USC *Information Sciences Institute*

50 Years of Innovation

ISI IS A PLACE WHERE IMAGINATION REIGNS, WHERE PEOPLE ARE FREE TO ROAM A UNIVERSE OF IDEAS

From its earliest work in programming languages, software verification and information automation to its most recent efforts in machine learning, health informatics, and human language understanding, ISI has been at the forefront of each succeeding generation of computing and information research. ISI also played a unique role in convening the community of researchers that brought the Internet to life.

WHAT WE DO

Artificial intelligence constitutes nearly 50% of our funded research. In addition to AI, ISI employs internationally recognized experts in internet communications and advanced networking, privacy and security, grid computing, electronic commerce, integrated circuit design and fabrication, and space electronics.

WHAT MAKES US UNIQUE

ISI is a one-of-a-kind research ecosystem. No other computer science research organization combines our PhD-level academic research across multiple disciplines with a real world focus and systems building capability. This has contributed to ISI's continued remarkable success. Few organizations invent world-changing technologies. Very few do it over and over again.

ISI AT A GLANCE

$72M ANNUAL RESEARCH EXPENDITURES

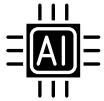**440+** FACULTY, STAFF, STUDENTS

35 FACULTY FROM 8 DEPARTMENTS

53 RESEARCH GRANTS

110 PH.D STUDENTS

50% FUNDED RESEARCH IN THE FIELD OF AI

*NUMBERS FROM YEAR 2022
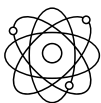
Artificial Intelligence

Machine learning, natural language, image and video processing, knowledge graphs, commonsense reasoning, AI fairness, machine translation, misinformation

Cybersecurity and Networking

Network measurement, binary analysis, research infrastructure, social engineering attacks, distributed computing, cyber experimentation
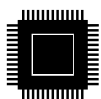
Computational Systems Technology

Emerging quantum information systems, science automation software, heterogeneous cloud and edge systems, secure electronics, novel microelectronics

Informatics Systems Research

Network services architectures, data management, computer security, user interfaces, and domain-specific algorithms

MOSIS

Automation of semiconductor integrated circuit design with state-of-the-art process technologies
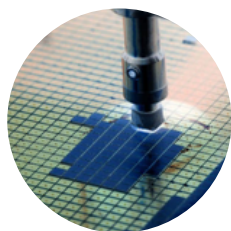
Centers and Labs

14 units targeting research areas including space, visual intelligence, quantum, data lifecycle, knowledge graphs, and more

OUR ACHIEVEMENTS

INTERNET TECHNOLOGIES

From its earliest days through the creation of the DNS, video and audio communications, and modern network reliability research, ISI has a history of contributions to the development of the Internet.
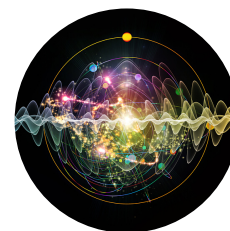
MOSIS SERVICES

Danny Cohen created MOSIS, the first integrated circuit foundry service, transforming academic VLSI research and ultimately revolutionizing the industry.

NATURAL LANGUAGE

ISI created computing machines that understand written and spoken human languages the way humans do. ISI research led to the first practical system for large-scale machine translation of human languages.

QUANTUM COMPUTING

Complementing a rich theoretical research program, ISI created the first nationally available shared quantum research infrastructure in collaboration with D-Wave Systems and Lockheed Martin.

OUR COLLABORATIONS

CORPORATE

Google
amazon
SPACEX
Meta
NASA
IBM
BOSCH
LOCKHEED MARTIN

ACADEMIA

BROWN
RUTGERS
UCLA
Georgia Tech
Carnegie Mellon University
MIT Massachusetts Institute of Technology
PRINCETON UNIVERSITY
UNIVERSITY OF MARYLAND 1856

Established in 1972
by Keith Uncapher

Locations
Marina Del Rey, CA
Arlington, VA
Waltham, MA

Executive director
Craig Knoblock