USC School of Advanced Computing

USC-Led Coalition Receives $27M from DoD to Increase Microelectronics Production

The Department of Defense recently announced that USC was selected to lead a consortium of universities and private companies as part of the CHIPS and Science Act. Known as the California DREAMS Hub, the regional hub—one of forty-eight selected in the U.S.—will spur development of a domestic microelectronics manufacturing industry. Scientists and engineers at the USC Viterbi School of Engineering and the USC Information Sciences Institute (ISI) will lead a coalition of 16 other universities, contractors and workforce-development partners to translate the sophisticated materials and devices developed in academic labs to fabrication.

Semiconductors, which run everything from smartphones to fighter jets, have enabled many of the advances in the modern world. They are continuously becoming more complex and powerful. A crucial goal of the superhub is to inspire the next generation of students to design and build microelectronics.

“Engineers and scientists will work together in interdisciplinary teams to solve the society’s grand challenges.”

USC President Carol L. Folt

USC + Academic Partner Institutions

Caltech

Morgan State University

North Carolina A&T State University

Pasadena City College

University of California, Irvine

UCLA

University of California, Riverside

University of California, San Diego

Corporate Partners

The Boeing Co.

HRL Laboratories

Lockheed Martin Aeronautics

Northrop Grumman

PDF Solutions

Raytheon

Teledyne Scientific Co.

“Fifty years after the formation of the USC Information Sciences Institute played a pivotal role in the computing revolution, USC will once again change the world. Our university is uniquely positioned to pair the groundbreaking advances promised by the USC School of Advanced Computing with the society-serving insights from USC researchers generated through advanced artificial intelligence and machine learning agents.”

Carol L. Folt, USC President

“Frontiers of Computing will not only lead to breakthrough advances in science and technology but also expand the impact of scientific discovery. It is not only the ability to solve problems that sets this apart, but the speed with which it can be done.”

Ishwar K. Puri, USC Senior Vice President for Research and Innovation

“An effort of this magnitude in Southern California can’t help but spur a computing industry resurgence in the greater Los Angeles area. And [USC] is going to be part of keeping us ahead of many of our international competitors in computing.”

Bill Dally, Nvidia chief science officer

“Frontiers of Computing will not only lead to breakthrough advances in science and technology but also expand the impact of scientific discovery. It is not only the ability to solve problems that sets this apart, but the speed with which it can be done.”

Ishwar K. Puri, USC Senior Vice President for Research and Innovation

“Engineers and scientists will work together in interdisciplinary teams to solve the society’s grand challenges.”

USC President Carol L. Folt

USC Viterbi School of Engineering
USC Frontiers of Computing

USC’s $1 billion project to advance technology for humanity through advanced computation, quantum computing, AI and ethics. Made possible by a $260 million gift from Lord Foundation, FoC will expand and infuse advanced computing throughout the university’s programs and curriculum with ethics at its core. This initiative will be bolstered by the estimated $130 million construction of Dr. Allen and Charlotte Ginsburg Human-Centered Computation Hall.

In 1972, USC launched the Information Sciences Institute (ISI), which helped develop, design, and run the internet, including communication protocols that remain fundamental to this day. ISI engineers created the .com and developed the Voice over Internet Protocol — Zoom, anyone? — and launched the first operational quantum computer of any university worldwide.

Building on our longtime excellence in computing, which also includes the Institute for Creative Technologies (ICT), USC President Carol Folt announced in April the Frontiers of Computing. This billion-dollar initiative, made possible by a gift from the Lord Foundation, will position USC at the forefront of the ongoing technology revolution for the benefit of society.

Frontiers will feature the School of Advanced Computing, which will build upon the amazing work already happening through USC Viterbi, leveraging the strengths of our outstanding departments. The new school will be housed within the Viterbi School and will include the Information Technology Program (ITP), data sciences, faculty affinity groups and centers and more. Frontiers will consolidate USC Viterbi’s (and USC’s) leadership in advanced, human-centric computing, artificial intelligence, quantum information, blockchain technology, electronics and new chip designs, and other digital fields. This represents a true inflection point for the university, especially for USC Viterbi. We couldn’t be more excited.

Frontiers of Computing Will:

1. Create a new USC School of Advanced Computing within the USC Viterbi School to enhance educational opportunities in advanced computing for all students across the university.

2. Launch SBC, a new Silicon Beach Campus and USC’s first new campus in 70 years. Anchored by USC Viterbi’s two pioneering institutes, ISI in Marina del Rey and ICT in Playa del Rey, this expanded Silicon Beach presence will firmly connect USC with the booming Westside tech, entertainment and aerospace corridor.

3. Infuse AI, quantum technologies and computing in all USC schools to prepare the innovators of tomorrow and to spark creativity, collaboration and transformation.

4. Strengthen the recently announced $10-million USC Center for Generative AI and Society, which explores the impact of artificial intelligence on culture, education, media, and society, with a special emphasis on the ethical uses of generative AI.

5. Support the hiring of 30 new faculty in priority areas by 2025 and 60 by 2030, made possible in part by the Lord Foundation of California.

Top 5

1. In CS research dollars (NSF)

2. USC conferred the most computing degrees of any West Coast university between 2012-2021.

3. LA is the world’s sixth largest startup ecosystem, according to Crunchbase.

4. Number of USC Viterbi-affiliated faculty elected to the National Academy of Engineering in the past five years

5. Ingender diversity in computer science graduates

Dean’s Remarks