

## PAST FACULTY RESEARCH LECTURERS

2021	Jennifer A. González
2020	Terrie M. Williams
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2017	Sandra Chung
2016	Susan Strome
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2014	Howard Haber and Abraham Seiden
2013	Gail Hershatter
2012	Steve Vogt
2011	Paul Whitworth
2010	Daniel Friedman
2009	Patricia Zavella
2008	Stanford E. Woosley
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2006	Nathaniel Mackey
2005	Mary Silver
2004	Barbara Rogoff
2003	Jonathan Beecher
2002	David Haussler
2001	James Clifford
2000	David S. Kliger
1999	David Cope
1998	Adrienne Zihlman
1997	Donald E. Osterbrock
1996	Donna J. Haraway
1995	Harry F. Noller
1994	G. William Domhoff
1993	Jack Zajac
1992	Audrey Stanley
1991	Harry Berger, Jr
1990	Sandra M. Faber
1989	Thomas F. Pettigrew
1988	Gerhard Ringel
1987	Jean H. Langenheim
1986	Richard A. Wasserstrom
1985	Kenneth S. Norris
1984	Hayden White
1983	Frank X. Barron
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1981	Robert P. Kraft
1980	John A. Marcum
1979	C. L. Barber
1978	Norman O. Brown
1977	Harry Beevers
1976	M. Brewster Smith
1975	Joseph F. Bunnett
1974	Albert Hofstadter
1973	Aaron C. Waters
1972	Theodore R. Sarbin
1971	Joseph H. Silverman
1970	Kenneth V. Thimann
1969	Page Smith
1968	Albert Edward Whitford
1967	Maurice Alexander Natanson

# EVENT PROGRAM

## Welcoming Remarks

Patty Gallagher, Academic Senate Chair, Professor, Theater Arts

## Opening Remarks

Lori G Kletzer, Campus Provost and Executive Vice Chancellor

## BSOE Welcome

Alexander Wolf, Baskin School of Engineering Dean, Distinguished Professor, Computer Science and Engineering

## Introduction

Katia Obraczka, Professor, Computer Science and Engineering

## Faculty Research Lecture

J. J. Garcia-Luna-Aceves, Distinguished Professor of Computer Science and Engineering

## Audience Q&A

Moderated by Katia Obraczka

*A reception will be held following the program.*



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UC Santa Cruz Academic Senate  
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# 56<sup>TH</sup> ANNUAL



## FACULTY RESEARCH LECTURE

## Distinguished Professor J. J. Garcia-Luna-Aceves



### Research Directions on Communication Protocols for Intelligent Information Infrastructures

## MAY 11, 2023 • 7:00 PM

University Center, Bhojwani Dining Room

# Research Directions on Communication Protocols for Intelligent Information Infrastructures

The computer networks we enjoy today have been built based on the initial designs by giants in the field of computer networks dating back to the 1960's to 1980's. These architectures and protocols have proven to be remarkably useful; however, the communication, computing, and storage resources available today are many orders of magnitude larger and far more affordable than researchers could have ever imagined 50 years ago.

The availability of vast computing resources today allows us to reimagine how the Internet could operate if far more machine intelligence were used inside the networks themselves, rather than just at the servers and clients using them, and to develop new network architectures and protocols for intelligent information infrastructures.

In this talk I describe early results showing how communication protocols can be reimaged taking into account machine intelligence and memory, and outline research directions for the development of protocols for intelligent information infrastructures.



## Distinguished Professor J. J. Garcia-Luna-Aceves

J.J. Garcia-Luna-Aceves is a Distinguished Professor of Computer Science and Engineering (CSE) at the University of California, Santa Cruz (UCSC) and serves as CSE Department Chair and CITRIS Campus Director. He joined the Computer Engineering Department at UCSC in 1993 JJ has led the Computer Communication Research Group for the past 30 years, currently serves as CSE Department Chair and CITRIS Campus Director, and is retiring later this year [to join the University of Toronto].

JJ was elected a Corresponding Member of the Mexican Academy of Sciences in 2013. He is a Life Fellow of the Institute of Electrical and Electronics Engineers (IEEE); and is a Fellow of the Association for Computing Machinery (ACM), the National Academy of Inventors (NAI), the American Association for the Advancement of Science (AAAS), and the Asia-Pacific Artificial Intelligence Association (AAIA).

JJ received the 2023 Harry H. Goode Memorial Award from the IEEE Computer Society "for significant and pioneering contributions to algorithms, protocols and architectures for routing in computer networks and the Internet," the 2017 George E. Pake Golden Oak Award from PARC, the 2016 IEEE MILCOM Technical Achievement Award, the 2012 IEEE Communications Society AHSNTC Technical Recognition Award, and the 2011 IEEE Computer Society Technical Achievement Award. He holds 70 U.S. patents and has published more than 500 papers in journals, conferences

and books. His published work has received more than a dozen Best-Paper awards, more than 43,000 citations, and has resulted in an h-index of 103.

**How communication protocols can be reimaged taking into account machine intelligence and memory**

