UC San Diego

CONTEXTUAL ROBOTICS TECHNOLOGIES

INTERNATIONAL FORUM

OCT 10, 2014

HOSTED BY

Jacobs School of Engineering
Qualcomm Institute
Department of Cognitive Science

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Building a robotics cluster in San Diego

Welcome to UC San Diego's International Forum on Contextual Robotics Technologies, and thank you for investing your valuable time to attend. I hope that today's lineup of robotics thought leaders, and the networking you do throughout the day, will spark ideas and lead to interactions that persist long after the event.

I think the next generation of robotics technologies will be able to determine the context of situations involving humans, chart courses of subsequent action, and then accomplish those actions. Here at UC San Diego, we are taking a broad approach to this topic of contextual robotics systems for the public good. We are looking at it from the perspective of a diverse group of researchers including engineers and computer scientists, cognitive scientists, clinicians and social scientists. (See back cover for a partial list.)

We are currently in a listening and capacity building phase for a robotics institute at UC San Diego. With your input, we will continue to expand, strengthen and focus — for maximum impact — our existing expertise, research initiatives and educational offerings in robotics and related technologies.

The San Diego region already has a lot of things going for it in terms of robotics, of course. Major industry players and big employers are focused on myriad robotics technologies and applications. The military and defense presence in San Diego is profound, with particular excellence in unmanned vehicles. The advanced manufacturing sectors in San Diego and Tijuana are growing and diversifying, and the region's robotics entrepreneurs are energized. San Diego is also home to top research and education institutions.

Given this broad and deep engagement with robotics technologies, the potential impact of a world-class robotics cluster in San Diego is tremendous. Advanced robotics systems will soon become as common as computers and smartphones. At that point, the benefits that come from building a leading robotics cluster in San Diego will be amplified many times over across the entire community.

Albert P. Pisano
Dean, Jacobs School of Engineering
Chair, Contextual Robotics Technologies International Forum Organizing Committee

CONTEXTUAL ROBOTICS TECHNOLOGIES INTERNATIONAL FORUM

9:00 AM	Welcome Remarks	**Pradeep K. Khosla** Chancellor, UC San Diego **Albert P. Pisano** Dean, Jacobs School of Engineering **Ramesh R. Rao** Director, Qualcomm Institute
9:30 AM	Smartphone-powered Robots	**Matt Grob** Chief Technology Officer and Executive Vice President, Qualcomm Technologies, Inc.
10:00 AM	Robot Swarms	**Vijay Kumar** UPS Foundation Professor, U. Penn
10:30 AM	Networking Break	
11:00 AM	Airborne Big Data	**Chris Anderson** Co-Founder and CEO, 3D Robotics
11:30 AM	Printable Robots	**Daniela Rus** Director The Computer Science and Artificial Intelligence Laboratory (CSAIL), MIT
Noon	Networking Lunch	
1:30 PM	The Three "M"s as Robotic Research Challenges: Mobility, Manipulations, and Messiness	**Rodney Brooks** CTO, Rethink Robotics
2:00 PM	MicroRobotics and NanoMedicine	**Brad Nelson** Professor of Robotics and Intelligent Systems, ETH Zürich
2:30 PM		**Gill Pratt** Program Manager, DARPA
3:00 PM	Networking Break	
3:30 PM	Creating and Forming Future Technology Leaders	**Dean Kamen** Founder, DEKA Research and Development Founder, *FIRST* competitions
4:00 PM	Closing Remarks	**Pradeep K. Khosla** Chancellor, UC San Diego

A partial list of faculty and researchers at UC San Diego involved in robotics-related technologies and charting the future of robotics on campus.

Bioengineering

Gert Cauwenberghs
Todd Coleman
Geert Schmid-Schoenbein
Gabriel Silva
John Watson

Computer Science & Engineering

Kamalika Chaudhuri
Gary Cottrell
Sanjoy Dasgupta
Charles Elkan
Yoav Freund
Rajesh Gupta
Ryan Kastner
David Kriegman
Ravi Ramamoorthi
Tajana Rosing
Lawrence Saul
Steven Swanson
Michael Taylor
Dean Tullsen

Electrical & Computer Engineering

James Buckwalter
Shadi Dayeh
Shaya Fainman
Vikash Gilja
Tara Javidi
Pradeep K. Khosla
Young-Han Kim
Kenneth Kreutz-Delgado
Gert Lanckriet
Yu-Hwa Lo
Patrick Mercier
Truong Nguyen
Bhaskar Rao
Gabriel Rebeiz
Daniel Sievenpiper
Mohan Trivedi
Nuno Vasconcelos

NanoEngineering

Shaochen Chen
Yi Chen
Sadik Esener
Joseph Wang
Liangfang Zhang

Institute for Neural Computation

Scott Makeig
Javier Movellan

Mechanical & Aerospace Engineering

Thomas Bewley
Robert Bitmead
Juan Carlos del Alamo
Carlos Coimbra
Jorge Cortes
Mauricio de Oliveira
Raymond de Callafon
Nathan Delson
Jan Kleissl
Miroslav Krstic
Juan C. Lasheras
Alison Marsden
Sonia Martinez Diaz
Vitali Nesterenko
Eugene Pawlak
Albert P. Pisano
Sutanu Sarkar
Frank Talke
Daniel Tartakovsky
Michael Tolley

Scripps Institution of Oceanography

Gerald D'Spain
Jules Jaffe
Daniel Rudnick

Cognitive Science

Ben Bergen
Andrea Chiba
Virginia de Sa
Jim Hollan
Ed Hutchins
David Kirsh
Marta Kutas
Douglas Nitz
Ayse Saygin
Zhuowen Tu

Communications

Morana Alac

Qualcomm Institute

Falko Kuester
Albert Lin
Ramesh Rao
Curt Schurgers