



Hamid Jafarkhani

Director

*Center for Pervasive Communications
and Computing*

www.cpcc.uci.edu



- **CPCC was established in 2000**
 - To facilitate research in emerging communications technologies
 - To dramatically change the way people access and use information
- **Need for ubiquitous communications to anywhere at anytime results in many challenges in**
 - Circuits/Systems
 - Communications/Signal processing
 - Networking
- **CPCC conducts fundamental research in the above areas**

Goal: Pushing the technological limits as far as possible

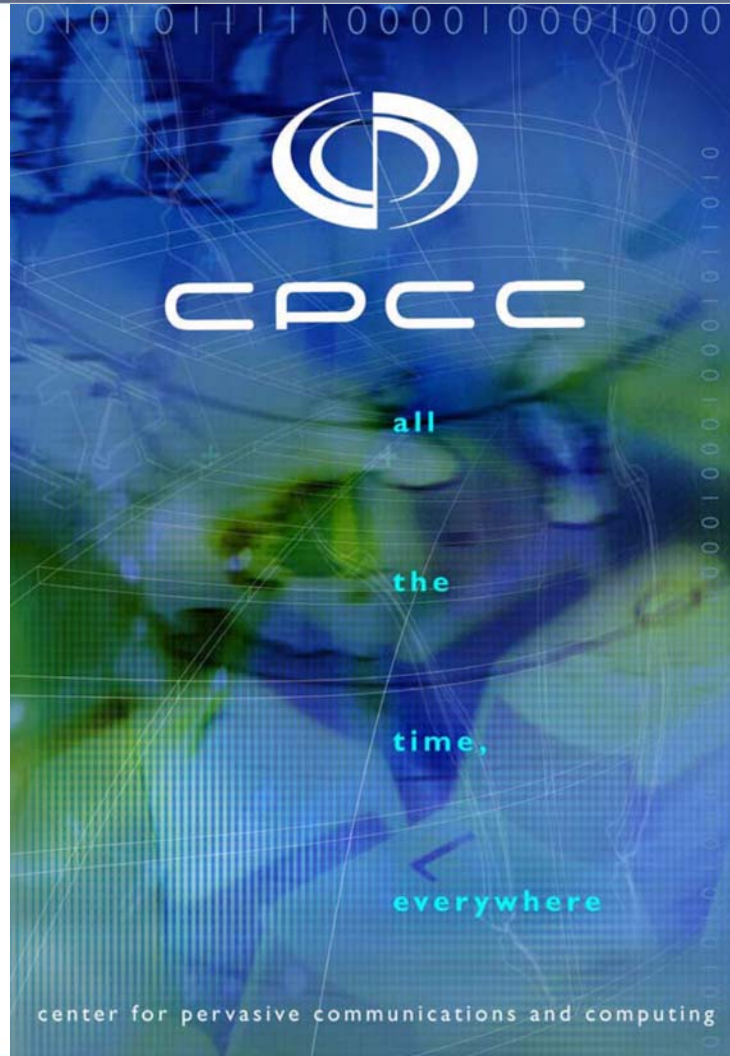




CENTER FOR PERVASIVE
COMMUNICATIONS & COMPUTING
UNIVERSITY of CALIFORNIA • IRVINE



Center's Logo



UNIVERSITY of
CALIFORNIA
IRVINE





Inauguration



Dwight Decker, Chairman and CEO, Conexant Systems; Henry Samueli, CTO and Co-Founder, Broadcom Corp.; Gray Davis, Governor, State of California; Ralph J. Cicerone, Chancellor, UC Irvine; Nicolaos G. Alexopoulos, Dean, The Henry Samueli School of Engineering



CONEXANT™



SKYWORKS™
BREAKTHROUGH SIMPLICITY

MINDSPEED™
BUILD IT FIRST





- **5 hired by CPCC Grant**
- **5 NSF CAREER Awards**
- **6 IEEE Best Journal Paper Awards (plus 4 before joining CPCC)**
 - **Wireless Communications (Marconi)**
 - **Circuits & Systems (Darlington)**
 - **Circuits & Systems (Guillemin-Cauer)**
 - **Information Theory**
 - **Signal Processing**
 - **Communications & Networking**
- **Plenary talks and keynote speakers**





- **60 alumni with CPCCC fellowships**
- **Many of them work for local companies**





- **Establishing the field of Communications at UCI**
 - Developing the curriculum
 - Hiring outstanding faculty
 - Excellent research and publication record
 - Bringing federal funding, ...
- **Training excellent students**
- **Read our news at www.cpcc.uci.edu**

– Designed by **ARYOSYS**
DESIGN • WEB • SEO • IT





- **Human-to-human**
 - Single media (for example voice centric)
 - Centralized infrastructure
 - Power hungry centers & base-stations
- **To anywhere at anytime**
 - Multimedia, data, ...
 - Distributed, mobile, adhoc
 - Low-power devices/sensors
 - Self-organized





- **Multiple-Input Multiple-Output (MIMO) Systems**
- **Cooperative Communications and Relay Networks**
- **Interference Management**
- **System and Circuit Design for Cognitive Software-Defined Radios**
- **Network-on-Chip Design for Computer and Communication Systems**
- **System-on-Chip for Low Power and Mobile Platforms**
- **Wireless Sensor Networks Hardware and Software Design**
- **Silicon-Based Passive/Active Imaging Systems**
- **(Sub)Millimeter-Wave Integrated Circuits with On-Chip Antennas**
- **Ultra-High-Speed Data Converters**
- **Transmission of multimedia information over wireless networks**
- **Adaptive Resource Allocation in Wireless and Sensor Networks**
- **Physical Layer Techniques for Increasing Wireless Security**
- **Combined Positioning and Communications Systems**
- **Multi-Sensor Signal Processing for Neurological Applications**
- **Social Networks**
- **Network Coding**





- **We will present the center's research activities in three areas of**
 - **Circuit and Hardware Design: Dr. Payam Heydari**
 - **Communications Systems : Dr. Lee Swindlehurst**
 - **Networking: Dr. Hodayoun Yousefi'zadeh**
- **It will follow with Q&A**
- **At 5:00, we will have posters, demos and food**
- **Opportunity for discussion**

