USC: A Leader in Innovation and an Engine of U.S. Competitiveness

As our nation's leaders explore proposals to spur innovation and enhance our international competitiveness, the **University of Southern California (USC)** is leading the way in the effort to make America stronger, healthier, and more secure.

USC is a large, dynamic, diverse educational institution as well as one of the world's leading research universities. USC is renowned for its unique atmosphere of multidisciplinary collaboration, which has resulted in the establishment of numerous centers of excellence and innovation on the USC campus.

It is clear that the traditional, stove-piped academic disciplines are insufficient to confront modern U.S. needs in the global economy or the realm of national security. The USC model of transcending these barriers to confront real-world problems and deliver results is demonstrating what the research enterprise of the future will look like. As a result, USC's large and diverse student body will graduate with firsthand understanding of multidisciplinary approaches, which will enhance the US' high-tech workforce. Some examples of successful multidisciplinary centers at USC include:

The **Information Sciences Institute (ISI)** is a world leader in computer science and information technology research, renowned as one of the birthplaces of the Internet and its predecessor, ARPANET. ISI specializes in such key areas as artificial intelligence, computer security, electronic commerce and internet communications. ISI receives funding from the Defense Advanced Research Projects Agency, the National Science Foundation, the National Security Agency, the Department of Energy, NASA, and the National Institutes of Health, as well as numerous corporate sponsors.

Biomimetic MicroElectronic Systems (BMES) is a center working towards a truly remarkable goal: remedying serious disabilities through the use of highly advanced prosthetic devices. USC faculty member and BMES Director Mark Humayun has drawn worldwide attention and sizable grants from both the National Science Foundation and the Department of Energy for his progress towards the creation of an artificial retina, which could essentially cure blindness caused by macular degeneration. Other notable BMES projects include the development of prosthetic systems to reanimate paralyzed limbs and restore function to damaged brain regions.

The terrorist attacks of September 11, 2001 caught the nation unprepared. The **Center for Risk and Economic Analysis of Terrorist Events (CREATE)**, the first Department of Homeland Security Center of Excellence, is leading the way to ensure that history does not repeat itself. CREATE brings together social scientists, engineers, economists and computer scientists to provide federal, state and local decision-makers with the information and tools they need to better combat the threat of terrorist attack. CREATE's work includes the modeling of terrorist events, prioritization of terrorist countermeasures, calculation of risk, and study of the societal consequences of terrorism.

The **Institute for Creative Technology (ICT)** brings together the entertainment, military and academic sectors to create immersive virtual-reality training experiences for a multitude of situations. ICT technologies frequently have dual benefits for the military and the U.S. economy. For example, Full-Spectrum Warrior, a video game developed by ICT and Pandemic Studios, has been highly successful first as a U.S. Army training tool and then as a privately marketed game on the Xbox game system.