



**THE WORLD LEADER
IN CREATIVE
TECHNOLOGIES**

ART

SCIENCE

CREATIVE TECHNOLOGIES

ENGINEERING

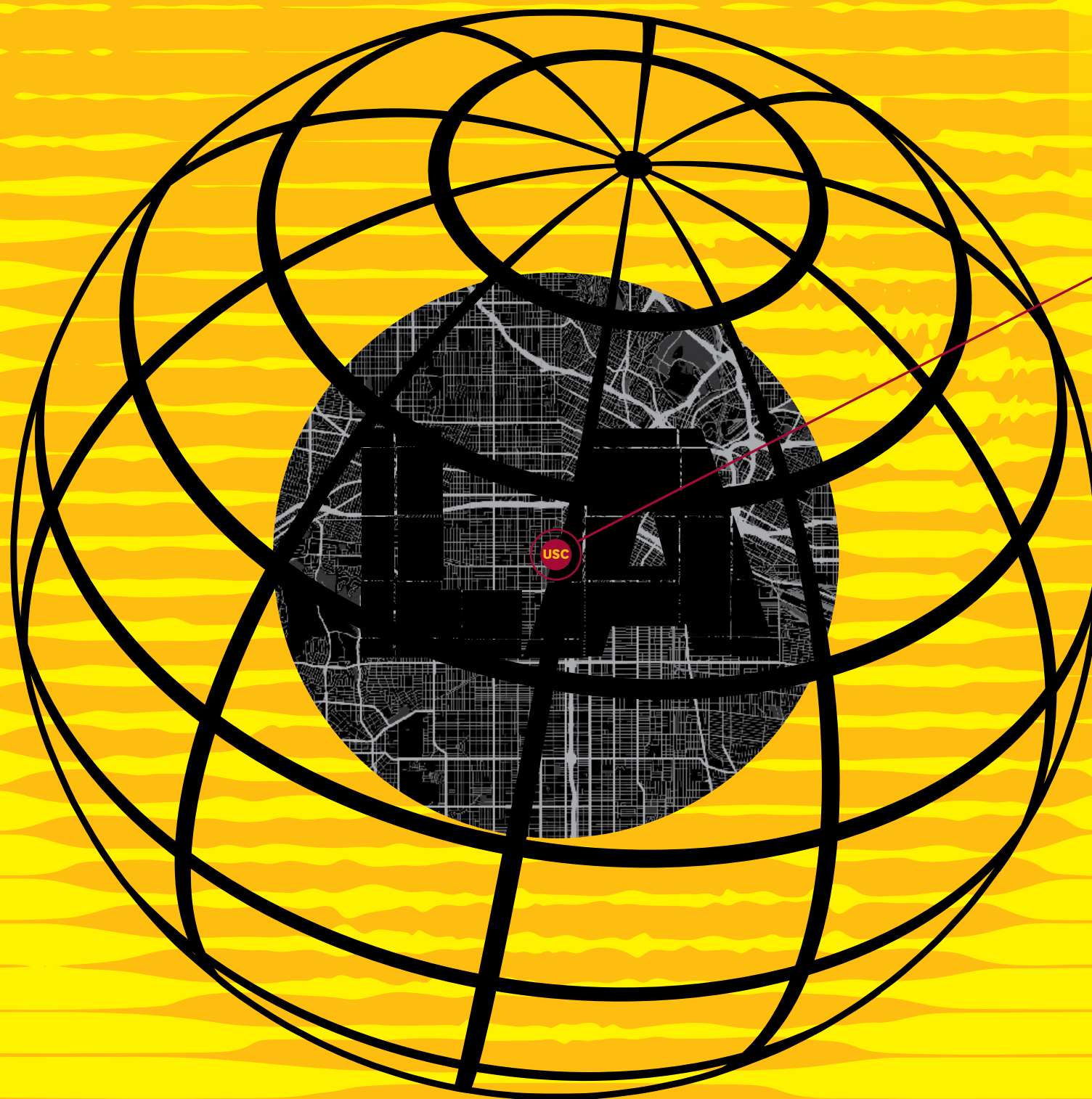
HUMANITIES

With 21 exceptional academic units—six of them in the arts, including the leading cinematic arts school in the world—USC researchers in the sciences, engineering and health have unprecedented access to the creative constructs and technology that leverage their ability to improve lives and solve some of the world's most complex challenges.

A RADICAL EYE

By applying the visual technology and narrative abilities of our creative disciplines, USC innovators gain deeper, broader—and even completely new—perspectives.

USC's strategic location in the creative capital of the world drives our ground-breaking innovation occurring at the intersection of creativity, research and delivery. Los Angeles also vibrantly serves as the gateway between East and West—magnifying our worldview at the center of the Pacific Rim and ability to craft solutions that might go undreamed of otherwise.



“USC’s unmatched leadership in the areas of digital media and creative technologies is enhanced by our location in Los Angeles, the epicenter of creative content and emerging technologies. Our proximity to Hollywood and Silicon Beach, coupled with USC’s world-class research in science, engineering and health, give way to ground breaking innovations that solve the world’s toughest problems.”

—Anthony Bailey, USC Vice President for Strategic and Global Initiatives

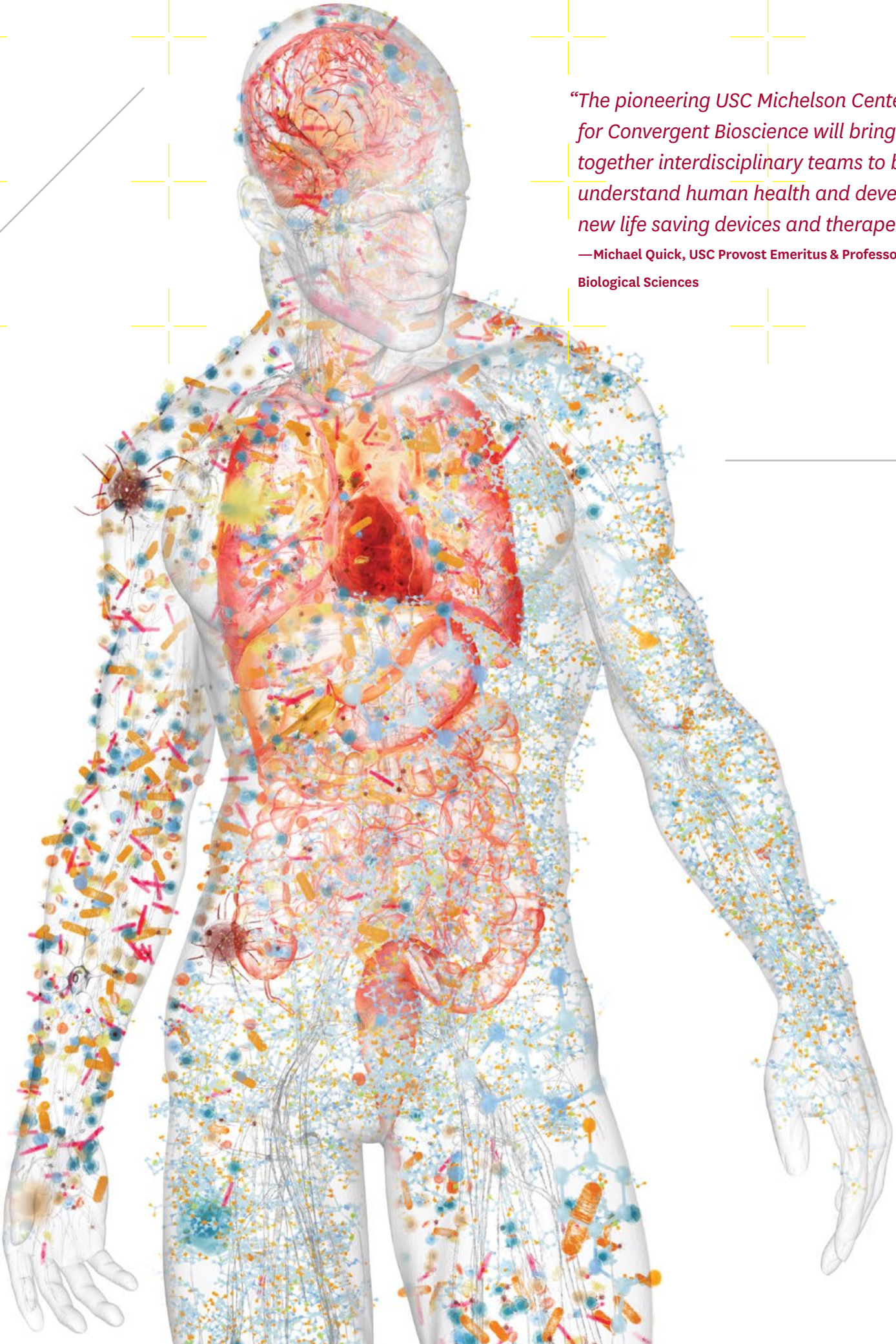
VIEWS FROM THE MICHELSON CENTER FOR CONVERGENT BIOSCIENCE

How do we address “impossible” health challenges?

Picture a model of a human being—from the molecular and cellular levels to the entire body—that can be used to advance our understanding of precisely how biological systems function in both healthy and diseased states.

The Bridge Institute, one initiative within the Michelson Center, unites the best minds in chemistry, biology, medicine, mathematics, physics, engineering, nanosciences, animation and cinematography to do just that—assemble the first atomic resolution model of man—and then deploy those biological functions to revolutionize human health.

“The pioneering USC Michelson Center for Convergent Bioscience will bring together interdisciplinary teams to better understand human health and develop new life saving devices and therapeutics.”
—Michael Quick, USC Provost Emeritus & Professor of Biological Sciences



Can new storytelling realms improve the real world?

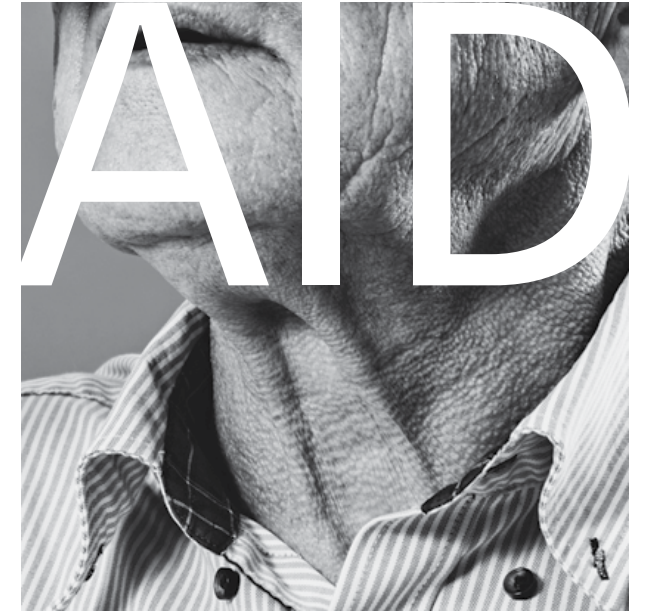
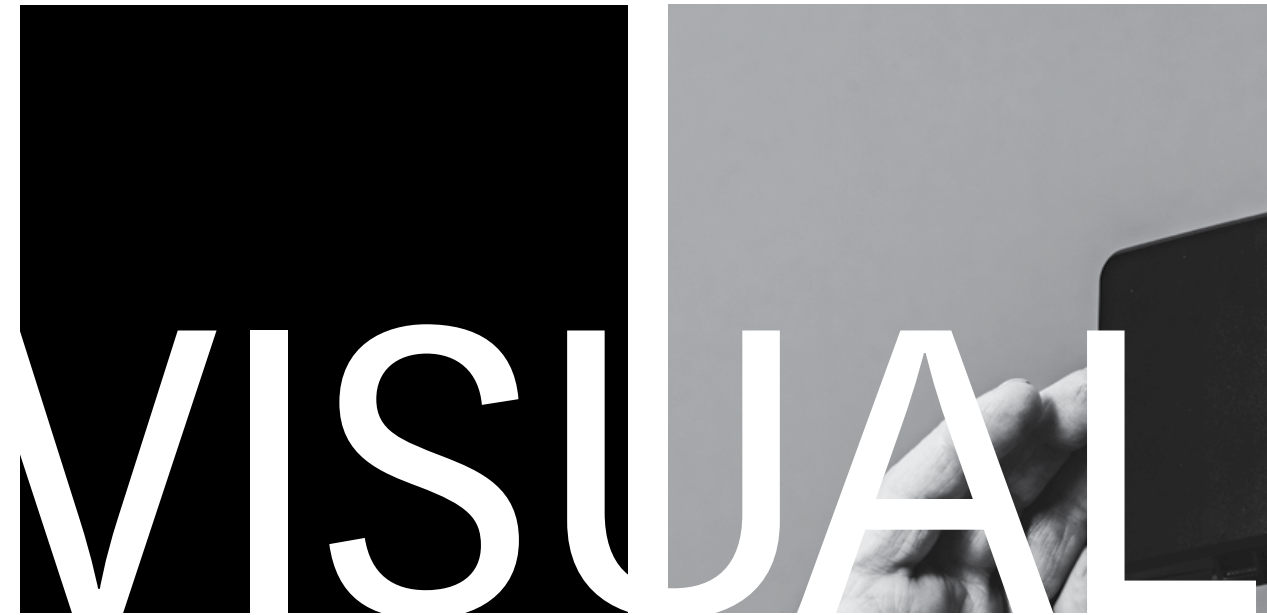
Visualize new narrative media that foster real-world problem-solving. USC's World Building Media Lab (WbML), located within the famed USC School of Cinematic Arts, is designing vast storyworlds that unfold across multiple media platforms—including those that don't exist yet—to address societal concerns ranging from refugee crises to environmental catastrophes, as well as economic growth opportunities. The lab's unique position at the intersection of academia and industry provides a neutral, fertile common ground for thought leaders, artists and executives to collaborate, yielding insights resulting in breakthroughs in business models, policies and patentable technologies.

“At the simplest level, what we are trying to do is produce art-scientists.”

—Alex McDowell, Director of USC World Building Media Lab and 5D Global Studio



DRAMATIC SCENES



Can we restore mobility to Parkinson's patients?

Envision someone suffering from Parkinson's disease being able to practice walking through crowds, turning around and climbing stairs—without risking injury and while supervised by a physical therapist.

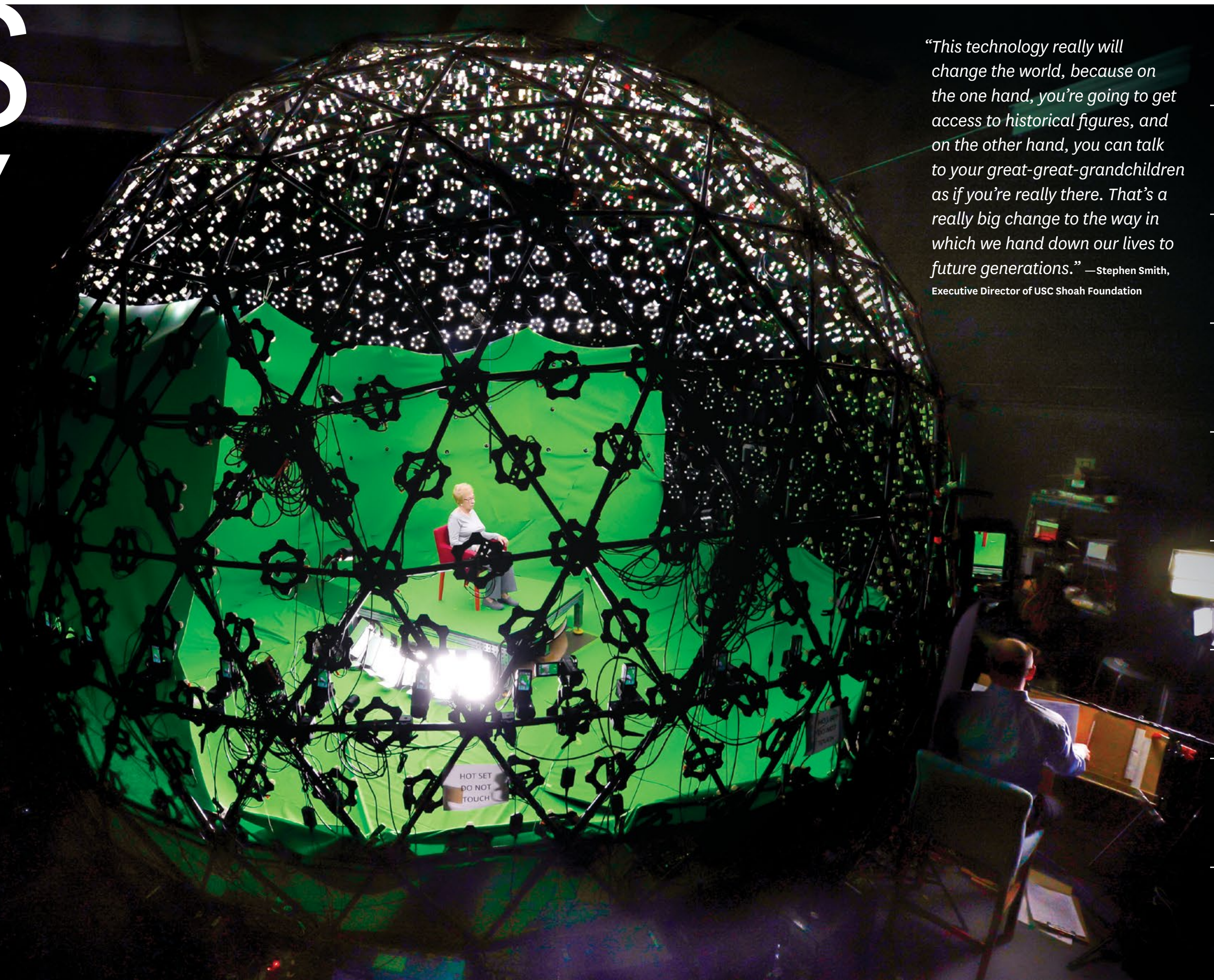
USC physical therapy faculty looked to colleagues in cinematic arts to help craft a virtual reality technology that may help restore walking ability to people suffering from Parkinson's disease, the degenerative brain disorder that causes stiffness, shaking and balance problems.

WITNESS HISTORY

How can future generations interact with genocide survivors?

USC Shoah Foundation, founded by Steven Spielberg in 1994, has the largest archive of its kind in the world. Through the Foundation's partnership with the USC Institute for Creative Technologies, high-definition cameras and natural-language software collect the testimonies of holocaust survivors, making it possible to talk to someone who is no longer living.

"This technology really will change the world, because on the one hand, you're going to get access to historical figures, and on the other hand, you can talk to your great-great-grandchildren as if you're really there. That's a really big change to the way in which we hand down our lives to future generations." —Stephen Smith, Executive Director of USC Shoah Foundation



FIRST-PERSON PERSPECTIVE

How can audiences become more engaged in the news?

Imagine seeing, up close, what it's like to be a child refugee trying to escape war-torn Syria or to be a prisoner at Guantanamo Bay. USC Annenberg collaborates with artists, scientists, humanists and industry professionals to provide such experiences through "immersive journalism."

The method enables participants to enter the story as an animated, 3D avatar to gain a first-person perspective of the events being reported. One such story explained the carbon credit market by letting people follow the journey that money takes through it. Through such accounts, immersive journalism allows for a deeper understanding of the events driving our world today.

"Virtual reality has a unique power to place viewers on the scene of an event—instead of watching it from outside—and that's a really powerful way to engage them emotionally."

—Nonny de la Peña, Annenberg Fellow, USC School of Cinematic Arts

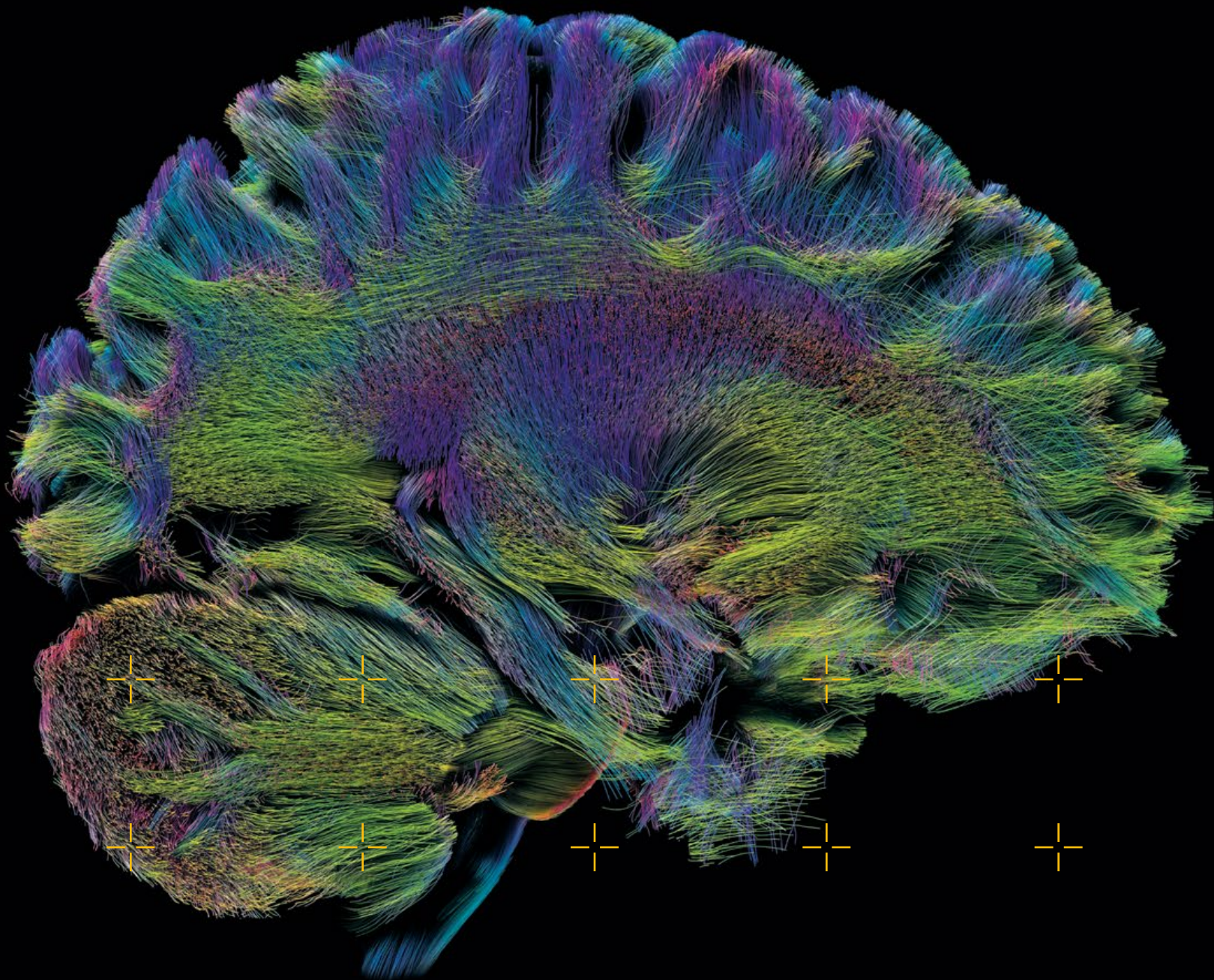
WINDOWS TO THE BRAIN

“The goal here is to share the wealth, the wealth in data... We need to get close to the data, and visualizing it is critical to doing that.” —Arthur Toga, Director of USC Stevens Neuroimaging and Informatics Institute

Can we solve the brain’s mysteries?

Envision being able to observe the brain’s intricate activities in narrow ranges of space and time to illuminate the relationship between the brain’s structure and how it functions in health and malfunctions in disease.

With more than a thousand collaborators around the globe, researchers at the USC Stevens Neuroimaging and Informatics Institute use the most advanced high-field scanning resources and supercomputers, and have amassed the world’s largest brain research data repository, which currently holds 2,867 terabytes of information from every continent except Antarctica.



THE DEGREE IS IN DISRUPTION

How do you inspire and educate the next generation of entrepreneurs at the leading edge of arts and technology?

Behold students graduating from college with hands-on experience working seamlessly across disciplines, combining the theories and concepts of each. Founded by Jimmy Iovine, music visionary and record producer, and Andrew Young (Dr. Dre), legendary American rapper and entrepreneur, the USC Iovine and Young Academy for Arts, Technology and the Business of Innovation nurtures original thought to encourage breakthrough products, systems and technologies.

The curriculum focuses on arts and entrepreneurship; technology, design and marketability; concept and business platforms; and creating a prototype. Drawing on the talents and experiences of industry leaders from a vast array of fields—including artists, designers, policymakers, philanthropists, venture capitalists and many others—the Academy empowers the next generation of disruptors to change the face of society.





MAPPING SOCIAL INCLUSION

*“My research helps us
to see overlooked places
and overlooked people
in our cities.” —Annette Kim,
Director of the Spatial Analysis Lab*

Can maps bring us together?

The Spatial Analysis Lab (SLAB) at the USC Price School of Public Policy unites social scientists, urban planners and multimedia artists in bringing attention to overlooked areas and people. SLAB incorporates pictures, video, audio and spatial analysis to build maps that reveal places and their people from different angles. Researchers then visualize how the social sciences can better serve the public through engagement and education.

SLAB projects include public exhibitions of photographs and video installations addressing the role of street vendors in Vietnam’s Ho Chi Minh City, and an exploration of the phenomenon of 1 million people living in underground bomb shelters in Beijing, China.

*“My job is to create an
environment where our entire
community of students can
learn and grow as designers
and developers of innovative
entertainment.”*

—Tracey Fullerton, Director of USC Games

Can video games cure?

USC Games, recognized as the premier game design program in the world, fuses the university’s excellence in cinematic arts, media production, animation, design, visual arts, engineering and computer science to encourage expansive and creative practice while building ace technical skills.

USC leads the way in opening new pathways in video game design, which represents the newest horizon in interactivity. Games are used not just for play but also for education, training and therapy. Online games can even bring diverse cultures closer by enabling participants around the world to engage in the same virtual space.

GAME CHANGER



3D CONSTRUCTION FUNCTION

Can houses be built in one day?

Imagine constructing a large, custom-designed, low-cost building in a single day—with minimal energy and environmental impact. Collaborative work done by USC arts, architecture and policy faculty have led to a breakthrough in 3D printing that could revolutionize the construction industry.

Potential applications are far-reaching and include emergency shelters following disasters, housing for the homeless, and even structures to support human colonization on the Moon and Mars.



THE BRAIN ON BEING HUMAN

What can big data reveal about human nature?

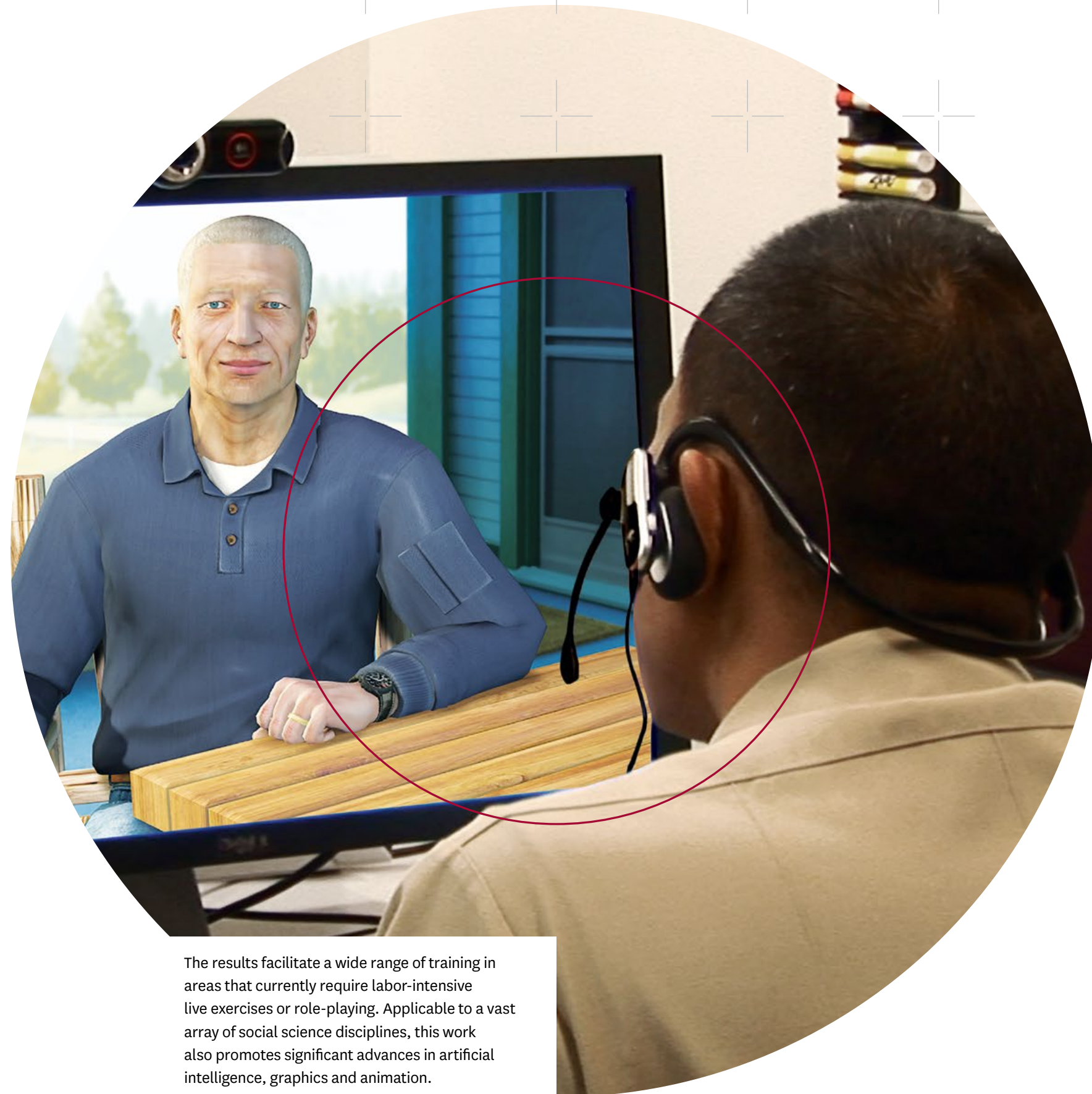
For millennia, artists and philosophers have tried to explain how we perceive, interpret, and shape our existence. Bringing fresh approaches to these age-old mysteries, USC Dornsife's Brain and Creativity Institute is uncovering the biological basis for a large array of mental functions—from feeling, consciousness, decision-making, and creativity.

One such innovative approach is taking place in the institute's Computational Social Science Laboratory, where researchers fuse psychology and computer science to reveal new insights into human values and cognition. Using fMRI techniques to examine how the brain processes and represents complex narratives, researchers are advancing the ability of Artificial Intelligence and natural language processing to analyze human sentiment and emotions.

REALIZE VIRTUAL HUMANS

How far can virtual reality go to enable real-life learning?

Picture using virtual worlds as a medium for experiential education. With support from the United States Army, the USC Institute for Creative Technologies is populating these realms with virtual humans that interact face to face with real people. These autonomous creations perceive and respond to events around them, express realistic emotions, and can talk and nonverbally communicate with the humans using the system.



The results facilitate a wide range of training in areas that currently require labor-intensive live exercises or role-playing. Applicable to a vast array of social science disciplines, this work also promotes significant advances in artificial intelligence, graphics and animation.

iPodia Alliance

Through integrated technology that is fundamentally changing global learning, students attend classes taught in real time at multiple universities while collaborating on team projects with peers on different continents.

- Participating Institutions:
- USC Viterbi School of Engineering
 - Peking University, CHINA
 - National Taiwan University, TAIWAN
 - Korea Advanced Institute of Science and Technology, SOUTH KOREA
 - Israel Institute of Technology, ISRAEL
 - RWTH Aachen University, GERMANY
 - Indian Institute of Technology – Bombay, INDIA
 - Universidade de São Paulo, BRAZIL
 - Birla Institute of Technology and Science, INDIA
 - Qatar University, QATAR
 - Tsinghua University, CHINA
 - The University of Patras, GREECE
 - University of New South Wales, AUSTRALIA
 - Shanghai Jiaotong University, CHINA

World Bachelor in Business

A bold new direction in higher education, the World Bachelor in Business program brings together three elite business schools in three global centers of economics, culture and politics.

- Participating Institutions:
- USC Marshall School of Business
 - Hong Kong University of Science and Technology, HONG KONG
 - Bocconi University, ITALY

China Initiative
(Mrs. T.H. Chan Division)

USC and Peking University partnership will improve the quality of life for millions of Chinese individuals living with a disability.

- Participating Institutions:
- USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy
 - Peking University Health Science Center, CHINA

Together with our global partners we are revolutionizing international education.

Master in Global Communications

Students study the impact of globalization on communication, society, culture, politics and media practices in two of the world’s most important media capitals, Los Angeles and London.

- Participating Institutions:
- USC Annenberg School for Communication & Journalism
 - London School of Economics and Political Science, UNITED KINGDOM

International Artist Fellowship Program

Emerging artists from across the Pacific Rim, Latin America and Southeast Asia are invited to study in our premier art schools while thriving in the creative capital of the world.

- Participating Institutions:
- USC School of Architecture
 - USC School of Cinematic Arts
 - USC Roski School of Fine Arts
 - USC Kaufman School of Dance
 - USC Thornton School of Music
 - USC School of Dramatic Arts

USC-SJTU Institute of Cultural and Creative Industry

This program infuses entrepreneurship with innovative media technologies to instill the creativity and cultural understanding needed to lead in the global marketplace.

- Participating Institutions:
- USC Marshall School of Business
 - USC Annenberg School for Communication & Journalism
 - Shanghai Jiao Tong University, CHINA

Global Executive Doctor of Education

Transformational leaders, policymakers, administrators and change agents are prepared for the challenging task of improving individual and national educational outcomes.

- Residential Sessions:
- USC Rossier School of Education
 - Hong Kong University of Science and Technology, HONG KONG
 - Doha, QATAR and
 - Abu Dhabi, UNITED ARAB EMIRATES

World Masters in Language Teaching

A dynamic dual degree program that prepares students to teach English and another language to a variety of learners in multilingual and multicultural settings in the U.S. and around the world.

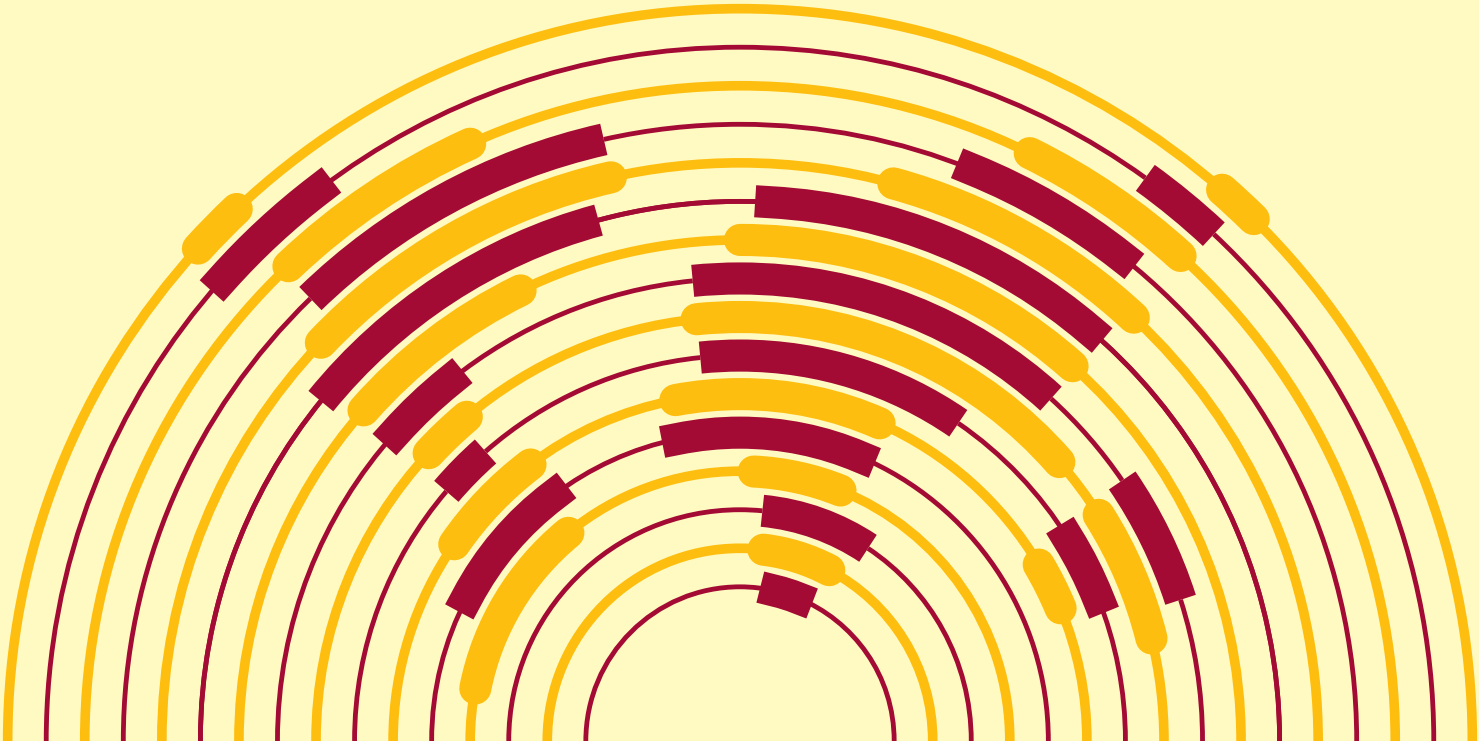
- Participating Institutions:
- Hong Kong University of Science and Technology, HONG KONG
 - Yonsei University, SOUTH KOREA
 - Universidad Iberoamericana, Ciudad de Mexico-Tijuana, MEXICO

Master of Science, Dual Degree in Engineering

Engineering students earn two degrees in related fields while studying at top programs in two of the world’s largest economies.

- Participating Institutions:
- USC Viterbi School of Engineering
 - Tsinghua University, CHINA

GROUNDBREAKING PROGRAMS: EDUCATING GLOBAL LEADERS





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