Institute Yale University Youngstown State University

Personalized Letters and Updates

In addition to the signatory support, the following institutions also included personalized responses and letters to President Obama. These outline each institution's milestone achievements since the last Week of Making and specific commitments to making that the institution will make in the next twelve months.

Personalized Letters to President Obama

- 1. Boise State University
- 2. Carnegie Mellon University
- 3. Case Western Reserve University
- 4. Cornell University
- 5. Georgia Institute of Technology
- 6. Northeastern University
- 7. Oregon State University
- 8. School of the Art Institute of Chicago
- 9. University of California, Irvine
- 10. University of Delaware
- 11. University of Iowa
- 12. Yale University

Personalized Updates

- 1. ArtCenter College of Design
- 2. Radford University
- 3. Rochester Institute of Technology
- 4. Texas State Technical College
- 5. Union College
- 6. University of Wyoming

These now follow



June 10, 2016

Dear President Obama,

Boise State University Albertsons Library has created the first publicly funded makerspace in the state of Idaho. Available to all, the MakerLab provides access to cutting edge technologies, with a focus on student empowerment and community. A staff and faculty team focuses on engaging non-dominant groups to spend time in the makerspace working on projects. The result is a highly engaged, innovative, diverse, and dynamic team environment where students feel comfortable trying, testing, and implementing ideas in real-world environments. The space takes to heart the spirit of prototyping with humans at the center of design. The members of the space focus on creating psychologically safe places to work and develop innovations.

This past year the MakerLab experienced several significant accomplishments:

- Opened the first publicly funded makerspace in Idaho Albertson's Library's MakerLab a 1500 square foot, technologically rich environment
- Held more than 70 workshops on a variety of technologies, from circuit stickers to 3D printing, engaging over 1000 individuals from the campus who have become a part of the MakerLab community network
- Engaged over 100 core users who have been trained on 3D printers and are actively engaged in the culture of the space, teaching others, and help to manage the space
- Began a "Breaking Barriers" series evenings of making designed to reach non-dominant genders and invite them into the MakerLab
- Partnered with student groups: Creative Technologies Association, Space Broncos, Microgravity Team, Association of Computing Machinery - Women (ACM-W), Computer Science Club, CyberSecurity Club, University Innovation Fellows, TRiO, LSAMP, Concurrent Enrollment, the Gender Equity Center, and McNair Scholars
- Established connections with community organizations, including: Open Lab Idaho, JUMP, Trailhead Boise, Boise Public

- Library, Idaho Commission for Libraries, Meridian Library District's UnBound, the Tool Lending Library, and the Idaho Library Association
- 3D printed more than 1000 designs for students, staff, and faculty from each and every college around the university
- Taught in the classroom at Hawthorne Elementary, where students came in second at the statewide FabSlam competition, and hosted visits and tours from the following local schools: Roosevelt Elementary, Borah High School, Melba High School, Vallivue (Caldwell), Kuna High School, and Cascade High School
- Used constructivist and team-based learning pedagogies to engage classrooms across the university including classes in Art, University Foundations, Materials Science, Education, STEM Education, Educational Technology, English, Business, Engineering and other majors
- Supported students in establishing the Creative Technologies Association (CTA), a making-focused student club on campus that is housed in the MakerLab:
 - The CTA's mission is to provide students and faculty with a campus-wide network of resources that will allow them to explore and expand their individual and group interests in the field of creative technologies through various independently initiated projects
 - CTA students come from a variety of majors and background, creating a diverse network of ideas and expertise
- Provided hands-on exhibits for Innovation Day, as part of the Southwest Regional Invent Idaho Competition at JUMP (Jack's Urban Meeting Place) for over 1000 attendees
- Trained librarians from all across the state on how to design makerspaces and program arduinos

The MakerLab and makerspace initiative on campus endeavors to continue moving forward with the following initiatives:

- Continue the current MakerLab program
- Lead efforts to develop the next model for makerspaces on campus
- Expand the makerspace through collaborations with campus entities to have more equipment and services available to all students
- Collocate equipment with other campus entities, where feasible, to expand access to technologies within the space
- Expand the core group of current makerspace users to double the size of the network
- Support education through instruction, outreach, and service to campus courses, including developing a model to support maker-oriented teachers in the K-12 environment
- Participate in statewide roundtable discussions to further the ideas of the makerspace and the participatory library

• Support Professor Amy Vecchione in her role as the Maker In Residence at Trailhead Boise during her sabbatical, where she will lead the effort to coalesce the maker community in Boise by holding maker showcases and create a proposal for a community-led makerspace

Sincerely,

Amy Vecchione Head, Web and Emerging Technologies Albertsons Library Boise State University

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Tracy Bicknell-Holmes Dean, Albertsons Library Boise State University

Carnegie Mellon University

Farnam Jahanian Provost

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Phone: 412-268-3260 Email: farnam@andrew.cmu.edu

June 10, 2016

The Honorable Barack Obama President of the United States The White House Washington, DC 20500

RE: Carnegie Mellon University Maker Activities Update 2016

Dear President Obama:

Thank you for your strong and sustained support for the national maker movement. Your encouragement and interest have helped "making" become a keystone catalyst for learning and personal growth, advancing educational achievement, building community, and empowering economic growth across America.

Carnegie Mellon University recognizes making as part of its DNA. Andrew Carnegie understood the power of making when he founded Carnegie Mellon University more than a century ago; it was his conviction that, while book learning was important, the "education of the hand" was fundamental to progress and growth, for individuals, communities, and nations. Our university has continued to put a high value on making as an indispensable tool in learning because it gives students a vivid sense of how they can have meaningful impact on the world around them. At Carnegie Mellon, making finds applications in an interdisciplinary culture that brings together engineering, science, design, the arts, computer science, and business.

Carnegie Mellon has been a driver of the maker movement, both in research and education. 3D printing itself was pioneered by CMU roboticist Lee Weiss, and CMU continues to lead innovation in additive manufacturing. Faculty and students regularly reach beyond our campus to bring maker experiences to schools and communities. Carnegie Mellon's research leadership in robotics inspired the Robotics Academy and other efforts, which every year engage tens of thousands of young people in robot building as a first step toward deeper engagement in STEM studies. Our Entertainment Technology Center is an important participant in Pittsburgh's Remake Learning Network, providing design, advice, and programming for K-12 schools creating digital making and game design opportunities. The Robotics Institute CREATE Lab has engaged students and community members in hands-on art and science activities, such as using sensors to collect air and water quality data around the city.

I am pleased to report to you on Carnegie Mellon's most recent progress on commitments we made to you in 2013 to further maker activities on our campus and in Western Pennsylvania.

We continue to expand Maker Educational Opportunities for CMU students.

Today, any Carnegie Mellon undergraduates who seek to integrate making into their major field of studies have opportunities to do so. Carnegie Mellon has made great strides in expanding maker opportunities for engineers, artists, designers, actors, physicists, marketers, policy makers, and students across the board. Making at CMU is a powerful complement to classroom learning. We design maker experiences to encourage students not only to actualize their ideas by making tangible prototypes and models, but also to rigorously explore the core principles of their own field and investigate new approaches from others through these applications. This expresses itself especially in programs that integrate arts and technology—one of the historic distinctions of our university.

• CMU's <u>IDeATe</u> (Integrated Design, Arts and Technology), our flagship and cross-campus maker-based learning initiative, is now entering its third year. IDeATe offers eight new interdisciplinary minors that

are open to any student, allowing the deep integration of any field of study with a creative making experience. The program has launched 30 new studio-based courses in areas like physical computing, intelligent spaces, and experimental media. About 800 undergraduate students take IDeATe courses each year. The success of the program is not just in the enrollment numbers but in the experience it creates for students. For many, it has been life changing, preparing them effectively with skills in high demand among employers. Here is what Ruben Markowitz, a Class of 2016 graduate now working for a lighting design firm in San Francisco, says:

"To say IDeATe has changed my undergraduate experience would be an understatement.... I used the available tools and spaces almost every waking moment. I spent hours in the basement of Hunt [Library] just putting things together and building; sometimes for classwork, but always just for the sake of creating and exploring. I now have this humongous skill set in creative technology."

Art student Nivetha Kannan writes:

"The IDeATe program completely changed the trajectory of my CMU career.... I minored in Animation and also took Game Design courses, which prepared me to win an internship at Cartoon Network in Spring 2016 semester—my IDeATe animations helped me get that job! All the students are very passionate about their IDeATe classes, and I am always amazed at the quality of the works my classmates are producing."

- CMU's College of Engineering is moving swiftly to expand learning opportunities that incorporate making. Engineering design is being revolutionized by enhanced digital methods and new forms of advanced manufacturing at every scale—from macro to micro to nano—and CMU faculty research and education are changing to incorporate these methods in the curriculum. Reflecting this, for example:
 - Mechanical Engineering students in First-Year Design courses compete on teams to make a gripper strong enough to pick up a bowling ball; they quickly learn that in order to win, they have to apply design rules and tools they have learned about in their class work. Upper level design courses offer engineers options to collaborate with non-engineers to solve complex challenges—measuring air quality, building implants for brain research, or designing an extension to a wheelchair to solve mobility problems for the disabled.
 - <u>Build18</u>, an annual competition among 70 teams of electrical and computer engineers as well as teammates from other fields, promotes the use of digital design and feedback systems to create real products and services, such as this year's crowdsourced weather forecasting system. The goal is a seamless process from idea to design to prototyping to production, from digital to material.

We continue to expand Maker infrastructure on campus.

To accommodate all these new courses and opportunities, a number of new spaces, labs, and studios have opened at Carnegie Mellon in 2015-2016 offering facilities for making, problem solving, and learning together.

• <u>IDEATE@Hunt Collaborative Making</u> opened in Fall 2014 and has become a flagship makerspace for student learning and exploration on the CMU campus. These making facilities have transformed the first two floors of the university's Hunt Library building—extending the library's historic role in "knowledge creation through writing" to add "knowledge creation through making." This digital learning commons is open to all students 24/7 and is free to use and access. It provides all of the tools students might need for their creative projects from software and hardware lending as well as access to digital and traditional fabrication shops, a physical computing lab, an interactive media black box, a virtual computing cluster, and collaborative design studios. Students call upon the making expertise not only of the staff experts but of their classmates breaking down peer to peer barriers and inspiring new collaborations.

- The College of Engineering recently announced a major partnership with ANSYS Corporation, a leading software design and simulation company. ANSYS is investing in a new maker ecosystem for the CMU campus. A 30,000 square foot facility, the ANSYS Building, will expand the making capabilities of the College with a simulation and collaboration lab and a large open-bay facility for undergraduate students to build full-scale projects. The partnership will also support a new engineering professorship.
- The ANSYS facility will adjoin the engineering college's Maker Wing, where renovated fab labs with • equipment ranging from sewing machines to high-end milling equipment are extending making opportunities for all engineering students.
- In Spring 2016, 12,600 square feet of fabrication lab spaces for next-generation nano-additive and bio-• additive making were opened in a new engineering building, Scott Hall.
- An Advanced Manufacturing Facility for research and development includes high-end metal and polymer • additive manufacturing machines; this is a major research resource for graduate students studying new approaches to engineering design that are adapted to new manufacturing capabilities.
- Carnegie Mellon's Integrated Innovation Institute building opened in 2015; this facility supports a graduate degree program and course offerings in new product development, building off of 30 years of leadership in this area. Engineering, design, and marketing students take on an industry challenge by analyzing customer needs, applying principles of design, engineering, manufacturing, and marketing, in order to create a new product. The facility has created a strong community of knowledge-creators committed to team collaboration as a problem-solving method.

We connect CMU capabilities to the needs of the region and nation.

- Since 2015, Carnegie Mellon's Learning Media Design Center (LMDC) has provided a focal point for • interaction and capacity building in the region. Throughout 2015 the LMDC engaged with local schools to identify opportunities for Carnegie Mellon to contribute to expanding maker education activities and facilities across the region. CMU is a partner with Pittsburgh's Remake Learning Network.
- The College of Engineering is working with Catalyst Connection, the Manufacturing Extension . Partnership center for our region, to help small businesses engage with new manufacturing technologies.
- In collaboration with the New App for Making in America Initiative, a U.S. DOL funded workforce innovation initiative engaging the Pennsylvania AFL-CIO and the Three Rivers Workforce Investment Board, Carnegie Mellon helped secure approval of the first ever U.S. DOL maker apprenticeship. CMU will help ensure that this apprenticeship realizes its potential as a valuable tool for integrating maker initiatives into workforce training and development strategies.
- Finally, since 2014, Carnegie Mellon has been a national coordinator of the MakeSchools Alliance, and • we have been pleased to collaborate with wonderful colleagues at universities across the United States to promote development of making in higher education.

Maker opportunities are clearly among the most important and valuable innovations in improving higher education in our time, helping universities to guide students in finding satisfying career paths that are well attuned to the needs of our digitally enabled society.

We at Carnegie Mellon University continue to be grateful to you for your vision and leadership in advancing the power of making for lifelong learning for all Americans.

Sincerely, 0

Farnam Jahanian



Barbara R. Snyder President

Visitors and Deliveries Adelbert Hall, Room 216

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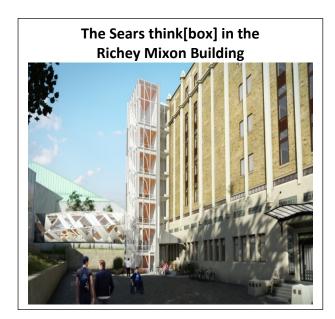
President Barack Obama The White House 1600 Pennsylvania Avenue NW Washington, DC 20500

Dear Mr. President:

June 9, 2016

On behalf of Case Western Reserve University and our Sears think[box], it is a privilege to share this letter of continued commitment to the White House Week of Making. We are grateful for the opportunity to participate for the third year in this important event where the White House showcases how the maker movement so positively affects the education and economic growth of our nation. It is an honor to be part of this maker journey and a great pleasure to watch our campus, as well as local and national communities, embrace the maker movement. At our university and in Northeast Ohio, students, parents, and community members understand the power of making and innovating, and we know it will produce remarkable outcomes for the United States in the years and decades ahead.

As we have done for the last three years, Case Western Reserve University is pleased to demonstrate our commitment and support for this White House initiative. In October 2015, we opened our Sears think[box] in its new 50,000 square-foot home.



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Also in October 2015, we welcomed the world to our campus for our first Innovation Summit, where more than 80 speakers from across specialties and sectors—entrepreneurs, business leaders, researchers, economic development professionals, policy makers and more—explored the impact of various models of innovation, including how they contribute to regional economies, cultures and education.

In addition, with our leadership in the Make Schools Alliance, the impact of our early commitments continues to grow:

- There is an increase from 3,000 to 4,000 visits a month in the Sears think[box]'s new space.
- We have seen over \$3.5 million of outside investment in our Sears think[box] student startups.
- The space and its open access continues to be highlighted as a national model, most recently during a Cleveland visit by former Mythbuster Adam Savage along with staff from the White House Office of Science and Technology Policy.



Ian Charnas, manager of the Sears think[box], demonstrated features of the Sears think[box] to Adam Savage, host of the Emmy-nominated *Mythbusters*, during his visit to our campus in April as part of a lead up event to the 2016 White House Week of Making. President Barack Obama June 9, 2016 Page 3 of 3

This year, we are making specific commitments to enhance our involvement in the community, both locally and globally. We will work to continue the Sears think[box] mission of open access and engagement by offering two community programs designed to encourage additional constituencies to engage in making. We will offer Sears think[box] Tuesdays and time reserved for women throughout the summer months and advertise these events across the Cleveland community. If successful, we plan on offering such programs every summer—a key time of engagement for local residents. In addition, we commit to engaging the next generation of students across the globe through a massive open online course (MOOC) entitled *Making, Manufacturing & Innovation: A New Economic Narrative*, which we will launch by the end of the upcoming academic year through the Case School of Engineering.

Thank you again for your Administration's exceptional commitment to the maker movement, entrepreneurship and innovation. You are leaving a lasting legacy for our country.

Respectfully,

Barbara R. Snyden

Barbara R. Snyder President

BRS/lc:jkv

CornellEngineering



To the President of the United States of America, President Obama:

It is an honor to be writing to you on behalf of Cornell's efforts towards achieving your goals for how the Making movement can help move this country forward. Over the past year we have not only completed all of our commitments from our previous year, but have made significant progress in new Making efforts that target nationally recognized needs of both High School (HS) and college students. In this letter we aim to outline for you a recap on our achievements from last year's commitment, a review of our continuing Maker activities, and finally an introduction to new exciting endeavors which include:

- The Cornell Engineering CollabSpace: an on-line community of near-peer and faculty mentoring for high school student Makers.
- Cornell Engineering Annual Build, a HS and Middle School (MS) educational outreach program that sends Cornell students to HS & MS across the country to experience their first taste of Making.
- The Maker Pro Awards: a new educational incentive program between Intel, Major League Hacking (MLH) and Cornell Systems Engineering to significantly improve the professional design educational experience of MLH's over 120 college student Hackathons across the U.S.
- America's Greatest Makers (AGM) high school lesson plans: freely available high school lesson plans that can be implemented at nearly no-cost to HS teachers to utilize AGM to target Next Generation Science Standards engineering requirements and many Common Core requirements.

Last Year Commitments Updates:

As we had committed to last year, towards the White House entrepreneurship goals of Making, we:

- Successfully co-developed and sponsored the national Make Pitch Your Prototype entrepreneurial competition where the 5 finalist teams pitched their inventions at the Innovation Showcase at the NYC World MakerCon event.
- Developed and ran a 12 week hardware accelerator program within the Rev (Ithaca Business Incubator) supporting both student and community teams exploring the jump from Maker to product developer.

As we had committed to last year towards the White House STEM educational pipeline goals of Making, we:

- Hosted a U.S. FIRST competition kick-off event at Cornell for the next season of the competition inviting all of the surrounding high schools and leading them in workshop activities to learn more about engineering design processes.
- Development of Educational Modules to help train new Makers in skills to enable them to truly enjoy our Cornell
 Engineering Maker Club. Many of these educational modules have been freely released to the public via the Intel-Cornell
 Cup, national embedded systems competition website, with more being planned to be released this Fall.

As we had committed to last year towards contributing to being active members of the broader Making community:

- Participated NYC WorldMaker Con, NYC World Maker Faire, National Maker Faire, and had speakers, panelists and workshop leaders at the Higher Education Maker's Alliance Innovation Summit & the NYC Makers Education Forum.
- Developed the beta for a new on-line Makers "craig's list" to connect projects and people across Cornell.
- Additionally, the Intel-Cornell Cup was the organization with the largest representation at the National Maker Faire and the largest winning representation at the Make Pitch Your Prototype entrepreneurial competition.

Continued Efforts:

Before "Making" became a movement, the maker spirit could be found and is still found in a number of programs but perhaps none so prominently as our Student Project Teams. These are student lead efforts with faculty advisors that focus on in-depth, interdisciplinary application experiences. These teams range in size from a half-dozen to as many as 100 students per team and include students from all of Cornell's undergraduate colleges (over 1000 students are currently engaged). The projects' topics vary considerably and range from projects such as as the Intel-Cornell Cup national embedded systems competition, the Autonomous Underwater Vehicle team, Cornell University Sustainable Design (CUSD), Formula SAE (FSAE), and Violet Satellite to name a few.

Our own Cornell Maker Club was born out of the student project making spirit as an opportunity for smaller, self-forming projects to empower creativity. Ideas from the Cornell Maker Club may also help inspire and prove the validity for larger efforts such as new Student Project Teams or even research projects. Both the Cornell Maker Club and all of our Student Project Teams are led by students but also have faculty advisors and sometimes graduate student mentors that team members can turn to for feedback and guidance. A number of labs and library spaces have also and are continuing to be converted into more opening available Maker Space to support these efforts. Additionally there are student resources such as the PopShop, eLab and eHub and Rev Ithaca Startup Works which are focused on helping students turn their ideas into businesses.

There are also a number of classes such as Innovative Product Design via Digital Manufacturing, Advanced Microcontrollers, and Introduction to Rapid Prototyping and Physical Computing that not only require making in their curriculum but are well known for inspiring projects that students continue beyond the course. Furthering this, many courses are now requiring projects to be developed for real-world, often industrial clients. Here students work with real-world constraints and experience that making can be more than just about making something but how to truly make a difference. Additionally, building on last year's pilot program, the Rev (Ithaca Business Incubator) was awarded a state grant to continue for three additional years to run a 12 week hardware accelerator program within the Rev supporting both student and community teams exploring the jump from Maker to product developer.

Projects and hands-on endeavors have always been a cornerstone of the Cornell experience. Instead of every student repeatedly building the same project year after year, students are required to develop their own projects that showcase the concepts and techniques they have learned in their own new and exciting way. Although these are more challenging to provide guidance on or even grade, the reward of having our students be able think freely enables our students to see course material as tools, instead of just requirements.

New Making Endeavors:

Out of the success of last year's commitments and our continued efforts, this coming year we are committed to making ever greater impacts not just here at Cornell but nationally.

One of the largest endeavors being undertaken is the creation of the Cornell Engineering CollabSpace. The CollabSpace is an on-line community that can be thought of as an online social networking tool for Makers and the projects that they make. Here high school and college students are encourage to share and comment on their latest Making creations. Additionally, the CollabSpace has been designed as a resource for high school students to ask questions of college students, from Cornell and elsewhere, to provide near-peer mentorship on both Making and overall career advice. Cornell Engineering Alumni will also participate as special engineering career advice mentors.

Furthermore, Cornell faculty and Ph.D. students will offer project advising for high school Makers not just on technical details but more so in helping students develop strong engineering practices and professional design skills early on. This advising is being developed based upon the highly valued mentoring that occurs during the Intel-Cornell Cup mid-reviews where college students from across the nation have said in response, "Finally, I know what it is to be an engineer," and "This is an experience that every engineer should go through." Currently the CollabSpace is already in its Beta, with almost 200 active users, and its first full release is planned for the end of this summer. As an outreach of the CollabSpace effort, Cornell Engineering has also started our Annual Build program. Being tested this summer as part of Cornell's National Week in Making events, the Annual Build Ambassadors program asks current Cornell students to visit high schools and potentially middle schools to experience their first taste of Making while targeting some of the same engineering skills outlined in the Next Generation Science Standards. The program is being developed with help from littleBits and Cornell with the hope to release its curriculum openly with plans that SWE and possibly other similar organizations may be interested in running it throughout the academic year.

The Annual Build program is one example of additional efforts Cornell is taking to welcome more of its community into a Making. Cornell's Library system is also sponsoring a new Travelling Maker Space that relocates itself every week across the Cornell Campus to help provide resources and making guidance but more so to help the Cornell community be aware of the many Cornell Making efforts. These on-campus making efforts also extend to a number of K-12 outreach programs with planned continued growth of the NSF and Cornell High Energy Synchrotron Source (CHESS) support of such Xraise programs as the eXploration station, JunkGenies, Garbage 2 Gadgets, MotoInventions, and the TinkerCart. Many of these have local students design and construct exhibits which showcase unfamiliar physics phenomena and together have reached over ten thousand people and have been exhibited at five Maker Faires from coast to coast.

The Intel-Cornell Cup, national embedded system competition is one of the largest Making efforts of Cornell Engineering. This year, The Intel-Cornell Cup is expanding with a new effort to help make Makethons take their next evolutionary leap. Makeathons can be exciting, motivating, and widely popular events but have received criticism of developing poor design habits and low quality projects that quickly fizzle post event. In general, a common feeling is that they are a "1, 9, 90" experience. 1% truly develop a worthwhile project. 9% gain some significant experience. Leaving 90% who say it was a cool experience but then go on with the rest of their lives. The question the Cup has posed is what would it take to foster more positive design habits and turn that "1" into a "2"... or even a "5"? Similarly what could be done to turn that "9" into a "30" or a "50" while even enhancing the exciting appeal of these events?

In a joint effort between Intel and Cornell Systems Engineering, the Cup will be introducing the "Maker Pro Awards": new pre- & post- Makeathon experiences that target professional design skills such as problem definition performance evaluation, trade-off decision making, and basic systems architecture -- it is targeted skills like these that have made the projects of the Intel-Cornell Cup known for being of very high quality with some going on to exciting success stories. Strong performances in the Maker Pro Awards will not only earn teams immediate awards but could potentially earn them additional equipment, technical support, and expert advising sessions as well as an invitation to a "MakerProathon" that will be held in parallel with the traditional Cup Finals currently slated for NASA Kennedy Space Center or Walt Disney World. The Maker Pro Awards are being planned to reach out to tens of thousands of college students through initiatives like Major League Hacking (MLH) student hackathons and Intel's on-campus student education initiatives.

Overall, Cornell is more committed than ever to Making and share the White House's Making goals in entrepreneurship and STEM education. Thank you for your meaningful and valued leadership to elevate the effectiveness of all of the Making movement. We proudly stand behind you and will strive to be an even stronger contributor this year and every year thereafter.

Sincerely,

Dawn 1. perwell

Dawn S. McWilliams Director of Marketing and Communications

College of Engineering Consell University Carpenter Hall

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David R. Schneider, Ph.D. Director of Masters of Engineering Studies in Systems Engineering



June 9, 2016

The Honorable Barack Obama President of the United States of America 1600 Pennsylvania Avenue, NW Washington, D.C. 20500

Dear President Obama:

Thank you for all you have done to draw attention to the importance of our country becoming "A Nation of Makers." Georgia Tech has long been a Campus of Makers, and we continue to innovate in how we educate the next generation of inventors, entrepreneurs, and problem solvers. In honor of this year's Week of Making, I write to provide you an update on how Georgia Tech is contributing to the Maker Movement.

Through our curriculum and student competitions, we are working to instill a spirit of innovation and entrepreneurship in our students. Our CREATE-X, Startup Lab, Idea to Prototype, and Startup Summer are examples of this effort. In addition, a few months ago we held our eighth annual InVenture Prize, an interdisciplinary innovation competition open to Georgia Tech undergraduates and recent graduates. Organized by Georgia Tech faculty, the competition brings together student innovators from all academic backgrounds across campus in an effort to foster creativity, invention, and entrepreneurship. This year's InVenture Prize took place before a 1,000+ person audience and on a live telecast watched by 50,000 people across Georgia. Past InVenture participants have gone on to take part in the White House Maker Faire, land a \$1 million deal on "Shark Tank," and be named to the Forbes "30 Under 30" list.

This year Georgia Tech collaborated with the Atlantic Coast Conference to create the ACC InVenture Prize, modeled after the highly successful Georgia Tech InVenture competition. In April, the best student teams from all 15 ACC universities pitched their inventions to a panel of expert judges at Georgia Tech. The competition was held before a live audience, broadcast live on public television all over the ACC region, and streamed online around the world.

This year the InVenture Prize deepened its earlier expansion into K-12. The InVenture Challenge seeks to bring design, engineering, invention, and entrepreneurship to K-12 education by providing a framework, curriculum, and competition that teachers in different disciplines can use with support from Georgia Tech faculty and staff. The 2016 InVenture Challenge competition reached more than 1,500 students in Georgia, with 60 of the top student teams traveling to Georgia Tech from 30 different schools to compete in the state finals, held in March. The event attracted more than 200 students with another 200 attendees, including teachers, administrators, professionals, academics, and family members. Five of our top teams went on to compete in the inaugural National Invention Convention, and three placed in their age groups.

Georgia Tech has focused on tying together community and university resources to advance the Maker Movement's goals. Georgia Tech faculty and staff, as well as Georgia Tech funding, were an integral part of hosting Maker Faire Atlanta. The Maker Faire covered more than 8 acres of exhibition space and introduced 35,000+ community members to more than 200 makers with active, hands-on demonstrations covering all domains from the arts to technology and engineering. The Faire also featured a conference-style program that included a keynote presentation from Andy Weir, author of the novel "The Martian," the day after the blockbuster Matt Damon movie premiered.

Georgia Tech faculty and staff played a pivotal role in providing Maker Movement resources to K-12 teachers through the first-ever Making Education Conference. Run in conjunction with Maker Faire Atlanta, this conference attracted more than 125 teachers to learn and share best practices for building in-school maker spaces, and to meet community members from their local regions to collaborate with throughout the year. The conference included keynote presentations from Dr. Lindsay Diamond, director of education at SparkFun, and Georgia Department of Education state leaders. Due to the conference's success, two follow-up conferences were held that attracted another 300+ teachers. Overall, the series is estimated to have impacted more than 6,300 K-12 students.

Georgia Tech maintains a strong Maker culture through student-run maker spaces. The Invention Studio, our Mechanical Engineering maker space, covers more than 11,000 square feet and this year opened the 6,500-square-foot dedicated "Montgomery Machining Mall." The new mall co-locates students next to expert machinists and researchers, allowing natural mentorship and expertise sharing. Georgia Tech maker spaces spread across domains, including focus areas in Mechanical Engineering, Biomedical Engineering, Architecture/Design, Entrepreneurship, and planned spaces in Electrical and Computer Engineering and Aerospace Engineering.

Georgia Tech's maker spaces are unique in that students are encouraged to "own" the spaces. Student PI's (prototyping instructors) lead other students in the use and maintenance of the space, ensuring that resources remain available to those who wish to use them. The spaces promote an ethic of responsibility, safety, and community ownership so that students can explore and develop unconventional ideas in a supportive environment. More than 200 students participated in workshops organized by maker-space student leaders during the past year. These included a ladies-night event where female students from across campus were invited to learn more about making in the Invention Studio.

Capstone Design, a culminating course, allows students to work in teams to design, build, and test prototypes in real-world, open-ended, interdisciplinary challenges from industrial and research project sponsors. They learn and apply the engineering design process: defining functional requirements, conceptualization, analysis, identifying risks and countermeasures, selection, and physical prototyping. Working in teams, they develop leadership skills and group dynamics by dealing with scheduling conflicts, meeting weekly deliverables and deadlines, and facilitating communication among team members, project sponsors, and course instructors. Teams also attend lectures by experts from industry and academia on topics including industrial design, manufacturing, market research and marketing, intellectual property, company formation, codes and standards, and ethics.

At the semester's end, student teams display and pitch their inventions and marketability to a panel of judges, invited guests, media, and their peers, while competing for cash prizes in the Capstone Design Expo. This is an excellent opportunity for sponsors to see how teams conceptualized their projects, and this past April Georgia Tech held its largest-ever Expo with more than 1,100 students from 11 different majors on more than 200 teams.

Georgia Tech maintains a strong tradition of partnering with industry. We host more than a dozen local "Innovation Centers," rapid R&D arms of major national corporations such as AT&T, Delta, The Home Depot, Panasonic, NCR, and Stanley Black & Decker. These partnerships provide industry with the expertise of Georgia Tech faculty, the passion of Georgia Tech students, and the strong entrepreneurship-focused culture of Georgia Tech's "Tech Square" innovation hub. In exchange, Georgia Tech's students are provided real-world experience driving cutting-edge technologies that are then manufactured and distributed on a global scale.

The Advanced Technology Development Center (ATDC), Georgia's technology incubator, is an integral component of Atlanta's startup and Maker culture. Powered by Georgia Tech, ATDC helps entrepreneurs learn, launch, scale, and succeed. Since its launch in 1980, ATDC has graduated almost 170 companies from its Signature program. Collectively, those graduate startups have generated more than \$12 billion in revenue in Georgia and have received more than \$2 billion in capital from angels and other investors.

In 2015, ATDC worked with more than 1,800 entrepreneurs across Georgia via a host of sectors, including hardware-technology startups. ATDC supports the Maker Movement through education and entrepreneurial activities such as Maker Faire Atlanta, as well as other maker spaces and the community at large through community building and community guilds — mobile maker spaces that bring a STEM-oriented curriculum to schools that don't have a space to encourage the next generation of creators. ATDC further supports the Maker Movement via its 1,800-square-foot ATDC Design Studio, launched in 2015 with the support of the Georgia Research Alliance. The studio is open to entrepreneurs and offers them use of professional-grade state-of-the-art equipment in the creation of their physical product prototypes.

Thanks again for your role in helping our country realize the important connection between Making and our ability to produce a 21st-century workforce that will help keep the United States the most innovative country in the world. Best of luck for another successful Week of Making.

Sincerely,

G. P. "Bud" Peterson President



Northeastern University College of Engineering

June 10, 2016

President Barack Obama The White House 1600 Pennsylvania Avenue NW Washington, DC 20500

Dear Mr. President,

Office of the Dean

Snell Engineering Center 360 Huntington Avenue Boston, MA 02115 northeastern.edu/coe 617.373.2153 It is my great pleasure to affirm Northeastern University College of Engineering's commitment to Making. Innovation and entrepreneurship, hallmarks of the Maker movement, have long been at the core of the our mantra, anchored by our tradition of engagement with the world, particularly our flagship co-op program, as well as use-inspired research addressing the needs of – and creating value for – people and society. Making has been emphasized further in recent years, particularly through our curricula, as well as through extracurricular student activities.

This past year, we have continued our involvement in expanding Making on campus and within the community.

Within our **capstone (senior design)**, **other courses**, **and student groups**, our students are creating outstanding, impactful designs and devices, such as this year's creation of a non-invasive cap that allows patients in the Intensive Care Unit to communicate when they cannot speak (for example, if they are ventilated.)

In 2013, the college opened the **First-Year Engineering Learning Center**, which includes a dedicated Makerspace with accessible hand tools. This year, we have launched a unique full-year, 8-credit course that fully leverages the space for students' significant hands-on design projects.

Our **Sherman Center for Engineering Entrepreneurship Education**, also founded in 2013, has a dedicated Makerspace for team work, design and 3D printing. The center fosters Making and innovation through 3D printing workshops and product development courses for engineering students, to foster hands-on innovation. This year the Sherman Center fostered the launch of GENERATE, a new student-run product development firm, as well as launched new programs for alumni to mentor students and faculty interested in launching products, and to support students financially who wish to pursue their own product development as a co-op experience.

We are also proud to bring Making together with human need, offering both a technical elective and a student group that focus on "**Enabling Engineering**", i.e. using engineering technologies to build prototypes for low-cost devices that improve the lives of the elderly and individuals with physical or cognitive disabilities. Together, the course



Letter of commitment to Making from Northeastern University's College of Engineering to President Barack Obama

Page 2

and group form an important link between engineering, physical therapy, education and beyond. One of this year's many projects included a communication button for a non-verbal child in an orphanage in Ecuador.

Also in the past year, an **Innovation Taskforce** was established, to be at the forefront of the Maker movement and teach making and innovation across our curricula. A new college-wide award "Fostering Engineering Innovation in Education Award" was also created and inaugurated this spring to provide recognition of teaching in this area.

The college's **Center for STEM Outreach** offers its Building Bridges day of engineering every year; this year, 91 students participated from 39 different schools in 7 states. The students experienced the thrill of Making, including use of 3D printing tools.

In the next year, our college commits to continuing its support of Making through continuation of the programs and spaces described above, the further insertion of innovation and making throughout our curricula and students' extracurricular activities, and through the creation of a new college-wide Makerspace. Our college is also pursuing collaborations with external partners and other colleges to provide shared Makerspaces on and off campus that are accessible to the entire community.

In conclusion, the College of Engineering at Northeastern is proud and excited to be a member of the coalition, and looks forward to supporting and expanding the Maker movement with the other members of the Maker coalition and the White House.

Most respectfully,

Nadie Ag

Nadine Aubry, Ph.D. Dean, College of Engineering Northeastern University



At Oregon State University, we're proud to celebrate the exciting and meaningful evolution of our campus maker ecosystem over the past 12 months. Making at OSU - with our long tradition of successful innovation in research, scholarship, teaching, and community outreach - has been a part of our culture since the 19th century.

What's more, we find in our evolving maker ecosystem a powerful new model for interacting with and learning about the world around us, one that helps us strive to meet the goals we have set for our university in the areas of providing transformative educational experiences for all learners, advancing the science of sustainability, improving human health and wellness, and promoting economic growth and social progress. Collaborative by design, our making enterprises not only support the missions of colleges and programs across the university, but offer new ways of working together to achieve our collective goals.

Hands-on, creative exploration helps encourage risk taking, cement learning, boost self-confidence, connect individuals and communities, and serves as a guide for understanding our individual and collective place around the world and across our state.

Over the past 12 months, we're pleased to note:

- The CO• a collaborative partnership between OSU and our city of Corvallis has implemented the 3rd annual Corvallis Maker Fair, drawing over 1,000 visitors to a maker fair with over 40 exhibitors from higher education, private industry, and creative individuals as well as 5 key guests for a "STEM to STEAM" Symposium-in-the-Round.
- OSU attended with a campus maker delegation the **National Maker Fair** in Washington DC in June 2015.
- A collaborative team of faculty and staff have submitted to grant to fund the establishment of **the first open campus makerspace at OSU**. Co-sponsors included the Colleges of Business, Engineering, and Liberal Arts; the OSU Venture Accelerator; the Division of Outreach & Engagement; University Libraries; and Athletics.
- Convened a group of thought leaders from across campus to explore issues

of how to plan and operate a "maker campus".

- Continued to develop our tools and curricula related to digital making and design throughout our campus
- Worked with the OSU Engagement Academy and OSU Extension to explore how making can help fulfill OSU's mission as Oregon's land grant institution.
- Completed renovations to Graf Hall as the new home for the OSU Robotics program in the College of Engineering. Professor Bill Smart noted, "The new space...promises to be one of the best spaces in the country for the type of robotics that we do here at OSU: collaborative, multidisciplinary, and targeted at real-world problems."
- Enhanced the scope and operations of existing makerspaces within the Austin Entrepreneurship Program in the College of Business, and in the College of Engineering, the College of Liberal Arts, and the Student Experience Center.
- Expanded the equipment and programming within the University Libraries for accessible 3D scanning and printing tools.

Looking ahead, we aspire to build upon these achievements and continue to explore ways that making can fuel our mission and responsibility.

A. Scott Reed

Scott Reed Vice-Provost, For University Outreach & Engagement Director, University Extension Service Oregon State University 101 Ballard Extension Hall Corvallis, Oregon 97331 Scott.Reed@oregonstate.edu



Dear President Obama,

I write to you as outgoing President of the School of the Art Institute of Chicago (SAIC), and as outgoing Chair of the Association of Independent Colleges of Art and Design (AICAD), in support of the Make Schools Alliance and of the critical role schools of art and design play in promoting and invigorating making at the higher education level.

In my time at SAIC, I have come to understand making as the empowerment of individuals to achieve a specific end through creative systems, processes, and tools. I have also come to realize that, much like their counterparts in the STEM fields, artists and designers have an enormous amount of value to contribute to our society as makers. In fact, in their efforts to communicate complex ideas through a wide range of media, to generate new knowledge about our world, and to solve problems in our communities, artists and designers are in many respects leading the way.

Two related trends in particular have positioned artists and designers, and the institutions that train them, for leadership in the maker movement—the decentralization of manufacturing, and the increased accessibility of technology. Together, these developments have had a democratizing effect, enabling creative practitioners and professionals of all stripes to make and innovate in a highlyindividualized and self-directed fashion, often from the comfort of their own studio, in what can be thought of as "distributed making."

At SAIC, and at many of our peer institutions in AICAD, we support our students and their work as makers through our world-class resources and curriculum. Resource-wise, our campus is outfitted with the most state of the art facilities—from 3D printers, vacuum formers, and jacquard looms to laser cutters and CNC machines, our students are able to experiment with the advanced tools that have given rise to maker culture.

Philosophically, SAIC's curriculum also provides students with the values required to become productive makers. Our students design their own courses of study, which provides them with the initiative and entrepreneurial spirit necessary to act on their ideas; engage in interdisciplinary exploration and collaboration, which instills in them a respect for the expertise of others and a thirst for diverse knowledge; and are taught to conceptualize their practices as they relate to and influence the larger world, which inspires them to want to affect positive change in their surroundings.

Making also suffuses specific academic programming at every level of our institution. Entire departments such as Sculpture, Fiber & Material Studies, and Architecture, Interior Architecture, and Designed Objects (AIADO) are, in practice, devoted to teaching students many of the skills that are put to use in making. For example, one recent course in AIADO taught students how to develop prototypes using CNC wax milling and lost wax casting, laser cut non-conforming acrylic dies for hydraulic press use, and generate 2D templates from unfolded 3D digital models. Another recent course in Sculpture was designed for students "who like to carve, shape, assemble, hew, chop, model, craft, form, cut, planish, emboss, mold, cast, join, agglutinate, screw...and build to their heart's content in any scale and in any material."

True to our interdisciplinary philosophy, and to our connection to the city of Chicago, we have also developed a number of partnerships around our hometown through which we have broadened our approach to making and our students' understanding of how they can have an impact on the world as makers. For the past two years, we have participated in the University of Chicago's "Art, Science, & Culture," in which our graduate students have collaborated with their counterparts in the sciences at the University on various projects with real-world applications in fields as diverse as computer engineering, chemistry, climate science, and physics. Similarly, in a course called "Industry Projects," AIADO students work with local business CB2, the home décor retailer, to design products that are then manufactured and sold in the company's stores nationwide. Beyond the academic and business worlds, SAIC has also developed community-based arts/making programming for residents of North Lawndale, on the west side of Chicago. These programs enable our students and faculty to work with local residents and organizations to support the rejuvenation of the neighborhood, from arts education courses to beautification projects.

As making and makers continue to flourish, SAIC looks forward to continuing to play a critical role in a movement that is quickly growing into a critical component of our economy and society, and to prepare our students for this dynamic future. Thank you for your recognition of our efforts, and of the impact that schools of art and design will have on making in this country.

Best regards,

Walto E. Massuy

Walter Massey

UNIVERSITY OF CALIFORNIA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

OFFICE OF THE DEAN THE HENRY SAMUELI SCHOOL OF ENGINEERING UNIVERSITY OF CALIFORNIA, IR VINE 5200 ENGINEERING HALL IR VINE, CA 92697-2700 GREGORY WASHINGTON, PH.D. DEAN PHONE: 949-824-6002 FAX: 949-824-8200 E-MAIL: GREGORY.WASHINGTON@UCI.EDU

June 9, 2016

Dear Mr. Kalil,

As the Dean of the Henry Samueli School of Engineering at the University of California, Irvine, I am pleased to express our commitment to President Obama's initiative to grow a robust culture of makers, tinkers and inventors. One of our many commitments is to allow for students who are applying for admission to the school to submit their Maker portfolio.

Since President Obama's commencement speech at UC Irvine in 2014, our campus has created an ecosystem for innovators and entrepreneurs. Are students today are as passionate about ideas, innovation and changing the world as ever. To that end the school instills entrepreneurial confidence, ensuring graduate have the knowledge, skill and experience to engineer the best solutions for the complexities of a global society. From 2012-14, the Samueli school had 93 invention disclosures, 55 patents and 17 licenses issued, an impressive record for a program of our size.

We launched initiatives in advanced manufacturing, technology transfer acceleration and a new "make lab" – the first of its kind in a university setting. We established a schoolwide innovation caucus to drive idea generation, intellectually property placement and research development. To facilitate scientific interaction, match technical expertise between industry contractors and engineering faculty we launched an Institute for Design and Manufacturing Innovation.

With the leadership and vision of Chancellor Howard Gillman, he established with <u>UCI Applied Innovation</u> and appointed UCI alumnus Richard Sudek, to spearhead this one stop shop for inventors, investors and entrepreneurs. The mission of Applied Innovation is to help the surrounding community reach its full potential as a national and global leader in scalable innovation through public-private collaboration.

During the National Makers Faire next week, we look forward to presenting some of our innovative student startup companies inspired and supported by the UCI entrepreneur ecosystem. Some examples include:

• <u>iBesties</u> - Gina Heitkamp, CEO describes iBesties as a toy and media company that inspires girls in the areas of technology learning and entrepreneurship through dolls, books and online 'edutainment'

• Bulletin - Esosa Agbonwaneten, is the founder and CEO of Bulletin, which provides a mobile platform to help college students make the most of their collegiate career

• <u>Slapband Vitals</u> - UCI undergraduate student <u>Nicole Mendoza and Kimberly Veliz</u>, have developed a wearable wristband that immediate and continuous monitoring of vitals associated with blood pressure. This month they will be graduating from the Henry Samueli School of Engineering with an emphasis on biomedical engineering

I am delighted to share the growth of the campus innovation and entrepreneur milestones and extend our continued commitment for the President's Maker initiative.

I will be looking forward to your reply.

Sincerely,

Gregory Washington, Stacey Nicholas Dean of Engineering

June 1, 2016

President Barack Obama The White House 1600 Pennsylvania Avenue NW Washington, DC 20500

Here at the University of Delaware's College of Engineering, we know a little something about making. For the past 150 years, we have been training the business and engineering workforce that powers manufacturing and innovation up and down the I-95 corridor. Our graduates are leaders in business and product development at companies like Siemens, DuPont, WL Gore, and Astra Zeneca, where they are known for being hands-on, creative, and persistent. We also have students winning international design and business competitions while they flex their maker muscles and nourish their entrepreneurial spirits. It all starts with their training here at University of Delaware, where our unofficial motto is We Build Engineers.

We are the university that pioneered Problem Based Learning. In our mechanical engineering program, each and every semester, our students simulate, design, and build as part of their curriculum. Our freshmen build structures from industrial erector sets – this year, sedan chairs from PVC – and learn that true innovation involves failing fast and frequently on the path to creating a successful product (Figure 1). Sophomores and juniors focus on commercial product design in collaboration with local industry. This year's sophomores developed Melissa & Doug style wooden toys in collaboration with UD's Early Childhood Education students, and our juniors worked with Siemens to optimize in-house process control problems.



Figure 1: Freshmen with their sedan chair designs (L) Sophomore pull toys (R)

Our seniors participate in the Interdisciplinary Senior Design Program, which brings together students from engineering, business, and the arts to solve real-world problems from industry, non-profit, and academic partners. On an annual basis, we partner with over 40 companies, generate several new patents, and are consistently recognized as leaders in design at national conferences and competitions. Examples from this past year include:

• <u>SpinOut</u>: Agoge Automation, co-founded by a UD student, collaborated with our seniors to produce a prototype of an autonomous silverware wrapping machine for behind-the-

scenes use at restaurants (Figure 2). The company is in the process of licensing the technology to a major restaurant equipment retailer.

- 1 patent pending
- NSF I-Corps funded project
- <u>SimuCare</u>: A line of wearable simulation systems developed in partnership with our school of nursing and theater department designed to improve the training of young clinicians by allowing them to perform invasive procedures safely on standardized patient actors. The prototypes are currently being transitioned to an industry partner who will mass manufacture and distribute these systems, thereby improving the safety of patient care nationwide.
 - 2 patents pending
 - o 1st place at the International Meeting on Simulation in Healthcare
 - 1st place at Design of Medical Devices Conference
- <u>Narcotic Integrity</u>: A team of biomedical engineers teamed up with A.I. DuPont Nemours to develop a method of preventing drug diversion, which can be particularly problematic in pediatrics when doses are so small that full packaged doses of narcotic substances go unused (Figure 2).
 - UD Hen Hatch startup funding competition

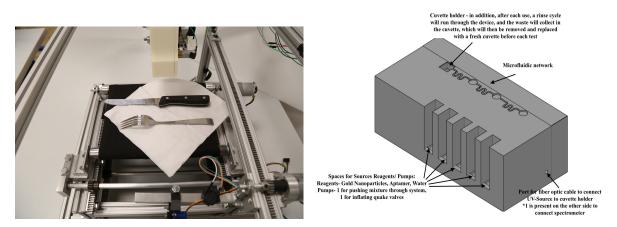


Figure 2: SpinOut (L) and CAD model of microfluidic test for narcotic integrity (R)

As you can tell from these examples, we clearly know how to make stuff. But after familiarizing our students with the tools and techniques of making, we focus their attention on real problems that need real engineering above and beyond making. That is why our institution has invested heavily in curriculum and infrastructure that allow our students to create products that are not only commercially successful but also impact society in a meaningful way. From the moment they step on campus as freshmen, our engineering students are focused on solving the Grand Challenges in Engineering: health, sustainability, security, and joy of living, which we have used as a framework for introductory courses, and also as the criteria for project selection by our faculty in our capstone design course. We have a network of labs, makerspaces, and studios on campus to help students make the leap from sketches and models to physical things. The largest of these spaces is a 5,500 square foot Design Studio located in our mechanical engineering building. The Design Studio includes workspaces for rapid prototyping, digital fabrication (e.g., 3D printing, laser cutting), electronics, healthcare focused design (wet lab for tissue work and physiology stations), and design validation and testing. We actively cultivate a high maker space

physiology stations), and design validation and testing. We actively cultivate a high maker space per student ratio, and our students put it all to good use. Even the Design Studio itself was designed and built by our students, with financial contributions from our alumni, college, and university.

The University of Delaware's College of Engineering wholeheartedly supports the maker movement and the White House's efforts to inspire the next generation of entrepreneurs and inventors. We are excited to be a part of this coalition of universities nationwide to grow the maker movement, and we are happy to lend our expertise to this effort in terms of developing inspiring curriculum and infrastructure.

tunde ogunnaike

Babatunde A. Ogunnaike, Ph.D. Dean and William L. Friend Chaired Professor of Chemical Engineering



College of Engineering

Office of the Dean

3100 Seamans Center for the Engineering Arts and Sciences Iowa City, Iowa 52242-1527 319-335-5764 Fax 319-335-6086 www.engineering.uiowa.edu

June 7, 2016

President Barack Obama The White House 1600 Pennsylvania Avenue NW Washington, DC 20500

Dear President Obama:

On behalf of the students, faculty, and staff of the College of Engineering at the University of Iowa, we are renewing our commitment to the Maker movement.

The College of Engineering already has a proud heritage of creating and participating in programs and projects that encourage bright, adventurous student Makers. For years, we have encouraged our students to become "the engineer...and something more" – not only concentrating on the rigorous studies of engineering and technology, but stretching themselves into teamwork, entrepreneurship, global awareness, technical communication, leadership, and even becoming the creative engineer with ties to the Arts.

The University of Iowa College of Engineering is committed to take several steps to promote Making, including:

- Allowing students who are applying for admission to our College of Engineering to submit a Maker plan at that time. We are asking future students to include these plans in their scholarship application process. We have a high percentage of our students who both apply for and receive scholarships, so this is an excellent approach to capture the Maker plan as they begin their collegiate venture.
- Supporting education, outreach, and service learning that is relevant to Making, including encouraging students to serve as mentors for young Makers. For example, many of our current students are deeply involved in two major STEM programs. The College of Engineering is an Affiliate Partner in the national FIRST Tech Challenge program and co-leads the Project Lead the Way efforts for the state of Iowa. Both programs have been recognized for their STEM efforts from grade school through high school.
- Encouraging students to use their senior design projects to experiment with Making and Makerpreneurship. For years, every department at the College of Engineering has conducted senior capstone design projects as a requirement for graduation. About 20 years ago, this was expanded to include the Program for Enhanced Design Experience, involving senior engineering students who work with engineers from industry on a design project for an entire year. The goal is for students to gain experience in the design process from conceptualization, to prototyping, testing and evaluation, and finally production. Students gain first hand experience in solid modeling, finite element analysis, dynamic simulation, and cost analysis. Emphasis is placed on communication skills, including written reports and oral presentations.

- Providing scholarships to students based upon excellence in making. Better than one out of five students in the College of Engineering receives a scholarship. In addition, the College often awards scholarships at local and state STEM events involving grade school and high school students.
- And our latest Maker initiative is The Nexus of Engineering and the Arts
 - (http://www.engineering.uiowa.edu/current-students/educational-opportunities/engineering-artscollaboration/nexus-program). The Engineering profession is an inherently creative endeavor in which engineers design and create new products, processes or devices that solve problems in society and enhance the quality of life for humankind. When Engineers and artists work together they can achieve especially impressive outcomes. Engineers bring an understanding of the physical world and the conditions and "constraints" placed by the laws of nature, while artists bring a creative vision of beauty that can enhance any project. It is the power of the collaborations between artists and engineers that has led us to create the Virginia A. Myers NEXUS of Engineering and the Arts at the University of Iowa. The NEXUS is not simply a place where a few artists and engineers hang out, rather, it is a creative challenge for art and engineering students and faculty to achieve great outcomes collaborating with one another. The UI College of Engineering is forging into uncharted territory with its commitment to include the arts as a component of its undergraduate education. In May 2015, college faculty approved a general education requirement that all new undergraduate students take at least three semester hours in the creative arts. The college is also creating a Project Design Studio, a unique, hands-on "maker" classroom unlike any other on campus. It's part of a \$37 million addition to accommodate growing enrollment.

The College of Engineering is working to develop even more steps that will support our commitment to Making. We appreciate your leadership to advancing U.S. research and education, and we look forward to working with you and your administration to provide long-term success to the Making effort.

Sincerely,

Alec Suanto

Alec B. Scranton University of Iowa Foundation Distinguished Professor of Chemical and Biochemical Engineering and Dean

Yale school of engineering & Applied science

VINCENT WILCZYNSKI Deputy Dean

PO Box 208267 New Haven CT 06520-8267 T 203 432-4221 F 203 432-0358 vincent.wilczynski@yale.edu seas.yale.edu

courier 10 Hillhouse Avenue New Haven CT 06511

June 9, 2016

President Barack Obama The White House 1600 Pennsylvania Avenue NW Washington, DC 20500

Dear President Obama,

The Yale Center for Engineering Innovation and Design (CEID) is committed to expanding opportunities for making at Yale University. The CEID is a facility where members of the Yale community meet, collaborate, design, and fabricate solutions to challenging problems. Open to the entire university, the CEID has facilitated student and faculty partnerships between diverse groups of academic disciplines, including engineering, medicine, music, art, evolutionary biology, forestry, environmental studies, and French literature. These partnerships have resulted in a number of engineered solutions, some of which have been patented and commercially developed as the foundation for new companies.

The concept of making encourages cooperation between the disciplines and builds collaborative maker communities. The maker community at the CEID consists of over 2,000 members from across all programs at Yale, who use the center's resources for course, extracurricular, and personal projects. The center supports the maker community by providing its members with training and access to the equipment and software needed to design and manufacture components and systems. The CEID also offers workshops for members to learn new skills that are often led by members of our making community. Additionally, the Center hosts a number of credit-awarding design courses that focus on sustainability, medical devices, light as an artistic medium, mechanical systems, and new product development.

The Yale Center for Engineering Innovation and Design will continue to support making as tool for learning and problem solving by providing access to equipment and guidance to all individuals at Yale. The CEID will support making in all forms, spanning from projects that originate within courses to entrepreneurial ideas that may develop into startup companies. We will seek to foster new collaborations between individuals from different technical and experiential backgrounds, and look to form associations between individuals and groups to promote creative problem solving. The Yale Center for Engineering Innovation and Design will also advance the maker movement through outreach programs involving K-12 educators and students in New Haven.

It is our hope that these efforts will contribute to the national focus on making as a means to help individuals develop technical, teamwork, and leadership skills that benefit all. We look forward to continued collaborations with colleagues from academia, government, industry, and community groups that share this vision.

Sincerely yours,

Umet Wilsy L.

Vincent Wilczynski Deputy Dean, School of Engineering & Applied Science

Personalized Update

ArtCenter College of Design

In the past 12 months at ArtCenter, we have continued to incorporate Making by:

- Producing an Intel-supported report "Maker Spaces in Art and Design Schools" that surveys maker spaces in and outside of education and outlines the unique positioning of art and design schools to incorporate digital making
- Developing an institution-wide plan for making that envisions a network of specialized maker space Hubs and Mobile Stations
- Designing and prototyping Mobile Maker Stations of two types, Media and Electronics, to be deployed and tested Fall 2016.
- Developing plans for Making Hubs including: Wearables/Soft Goods; Transportation UX; Materials Exploration; Science; and Immersive Media.
- As part of a visionary 10 year Master Plan, incorporating more sharing of crossdepartmental resources and cross pollination of skills and ideas
- Developing a state-of-the-art Industrial and Transportation Design facility, including maker spaces, labs and studio classrooms.
- Focusing on human experience in transportation design with support from Hyundai and Kia who have recently signed on to underwrite an Innovation Lab. This state of the art facility will allow unrivaled access to new technologies, tools and curriculum, creating an incubator for experimentation and discovery.
- Working with leading edge technology companies in the VR and AR space to blend a wide range of new equipment in an Immersive Media Lab set to go online in Spring of 2017.
- Creating Making Space connections with open pathways in courtyards to establish a visual link between Playing and Making layers, which fosters an environment for experimentation and collaboration.
- Building an incubator space proposed to house new ventures and start-ups created by alumni and students. The two-story space has a storefront on Raymond Avenue, where the creators can engage the public, and a back door connection to the MakingLab, allowing connectivity and collaboration with students and faculty.

Personalized Update

Radford University

Radford University is proud of our achievements in Making and Innovation in the Past 12 Months and look forward to continuing our efforts in the upcoming year.

Events, projects, and courses in Making and Innovation have been key elements of the Radford University experience, but until recently, were isolated efforts. In the past year, Radford University began a new phase of Making and Innovation with strategic investments in the development of our Making and Innovation ecosystem. These investments are evidenced in the following areas:

Investing in Makerspaces

As part of our campus-wide Maker Movement, we established a residence hall-based multidisciplinary makerspace outfitted with equipment supporting 3D scanning and printing, die cutting, e-textiles, and electronics/microcontrollers, for the development of physical and digital prototypes and projects. With a soft opening in spring 2016, we hosted Make Days and build events.

We also upgraded our other interdisciplinary digital space, the New Media Center, with an advanced video editing station, more flexible furnishings to accommodate a wider range of activities, and 3D scanning and modeling capabilities.

Supporting education, outreach, and service-learning

Departments and colleges are offering Maker courses, embedding projects in the curricula, and supporting faculty-student collaborations and outreach events. Notable advances in the past year are the development of our freshman living-learning community, hosting campus Maker events, and developing partnerships with our local schools.

RU Makers, our freshman living-learning community, is lead by a team of six faculty from six departments within three colleges. Together, and in partnership with staff in Residential Life, they developed a program that includes curricular and co-curricular components. Students take their freshman orientation seminar together along with their introductory written and oral communication course. Both of these courses are themed to Making and Innovation. Students from all majors are welcome to join.

Several student-focused Maker events were held last year targeting various kinds of making and populations of students. We hosted Build your own Green Screen, the October Film Challenge, the Spring Film Challenge, and Build your own Smartphone Microscope. These workshops and events were led by both faculty and student Makers.

Radford University faculty and student mentors engaged with Radford City Public Schools at all levels. Radford University Making faculty and student mentors partnered with Radford City Public Schools to teach Making skills and host a Battlebot competition, Techno Prom Make Days, and collaborated on a Spring Film Challenge. Our Design Department also taught local school children of various grades 3D design both at their home school and in the Design lab.

Looking ahead to the fall, we will welcome our first cohort of freshman into the RU Makers living-learning community, continue to host campus-wide Make events, engage with our local schools, and support the development of a student-driven Makers club.

Supporting research

Through multiple internal grants faculty-student collaborative research projects focusing on making are underway. Among these are interdisciplinary projects using 3D printing, electronics/microcontrollers, and construction to advance the study of birds, arctic sea ice, and royal jelly.

Encouraging students to experiment with Making and Maker-preneurship

We encourage students to experiment with Making and Innovation through courseembedded projects and campus-wide competitions. A stellar example is the College of Business and Economics partnership with BB&T Bank to host a campus-wide business innovation contest.

This year we look forward to continuing to offer courses and support competitions with an entrepreneurial focus. We will also launch an initiative to enable all students with an idea to apply for modest seed funding for Maker projects.

Participating in regional efforts

Over the past year our participation in regional efforts have focused on participation in various competitions, charrettes, and meet-ups. We've visited other university makerspaces, and participated in student organized maker events at nearby Virginia Tech. Additionally, we intentionally invested in building connections with our local K-12 schools.

Moving forward we seek to build our regional higher education connections, continue participation in competitions and charrettes, and deepen our connections with our local K-12 school systems.

Supporting faculty development

To help build Maker skills, knowledge, and connections among faculty, we hosted several professional development opportunities in Making and Innovation focusing on 3D design and printing, creativity, innovation, and resource-sharing.

With this faculty-driven movement we seek to deepen connections between higher

education and business needs, deliver career-ready graduates that have tested their technical knowledge and soft skills in an applied environment, promote business innovation and social entrepreneurship, and provide the platform for original research and economic impact. Through these efforts and others, we are empowering our students to create the objects of their imagination through project-based, student-centered, investigative pedagogies focused on solving real problems.

- Dr. Jeanne Mekolichick, Assistant Provost for Academic Programs

Personalized Update

Rochester Institute of Technology

The Rochester Institute of Technology campus makerspace fondly known as "The Construct" has quickly become an indispensable lab on campus. The Construct has over 2,000 unique student sign-ins with all colleges and levels of students at RIT represented in the first full year of service. The Construct helps students by giving them access to technology, giving students the ability to 3d print, CNC, laser cut and use other fabrication tools. Over 2,200 3d printed projects and hundreds of other projects were accomplished with this access to technology. Other programs on campus have introduced physical making into their class curriculum because of The Construct.

The Construct has also energized the entrepreneurial activities on campus by providing access to work space and tools in an open and co-working environment. As part of RIT's strategic plan, The Construct encourages interdisciplinary projects and the lab supports the multi-disciplinary senior design program. The Construct continues to show where engineering and the arts can intersect to help students develop a wider array of skills.

In the coming year, we at RIT are focused on working with our surrounding maker partners, the community makerspaces and educational makerspace by using our position in higher education to help develop curriculum, while continuing to grow the maker culture on campus. The Construct is looking to develop more hands-on workshops and seminars to expose students to new techniques and technologies, and to expand the experiential learning opportunities at RIT. The Construct will continue to embody the maker movement and our commitment to making and hope to make even more contributions in the following year.

- Mike Buffalin, Makerspace Director

Personalized Update

Texas State Technical College

Texas State Technical College in North Texas continues its emphasis on advanced and emerging technologies by providing excellence in learning experiences. Our partnership with Red Oak ISD is a chance to serve non-traditional and special population groups. Hosting a STEM Career Day for elementary students planted seeds in the students that will blossom in our Nation of Makers.

Providing leadership for the regional FAB Now Maker conference for the past two years is our way of developing vision and strategies for a desired future of making.

Rounding out this year's achievements is our continued facility support for Red Oak Makerspace as they serve the south DFW area.

- Marcus Balch, Provost

Union College

Union College has made great strides in utilizing Maker Culture to build bridges between disciplines. We have had several great events that have brought together gender studies and hardware design, encouraged college students to become leaders in their communities through Making, and embedding the humanities disciplines in critical fields like product design and computer science. Through this work, we have sparked the attention of a few alumni who have generously donated equipment, and developed a process for faculty to work together to pool resources for other equipment, which would be otherwise unattainable. In Oct 2015 Union College hired a full time Makerspace Coordinator, charged with bringing these efforts to the Union Community. Together, we have won Hackathons, held many hands on workshops, gone out into the community, and lots more.

- Amanda Ervin, Makerspace Coordinator

University of Wyoming

In the past year, UW has proudly maintained a makerspace in the College of Education while also launching a makerspace in Visual Arts and working through collaborations to open a Makerlab in the Coe Library. Through outreach efforts, K12 makers from around the state of Wyoming have come to campus to tour these facilities and brainstorm ways to use making in their own schools.

- Tonia A. Dousay, Assistant Professor

Individual Campus Commitments from 78 institutions

As part of the Week of Making, campuses have pledged support to one or more commitments to making. This section describes the individual commitments each signatory institution has made.

Details of these commitments are included in the following order:

- 1. Arizona State University
- 2. Art Academy of Cincinnati
- 3. ArtCenter College of Design
- 4. Boise State University
- 5. Bucknell University
- 6. California College of the Arts
- 7. California Polytechnic State University, San Luis Obispo
- 8. California State University, Northridge
- 9. Carnegie Mellon University
- 10. Case Western Reserve University
- 11. College for Creative Studies
- 12. University of Iowa
- 13. Columbus College of Art & Design
- 14. Cornell University
- 15. Denison University
- 16. Cerritos College
- 17. Duquesne University
- 18. Elon University
- 19. Folsom Lake College
- 20. Georgia Institute of Technology
- 21. Jackson State University
- 22. James Madison University
- 23. Kansas City Art Institute
- 24. Kent State University
- 25. Lorain County Community College
- 26. Marshall University
- 27. Maryland Institute College of Art
- 28. Massachusetts Institute of Technology
- 29. Memphis College of Art
- 30. Minneapolis College of Art and Design
- 31. Morehouse College
- 32. New Hampshire Institute of Art
- 33. New York Institute of Technology
- 34. North Carolina Central University
- 35. Northeastern University
- 36. Oregon College of Art and Craft
- 37. Oregon State University
- 38. Pennsylvania College of Art & Design
- 39. Pratt Institute
- 40. Radford University

- 41. Ringling College of Art and Design
- 42. Robert Morris University
- 43. Rochester Institute of Technology
- 44. Santa Clara University
- 45. School of the Art Institute of Chicago
- 46. School of the Museum of Fine Arts, Boston
- 47. Sierra College
- 48. Sonoma State University
- 49. Southern Methodist University
- 50. Sweet Briar College
- 51. Tennessee Tech University
- 52. Texas State Technical College in North Texas
- 53. The University of Pennsylvania
- 54. The University of Tennessee Knoxville
- 55. The University of Texas at Austin
- 56. Tufts University
- 57. Tulane University
- 58. Union College
- 59. University of Alabama in Birmingham
- 60. University of California, Irvine
- 61. University of Delaware
- 62. University of Florida
- 63. University of Louisville
- 64. University of Maryland
- 65. University Of Massachusetts Amherst
- 66. University of Massachusetts Lowell
- 67. University of Miami
- 68. University of New Haven
- 69. University of Oregon
- 70. University of St. Thomas
- 71. University of Texas at Dallas
- 72. University of Texas at Tyler
- 73. University of Vermont
- 74. University of Wyoming
- 75. Washington University in St. Louis
- 76. Worcester Polytechnic Institute
- 77. Yale University
- 78. Youngstown State University

Arizona State University

Arizona · http://asu.edu/

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Steven Tepper, Dean, Herberger Institute for Design and the Arts

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
- Supporting education, outreach and service-learning that is relevant to Making, such as encouraging students to serve as mentors for young Makers;
- Supporting research that advances Making technologies and facilitates greater access to Making experiences such as the development of new tools for desktop manufacturing
- Expanding access to university shared facilities and scientific instrumentation to Makers
- Encouraging students to use their senior design projects to experiment with Making and Maker-preneurship
- Participating in regional efforts to create a vibrant Maker ecosystem that involve companies, investors, skilled volunteers, state and local officials, libraries, museums, schools, after-school programs, labor unions, and community-based organizations

Art Academy of Cincinnati

Ohio · http://artacademy.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- John M Sullivan, President

- Allowing students that are applying for admission to these institutions to submit their Maker portfolio
- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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ArtCenter College of Design

California · http://artcenter.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Anne Burdick, Chair, Media Design Practices

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Boise State University

Idaho · http://www.boisestate.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Tracy Bicknell-Holmes, Dean of the Library

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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Bucknell University

Pennsylvania · http://makers.blogs.bucknell.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Margot Vigeant, Associate Dean of Engineering

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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California College of the Arts

California · http://www.cca.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Becky Ruden, VP Marketing & Communications Strategy

- Allowing students that are applying for admission to these institutions to submit their Maker portfolio
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California Polytechnic State University, San Luis Obispo

California · http://www.calpoly.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Tod Nelson, Executive Director, Cal Poly Center for Innovation & Entrepreneurship

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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California State University, Northridge

California · http://www.ecs.csun.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- S. K. Ramesh, Dean, College of Engineering and Computer Science

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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Carnegie Mellon University

Pennsylvania · http://cmu.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Subra Suresh, President

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Case Western Reserve University

Ohio · http://www.case.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Jeff Duerk, Dean, Case School of Engineering

- Supporting education, outreach and service-learning that is relevant to Making, such as encouraging students to serve as mentors for young Makers;
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College for Creative Studies

Michigan · http://www.collegeforcreativestudies.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Sooshin Choi, Provost & VP for Academic Affairs

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
- Encouraging students to use their senior design projects to experiment with Making and Maker-preneurship

College of Engineering, University of Iowa

Iowa · http://www.engineering.uiowa.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Alec B. Scranton, Dean of the College of Engineering

- Allowing students that are applying for admission to these institutions to submit their Maker portfolio
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Columbus College of Art & Design

Ohio · http://www.ccad.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Kevin Conlon, Provost

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- Other: Facilitating internships and project-based experiences for students to use their making skills.

Cornell University

New York · http://www.engineering.cornell.edu/

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- David R. Schneider, Director of Master of Engineering Studies in Systems Engineering

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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- Other: Please see our letter to the President in Action 2 under New Making Endeavors. Thank you

Denison University

Ohio · http://denison.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Lew Ludwig, Professor

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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Department of Engineering Design Technology, Cerritos College

California · http://www.cerritos.edu/mmicic

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Miodrag Micic, Department Chair and Professor

- Allowing students that are applying for admission to these institutions to submit their Maker portfolio
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Duquesne University

Pennsylvania · http://www.duq.edu/academics/schools/education

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Temple Lovelace, Associate Professor of Special Education

- Supporting education, outreach and service-learning that is relevant to Making, such as encouraging students to serve as mentors for young Makers;
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Elon University

North Carolina · http://www.elon.edu/makers

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Christopher Waters, Assistant Vice President for Technology and CIO

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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Folsom Lake College

California · http://www.flc.losrios.edu/

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Rachel Rosenthal, President

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
- Supporting education, outreach and service-learning that is relevant to Making, such as encouraging students to serve as mentors for young Makers;
- Expanding access to university shared facilities and scientific instrumentation to Makers
- Providing scholarships to students based upon excellence in Making
- Participating in regional efforts to create a vibrant Maker ecosystem that involve companies, investors, skilled volunteers, state and local officials, libraries, museums, schools, after-school programs, labor unions, and community-based organizations
- Other: Developing models of Making Across the Curriculum, including interdisciplinary courses and certificates in modern making.

Georgia Institute of Technology

Georgia · http://www.gatech.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- G. P. "Bud" Peterson, President

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
- Supporting education, outreach and service-learning that is relevant to Making, such as encouraging students to serve as mentors for young Makers;
- Encouraging students to use their senior design projects to experiment with Making and Maker-preneurship
- Participating in regional efforts to create a vibrant Maker ecosystem that involve companies, investors, skilled volunteers, state and local officials, libraries, museums, schools, after-school programs, labor unions, and community-based organizations
- Other: Georgia Tech will continue to be a partner in building a maker space ecosystem, both between universities as well as with the K-12 and general community, in order to break down barriers in students' pursuit of learning.

Jackson State University

Mississippi · http://www.jsums.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Mary M. White, Chair, Dept of Entrepreneurship & Small Business Management

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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James Madison University

Virginia · http://cise.jmu.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Bob Kolvoord, Dean, College of Integrated Science and Engineering

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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Kansas City Art Institute

Missouri · http://kcai.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Bambi Burgard, Executive Vice President for Academic Affairs

- Allowing students that are applying for admission to these institutions to submit their Maker portfolio
- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
- Supporting education, outreach and service-learning that is relevant to Making, such as encouraging students to serve as mentors for young Makers;
- Providing scholarships to students based upon excellence in Making

Kent State University

Ohio · http://www.kent.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Melody Tankersley, Senior Associate Provost

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
- Supporting research that advances Making technologies and facilitates greater access to Making experiences such as the development of new tools for desktop manufacturing
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Lorain County Community College

Ohio · http://www.lorainccc.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Kelly Zelesnik, Dean of Engineering, Business & IT

- Allowing students that are applying for admission to these institutions to submit their Maker portfolio
- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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- Encouraging students to use their senior design projects to experiment with Making and Maker-preneurship
- Participating in regional efforts to create a vibrant Maker ecosystem that involve companies, investors, skilled volunteers, state and local officials, libraries, museums, schools, after-school programs, labor unions, and community-based organizations
- Other: "Lorain County Community College (LCCC) in 2016 will continue to augment its commitment to educational-, enterprise- and community-focused 'making' resources with the expansion of its current Fab Lab (the first outside of MIT, opened in 2004) and that facility's integration into the newly expanded Nord Advanced Technology Center and the brand-new Campana Innovation and Ideation Center. (Re-)Opening in late 2016, these facilities will serve LCCC students, area K-12 teachers & students (through affiliated K-12 partnership programs), area businesses & enterprises, as well as offer general community access to making assets. Technology resources in addition to state-of-the-art 3-D printers, laser cutters, etc, will now include advanced virtual-reality prototyping equipment and other ideation-assisting resources. LCCC expects to reach in excess of 1,000 educational, enterprise and community 'users' by 12/31/17."

Marshall University

West Virginia · http://www.marshall.edu/cite

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Wael Zatar, Dean, College of Information Technology and Engineering, Marshall university

- Supporting research that advances Making technologies and facilitates greater access to Making experiences such as the development of new tools for desktop manufacturing
- Expanding access to university shared facilities and scientific instrumentation to Makers

Maryland Institute College of Art

Maryland · http://www.mica.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- David Bogen, Provost, Maryland Institute College of Art

- Allowing students that are applying for admission to these institutions to submit their Maker portfolio
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Massachusetts Institute of Technology

Massachusetts · http://web.mit.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Martin Culpepper, MIT Maker Czar and Prof. Mechanical Engineering

- Allowing students that are applying for admission to these institutions to submit their Maker portfolio
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- Other: Running the 1st International Symposium for Academic Makerspaces at MIT Nov. 13-16 at MIT

Memphis College of Art

Tennessee · http://www.mca.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Ron Jones, President

- Allowing students that are applying for admission to these institutions to submit their Maker portfolio
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Minneapolis College of Art and Design

Minnesota · http://mcad.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Jay Coogan, President

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Morehouse College

Georgia · http://www.morehouse.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Dr. Garikai Campbell, Provost and Senior Vice President for Academic Affairs

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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New Hampshire Institute of Art

New Hampshire · http://www.nhia.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Kent Devereaux, President

- Allowing students that are applying for admission to these institutions to submit their Maker portfolio
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New York Institute of Technology

New York · http://nyit.edu/engineering/

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Brian Carbonette, Laboratory Engineer

North Carolina Central University

North Carolina · http://www.nccu.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Eric Saliim, NCCU FabLab Manager

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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Northeastern University

Massachusetts · http://www.neu.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Nadine Aubry, Dean, College of Engineering

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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- Supporting research that advances Making technologies and facilitates greater access to Making experiences such as the development of new tools for desktop manufacturing
- Encouraging students to use their senior design projects to experiment with Making and Maker-preneurship
- Other: Initiating efforts to integrate innovation in our curriculum that includes Making as an element of engineering entrepreneurship.

Oregon College of Art and Craft

Oregon · http://www.ocac.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Denise Mullen, President

- Allowing students that are applying for admission to these institutions to submit their Maker portfolio
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- Encouraging students to use their senior design projects to experiment with Making and Maker-preneurship
- Providing scholarships to students based upon excellence in Making
- Participating in regional efforts to create a vibrant Maker ecosystem that involve companies, investors, skilled volunteers, state and local officials, libraries, museums, schools, after-school programs, labor unions, and community-based organizations
- Other: Convening community conversations and lectures on the value of Making

Oregon State University

Oregon · http://oregonstate.edu/

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Scott Reed, Vice Provost - University Outreach and Engagement

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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Pennsylvania College of Art & Design

Pennsylvania · http://www.pcad.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Mary Colleen Heil, President

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Pratt Institute

New York · http://www.pratt.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Donna Heiland, Associate Provost for Academic Affairs

Radford University

Virginia · http://www.radford.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Dr. Joseph Scartelli, Interim Provost and Vice President of Academic Affairs

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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Ringling College of Art and Design

Florida · http://ringling.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Jeff Bellantoni, Vice President for Academic Affairs

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Robert Morris University

Pennsylvania · http://rmu.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Mary Ann Rafoth, Dean, School of Education and Social Sciences

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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Rochester Institute of Technology

New York · http://www.rit.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Mike Buffalin, Makerspace Director

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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Santa Clara University

California · https://www.scu.edu/engineering/makerlab/

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Godfrey Mungal, Dean, School of Engineering

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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- Participating in regional efforts to create a vibrant Maker ecosystem that involve companies, investors, skilled volunteers, state and local officials, libraries, museums, schools, after-school programs, labor unions, and community-based organizations
- Other: Develop a mobile maker capability to support activities and outreach

School of the Art Institute of Chicago

Illinois · http://www.saic.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Douglas Pancoast, Director, Shapiro Center for Research and Collaboration

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School of the Museum of Fine Arts, Boston

Massachusetts · http://smfa.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Christopher Bratton, President

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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Sierra College

California · http://www.sierracollege.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- William H. Duncan, IV, Superintendent/President

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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- Encouraging students to use their senior design projects to experiment with Making and Maker-preneurship
- Providing scholarships to students based upon excellence in Making

Sonoma State University

California · http://www.sonoma.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Pamela Van Halsema, Dean's Strategist

- Supporting education, outreach and service-learning that is relevant to Making, such as encouraging students to serve as mentors for young Makers;
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Southern Methodist University

Texas · http://www.thedig.org

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Katie Krummeck, Director, Deason Innovation Gym

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Sweet Briar College

Virginia · http://oldweb.sbc.edu/engineering

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Hank Yochum, Professor and Chair, Engineering

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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Tennessee Tech University

Tennessee · https://www.tntech.edu/

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Dr. Philip B. Oldham, President

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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- Other: Continuing and expanding our Innovation and Entrepreneurship student Competition, the Eagle Works - Continuing participation in the Epicenter University Innovation Fellows - Leverage NSF I-Corps site program to enhance innovation and entrepreneurship infrastructure

Texas State Technical College in North Texas

Texas · http://www.tstc.edu/

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Marcus Balch, Provost

- Supporting education, outreach and service-learning that is relevant to Making, such as encouraging students to serve as mentors for young Makers;
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The University of Pennsylvania

Pennsylvania · http://www.upenn.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Dawn Bonnell, Vice Provost for Research

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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The University of Tennessee Knoxville

Tennessee · http://ics.utk.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Will Schleter, Distinguished Lecturer

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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The University of Texas at Austin

Texas · http://makerspace.engr.utexas.edu/

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- R. Scott Evans, Ph.D., Director, Longhorn Maker Studios

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Tufts University

Massachusetts · http://maker.tufts.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Brian Gravel and Kristen Wendell, Director of Elementary Education and Assistant Professor (Gravel); Assistant Professor (Wendell)

Tulane University

Louisiana · http://tulane.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Nick Altiero, Dean of Science and Engineering

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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Union College

New York · http://muse.union.edu/makerweb

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Amanda Ervin, Makerspace Coordinator

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
- Supporting education, outreach and service-learning that is relevant to Making, such as encouraging students to serve as mentors for young Makers;
- Supporting research that advances Making technologies and facilitates greater access to Making experiences such as the development of new tools for desktop manufacturing
- Expanding access to university shared facilities and scientific instrumentation to Makers
- Encouraging students to use their senior design projects to experiment with Making and Maker-preneurship
- Participating in regional efforts to create a vibrant Maker ecosystem that involve companies, investors, skilled volunteers, state and local officials, libraries, museums, schools, after-school programs, labor unions, and community-based organizations

University of Alabama in Birmingham

Alabama · https://www.uab.edu/engineering/home/

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- Iwan Alexander, Dean of Engineering

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University of California, Irvine

California · http://www.uci.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Gregory Washington, Dean of the Henry Samueli School of Engineering, UC Irvine

- Allowing students that are applying for admission to these institutions to submit their Maker portfolio
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University of Delaware

Delaware · http://www.udel.edu/

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- Babatunde Ogunnaike, Dean, College of Engineering

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University of Florida

Florida · http://www.ufl.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Anthony Kolenic, Assistant Dean

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University of Louisville

Kentucky · http://louisville.edu/speed

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Dr. John S. Usher, Acting Dean of Engineering

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University of Maryland

Maryland · http://www.umd.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Darryll Pines, Farvardin Professor and Dean

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University of Massachusetts Amherst

Massachusetts · umass.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Kumble R. Subbaswamy , Chancellor

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University of Massachusetts Lowell

Massachusetts · https://www.uml.edu/engineering/

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- Joseph C. Hartman, Dean of Engineering

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- Other: Integrating Making with experiential learning

University of Miami

Florida · http://miami.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- DeanJean-Pierre Bardet, Dean, Colle of Enginee

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University of New Haven

Connecticut · http://www.newhaven.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Ronald S. Harichandran, Dean of the Tagliatela College of Engineering

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University of Oregon

Oregon · https://pd.uoregon.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- John Arndt, Associate Professor, Program Director

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University of St. Thomas

Minnesota · https://www.stthomas.edu/cee/

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Deborah Besser, Director Center for Engineering Education

Specific Commitments:

• Supporting education, outreach and service-learning that is relevant to Making, such as encouraging students to serve as mentors for young Makers;

University of Texas at Dallas

Texas · http://www.utdallas.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Mark W. Spong, Dean

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University of Texas at Tyler

Texas · http://www.uttyler.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Michael Odell, Ph.D., Vice President, Office of Research and Technology Transfer

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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University of Vermont

Vermont · http://www.uvmfablab.net

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Jenn Karson, Lecturer, UVM FabLab

- Supporting education, outreach and service-learning that is relevant to Making, such as encouraging students to serve as mentors for young Makers;
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University of Wyoming

Wyoming · http://www.uwyo.edu/

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Tonia A. Dousay, Assistant Professor

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Washington University in St. Louis

Missouri · http://www.wustl.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Dr. Dedric A. Carter, Associate Provost & Associate Vice Chancellor for Innovation and Entrepreneurship

Specific Commitments:

• Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;

Worcester Polytechnic Institute

Massachusetts · http://www.wpi.edu

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- David Cyganski, Dean of Engineering, ad interim

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Yale University

Connecticut · http://ceid.yale.edu/

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Vincent Wilczynski, James S. Tyler Director, Yale Center for Engineering Innovation and Design

- Investing in Makerspaces that are accessible to students across the campus, or serving as "anchor tenants" for commercially-operated Makerspaces;
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- Encouraging students to use their senior design projects to experiment with Making and Maker-preneurship
- Other: Offering academic courses and summer design fellowships that support making as a key tool for learning

Youngstown State University

Ohio · http://ciam.ysustem.com/

I am committing, on behalf of my institution, to one or more of the steps outlined in the joint letter to the President.

- Martin Abraham, Provost and VP Academic Affairs

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