



The Jacobs School Commitment to the UN SDGs

Albert P. Pisano, Dean 9 December 2020



Welcome!

- Thank you for being here today.
- I wish to express my great enthusiasm for this opportunity for the Jacobs School of Engineering at UC San Diego to connect with Kyushu University.
- This presentation will discuss the United Nation's Sustainable Development Goals (SDGs):
 - UC San Diego shares these goals with Kyushu University
 - How our two institutions might work together to achieve these goals









Commitment

- The U.S. President-elect is putting forward technology innovation for the U.S. as a major goal.
- As Dean of the Jacobs School, I have a strong interest in:
 - Finding overlap between UC San Diego and Kyushu University in SDG areas that are most dependent on technology innovation.
 - Forming collaborations with Kyushu University to achieve these goals.



Jacobs School Readiness

- In eight years as Dean, I've been working to improve the engineering school so that we may be better ready to engage with international partners such as Kyushu University on larger, global goals such as the SDGs.
- Therefore, we have rebuilt and revitalized the entire system of technology innovation.



Desired Outcomes of Today's Webinar

- Build a robust and enduring connection between Kyushu University and UC San Diego.
- Build <u>teams</u> of faculty and public/private partnerships.
 - Teams are stronger than individual faculty connections.
- Welcome discussion about how academic, government and industry partnerships can be formed to pursue UN SDGs.

Research and Innovation Leader





- The Jacobs School of Engineering ranks #5 among Public Engineering Schools, #9 Overall (U.S. News 2020).
- The Jacobs School of Engineering ranks 1st among all public engineering schools for research expenditures per faculty member (U.S. News 2020)

\$212M Research Expenditures FY2019

Jacobs School Vision



- We are building the Collaboratories for the Digital Future as our research theme.
- The Digital Future is an upbeat vision of technology assisting people in their pursuit of health and happiness.
- The Jacobs School is a leading research powerhouse and approximately onethird of our research funding is with industry partners.
- We aim to collaborate with corporate and individual partners to ensure relevant and high impact research and education.
- We seek to engage partners who understand the value of strategic relationships for mutual benefit.

Campus Initiatives Fuel Partnerships



Economic Engine Driving Innovation – One University



Agile Research Centers and Institutes



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New

- Machine Integrated Computing and Security
- Wearable Sensors
- Contextual Robotics Institute
- Visual Computing
- Nano Immuno-Engineering
- Microbiome Innovation
- CHO Systems Biology
- Extreme Events Research
- Engineered Natural Intelligence (AI)
- Sustainable Power and Energy
- Institute for Materials Discovery and Design

Existing

- Center for Algorithmic and Systems Biology
- Center for Control Systems and Dynamics
- Center For Energy Research
- Center for Memory and Recording Research
- Center for Networked Systems
- Center for Wireless Communications
- Charles Lee Powell Structural Research Laboratories
- Information Theory and Applications Center
- Institute of Engineering in Medicine
- Qualcomm Institute (UCSD Division of CALIT2)
- San Diego Supercomputer Center
- Whitaker Center for Biomedical Engineering

Franklin Antonio Hall





Industry-Relevant Research Centers Under One Roof Creates Powerful Ecosystem to Build the Digital Future



Franklin Antonio Hall Construction Underway

fah.ucsd.edu





Franklin Antonio Hall: Collaboratories for the Digital Future

Machine-Integrated Computing and Security (anticipated)

Halıcıoğlu Data Science Institute (anticipated)

Wearable Sensors

Convergent Systems Engineering (anticipated)

Institute for the Global Entrepreneur



NanoImmunoEngineering | IEM Precision Genomics | Salk Contextual Robotics Institute Sustainable Power and Energy Wireless Communications Executive Outreach

UC San Diego

Innovation Ecosystem: Mobile AI at the Edge

Machine-Integrated Computing and Security (anticipated) Halıcıoğlu Data Science Institute (anticipated)

Wearable Sensors

Convergent Systems Engineering (anticipated)

Institute for the Global Entrepreneur NanoImmunoEngineering | IEM

Precision Genomics | Salk

Contextual Robotics Institute

Sustainable Power and Energy

Wireless Communications



Innovation Ecosystem: Security and Sustainability

Machine-Integrated Computing and Security (anticipated) Halıcıoğlu Data Science Institute (anticipated)

Wearable Sensors

Convergent Systems Engineering (anticipated)

Institute for the Global Entrepreneur NanoImmunoEngineering | IEM

Precision Genomics | Salk

Contextual Robotics Institute

Sustainable Power and Energy

Wireless Communications



Innovation Ecosystem: Cognitive, Smart, Safe, Connected Cyber-Physical Systems

Machine-Integrated Computing and Security (anticipated) Halıcıoğlu Data Science Institute (anticipated)

Wearable Sensors

Convergent Systems Engineering (anticipated)

Institute for the Global Entrepreneur NanoImmunoEngineering | IEM

Precision Genomics | Salk

Contextual Robotics Institute

Sustainable Power and Energy

Wireless Communications

Innovation Ecosystem: Sustainable Cities

Machine-Integrated Computing and Security (anticipated)

Halıcıoğlu Data Science Institute (anticipated)

Wearable Sensors

Convergent Systems Engineering (anticipated)

Institute for the Global Entrepreneur



NanoImmunoEngineering | IEM

Precision Genomics | Salk

Contextual Robotics Institute

Sustainable Power and Energy

Wireless Communications



Innovation Ecosystem: Connected Health and Precision Medicine

Machine-Integrated Computing and Security (anticipated)

Halıcıoğlu Data Science Institute (anticipated)

Wearable Sensors

Convergent Systems Engineering (anticipated)

Institute for the Global Entrepreneur NanoImmunoEngineering | IEM

Precision Genomics | Salk

Contextual Robotics Institute

Sustainable Power and Energy

Wireless Communications



Innovation Ecosystem: Health, Mobility and Human Happiness

Machine-Integrated Computing and Security (anticipated) Halıcıoğlu Data Science Institute (anticipated)

Wearable Sensors

Convergent Systems Engineering (anticipated)

Institute for the Global Entrepreneur NanoImmunoEngineering | IEMPrecision Genomics | SalkContextual Robotics InstituteSustainable Power and EnergyWireless Communications

UC San Diego JACOBS SCHOOL OF ENGINEERING

Innovation Ecosystem: 6G and Wireless Systems

Machine-Integrated Computing and Security (anticipated) Halıcıoğlu Data Science Institute (anticipated)

Wearable Sensors

Convergent Systems Engineering (anticipated)

Institute for the Global Entrepreneur NanolmmunoEngineering | IEM Precision Genomics | Salk Contextual Robotics Institute Sustainable Power and Energy Wireless Communications



Conclusion

- I look forward to an outcome of this webinar that results in a robust, enduring connection between Kyushu University and UC San Diego.
- I encourage a connection between us that:
 - Generates faculty-faculty team relationships, and
 - Embraces public/private partnerships in academia, government and industry,
- I hope that together we may make major progress towards the UN Sustainable Development Goals.



Thank You!

Questions?