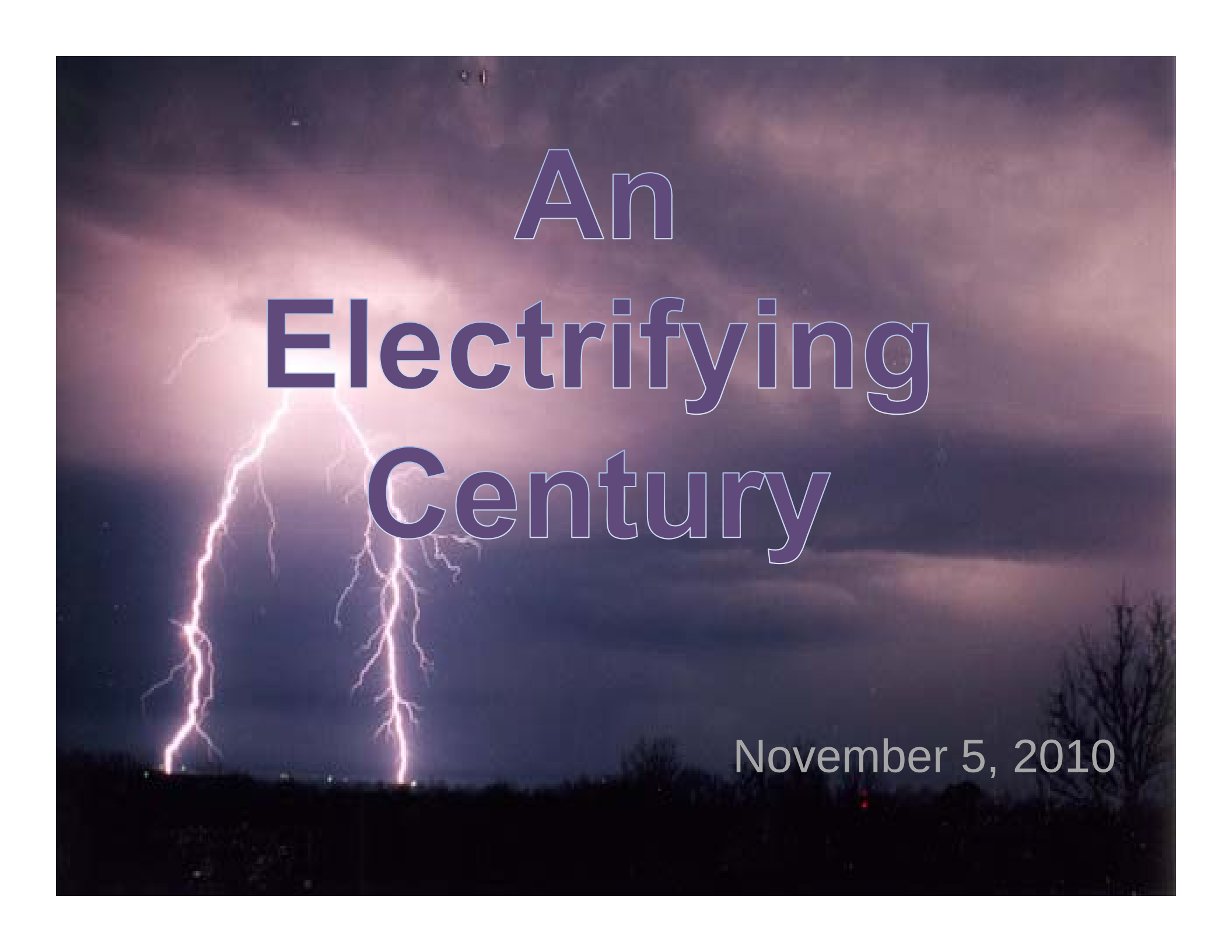




An Electrifying Century

November 5, 2010

Caltech Faculty, 1925

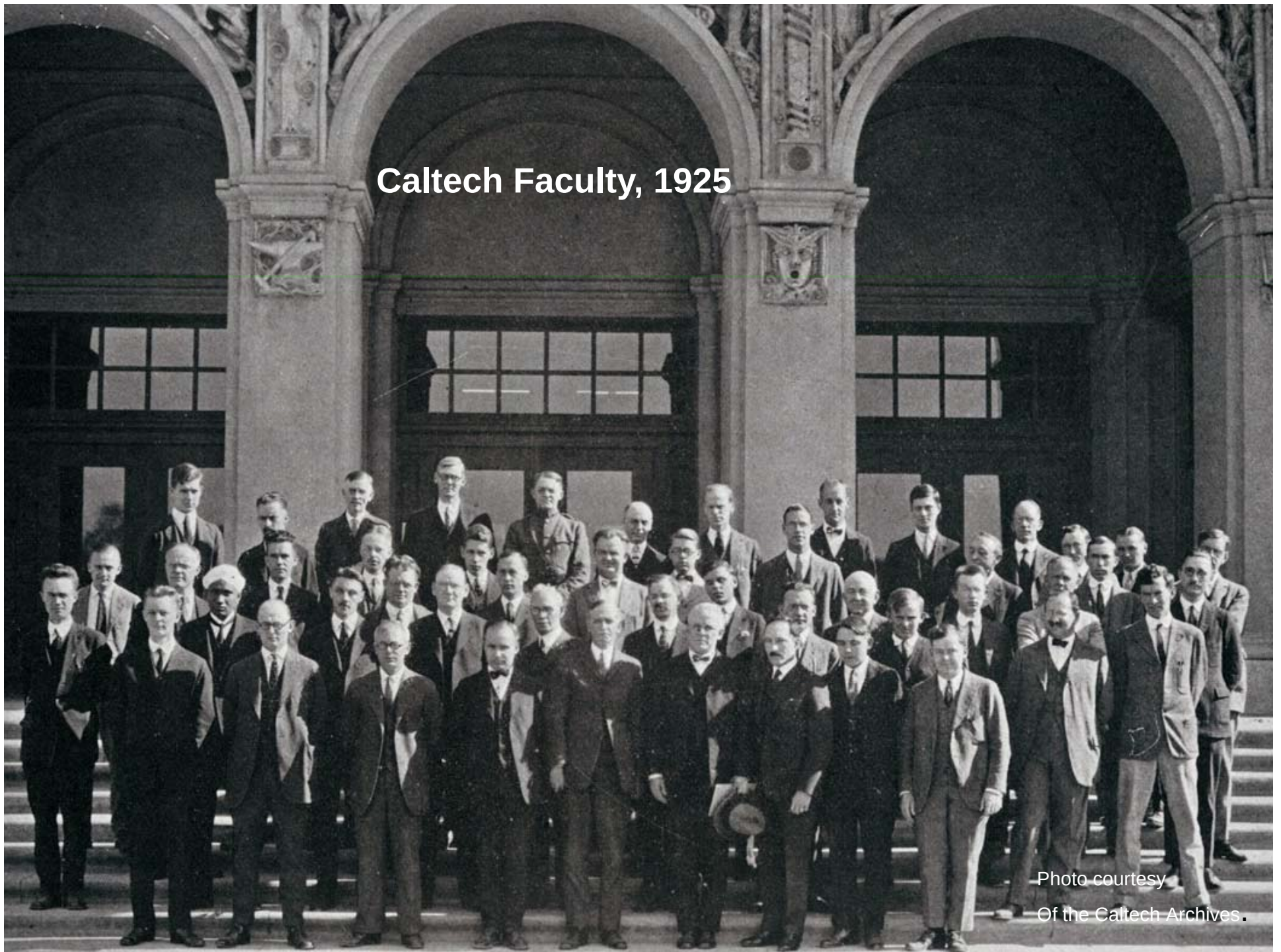


Photo courtesy
Of the Caltech Archives.

**East Hall, Throop Polytechnic Institute at
Chestnut and Raymond**



CNS and Lee Center Workshop



Photo by EAS
Communications Dept.



EE91 lab project, 1978



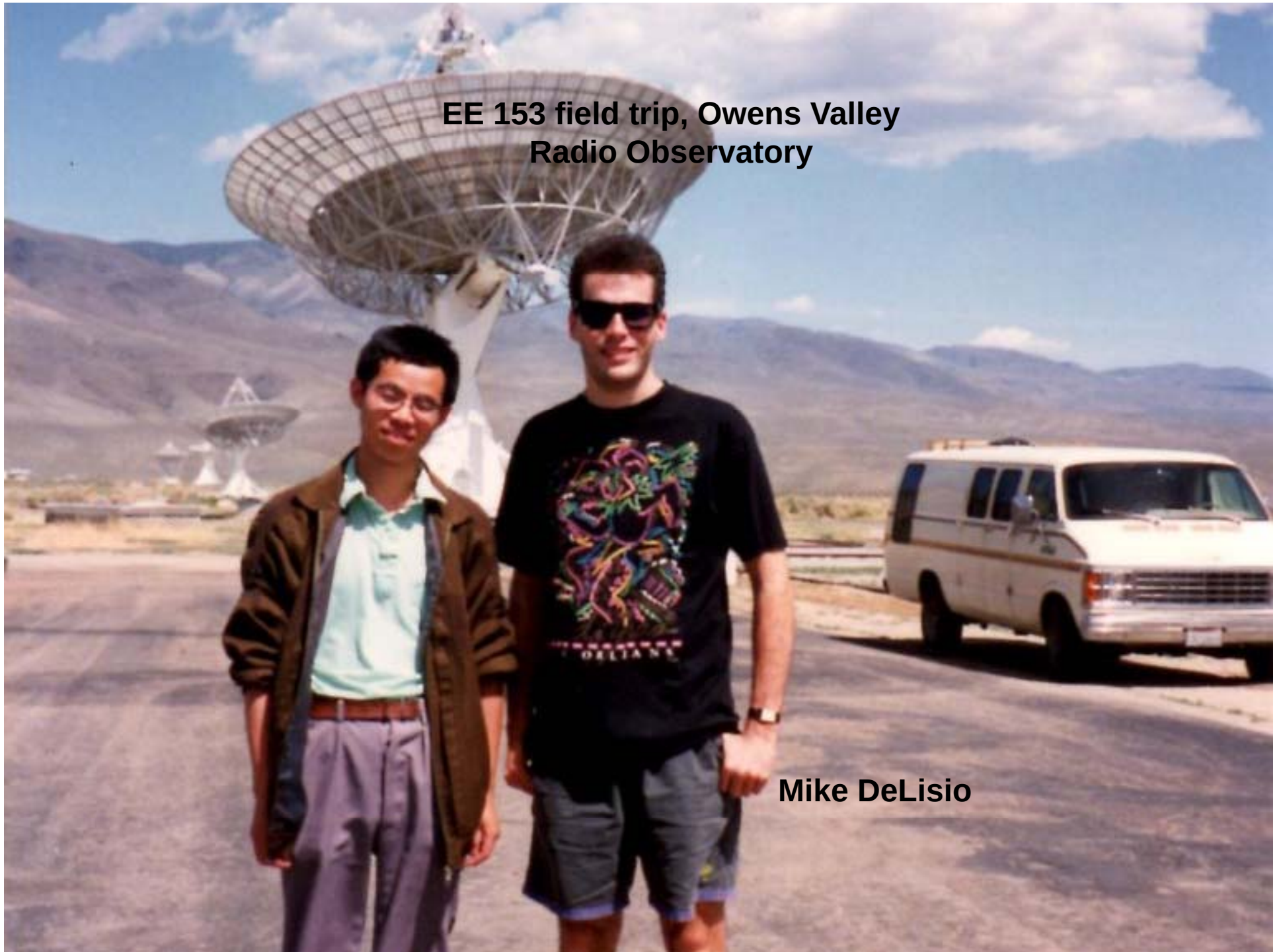
Ed Posner

1933-1993

**KCAL radio station built by Barry Megdal and Steve Klein,
Page House. Clement Tan in photo, 1978**



**EE 153 field trip, Owens Valley
Radio Observatory**



Mike DeLisio



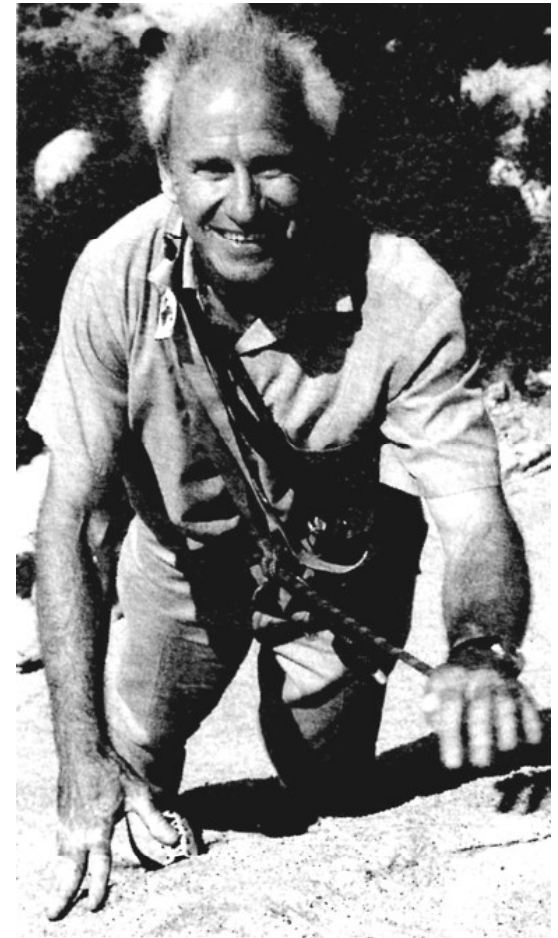
**Ellen Wilts at
Tuolumne Meadows,
Yosemite, 1949 from
the Ellen & Charles
Wilts Collection**



**Ellen & Chuck Wilts, summit of Mt.
Lyll, Yosemite National Park,
August 1947- from the Ellen &
Charles Wilts Collection, Los
Angeles Chapter Archives**



**Chuck Wilts handles
the rope during an RCS
(Rock Climbing Section)
practice session at
Running Springs,
photo by Niles Werner.**



Charles H. Wilts
1920–1991

*From the Sierra Club ,
Los Angeles Chapter
<http://angeles.sierraclub.org/about/LeadersS-Z.asp>*



Ho

Hassibi

Emami

Low

The Wilts Prize 2010

06.06.2010



Babak Hassibi

Weiyu Xu

Azita Emami

06.06.2010

Caltech Computer Center – Burroughs 220 Digital Computer
Serves as the Institute's computing facility for both general, research
And instruction in machine computing methods.





Chris White

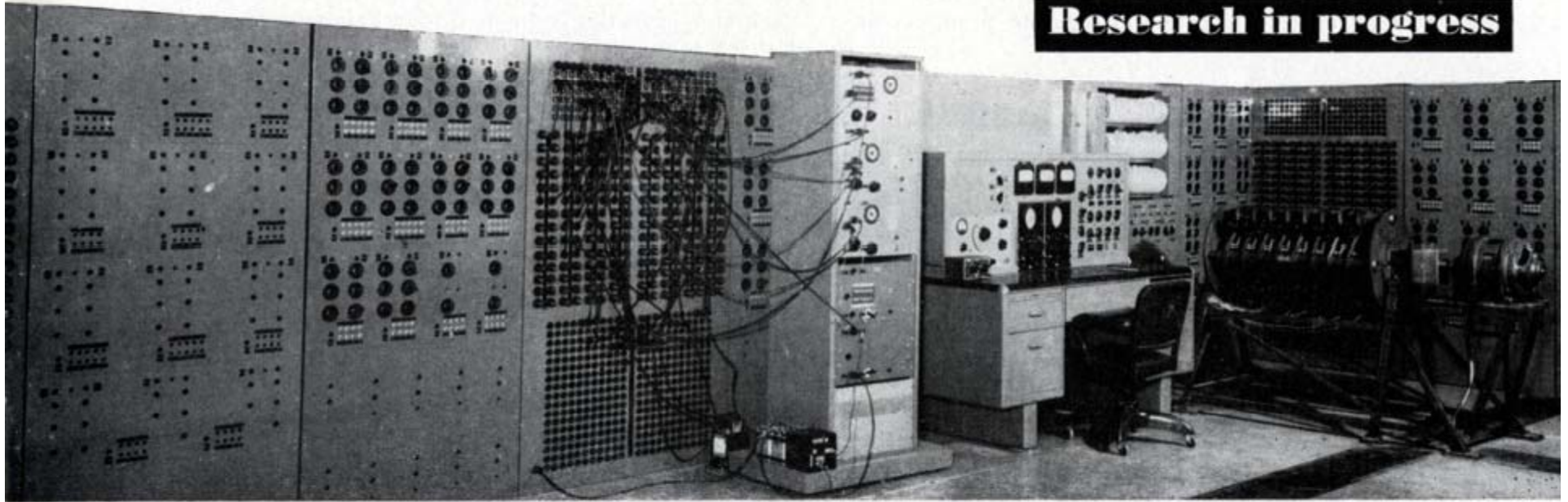




**Charles
Elachi**

Photo by EAS
Communications Dept.

Research in progress



This is one of two control panels for the Electric Analog Computer located in Caltech's Analysis Laboratory.



David Lee





David Baltimore

Photo by EAS
Communications Dept.

ENGINEERING



HARDY MARTEL



ROBERT LANGMUIR



ARTHUR KLEIN



MARC-AURELE NICOLET



NICHOLAS GEORGE

Combined
Engineering
Department,
1966



Pietro Perona

Yaser Abu-Mostafa



**Einstein (L)
& Millikan (R)
On Mt. Wilson**

Photo courtesy
Of the Caltech
Archives.



Hajimiri and Rutledge Groups



CNSE & Lee Center Industry Day 2001

Massimo Franceschetti and Kevin Foltz





Jeremy
Thorpe

Robert Aparicio-Joo



Sorensen

1930

44986-76



Analui

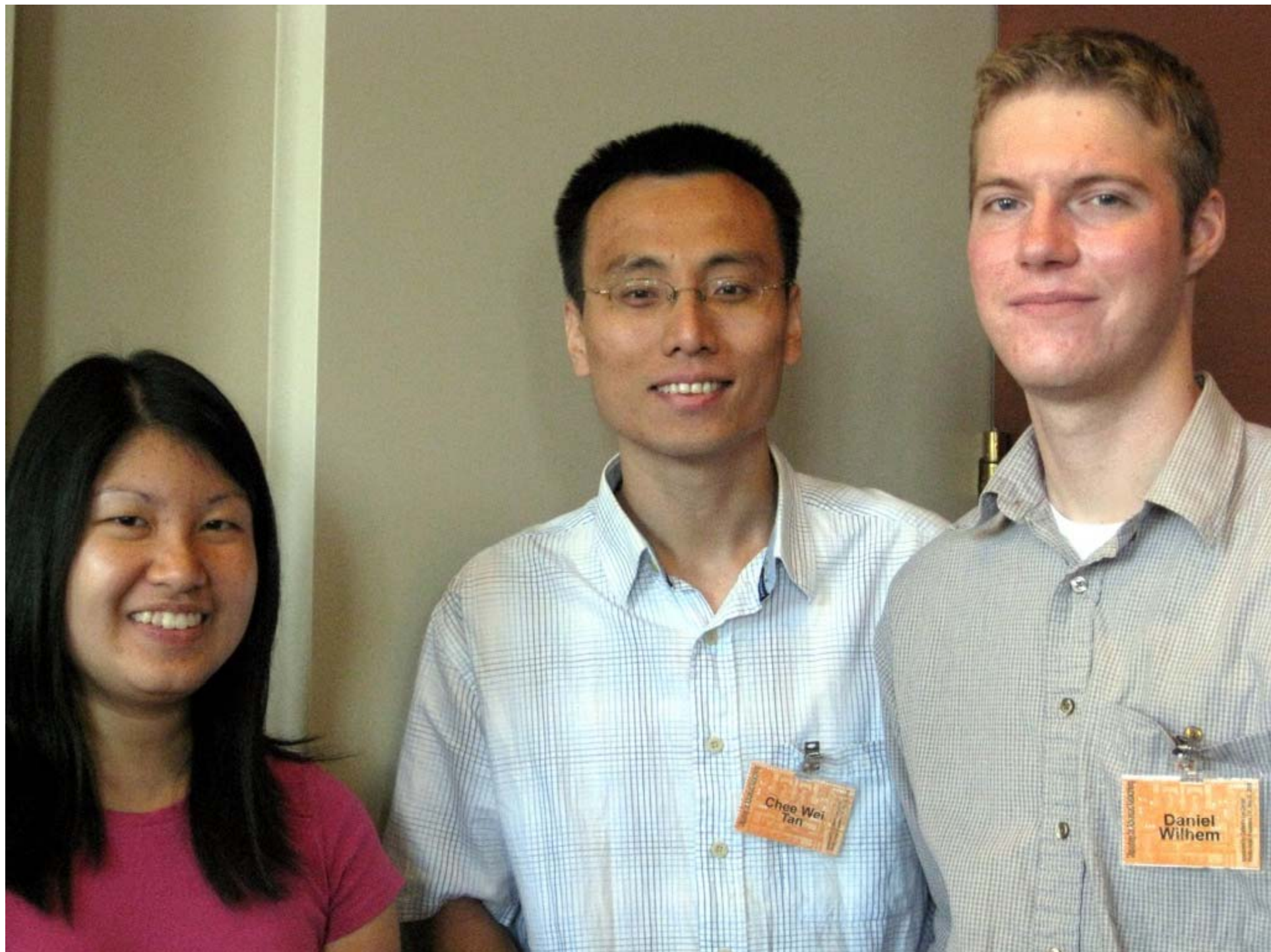
Guan

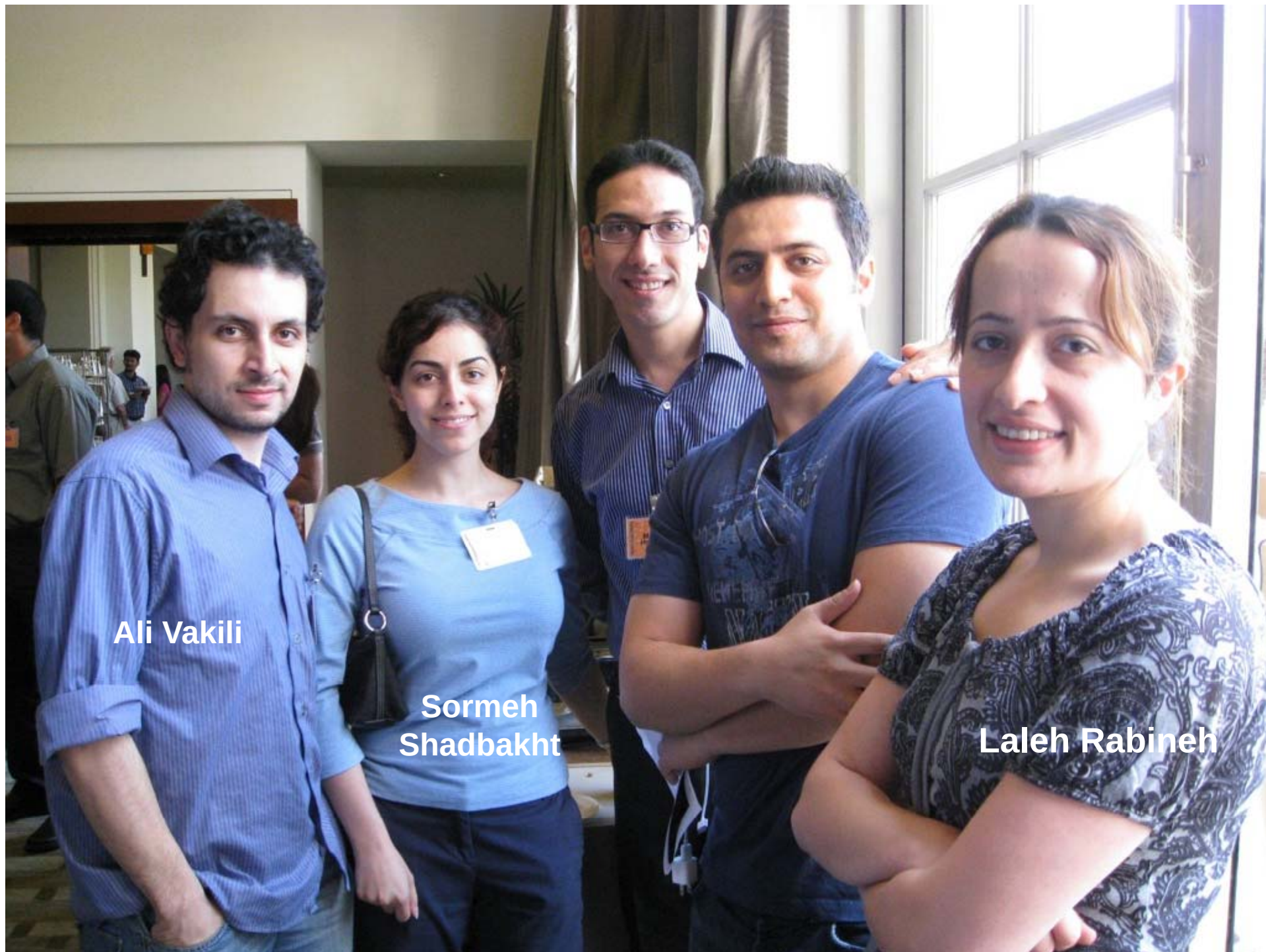
Aparicio

Cheung

Hashemi

Morgan





Ali Vakili

**Sormeh
Shadbakht**

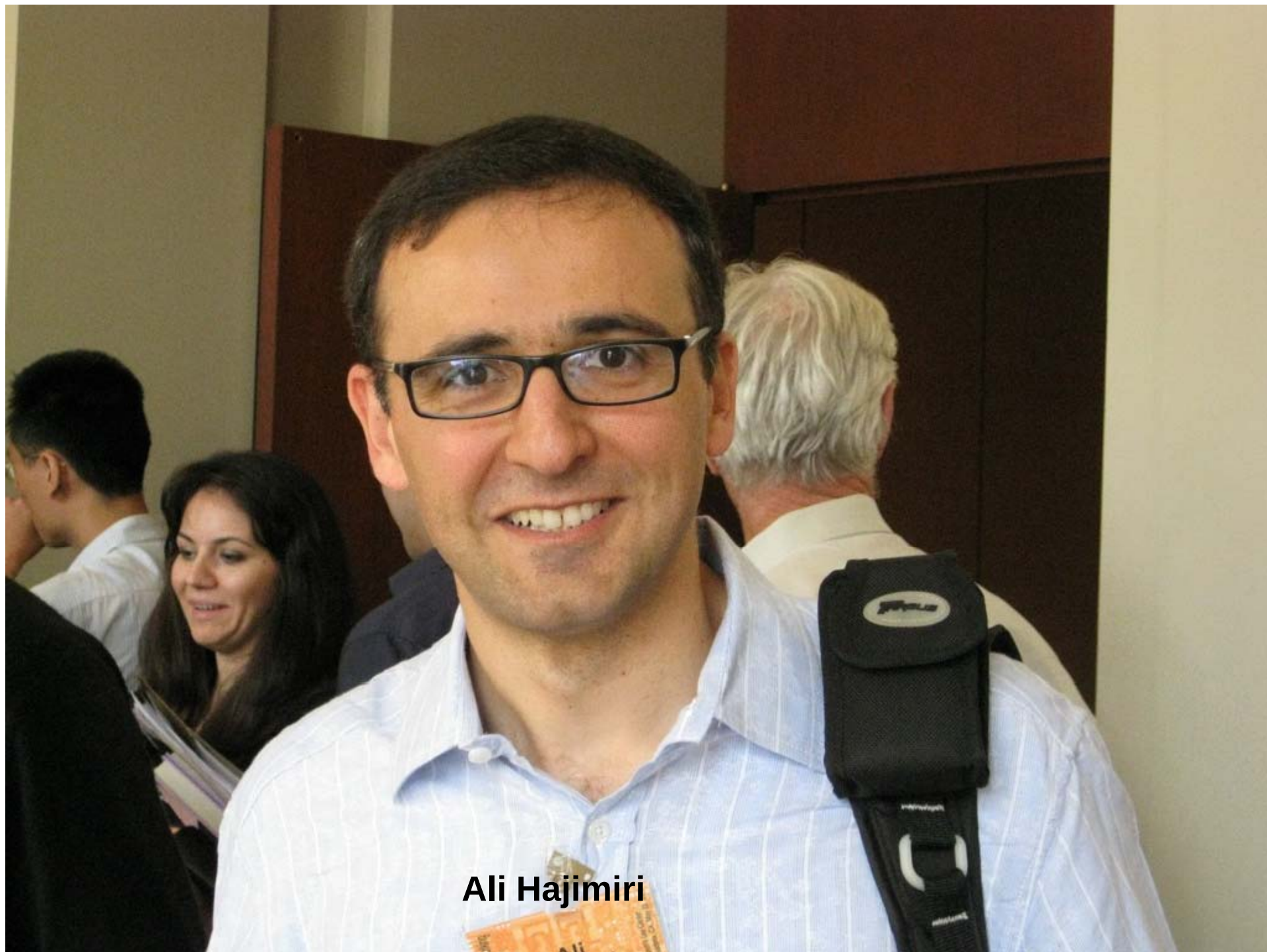
Laleh Rabineh



Hajimiri Group

David Hall and Amnon Yariv set up one of the optical switches developed in Caltech's electrical engineering laboratories.





Ali Hajimiri



Pietro Perona

Roy Gould, EE 1



Shi-Ping & J.C. Hsu



Jean & Mani Chandy





Shuki & Anat Bruck

February 1949

ENGINEERING AND SCIENCE



High voltage demonstration . . . page 16

PUBLISHED BY CALIFORNIA INSTITUTE OF TECHNOLOGY ALUMNI ASSOCIATION

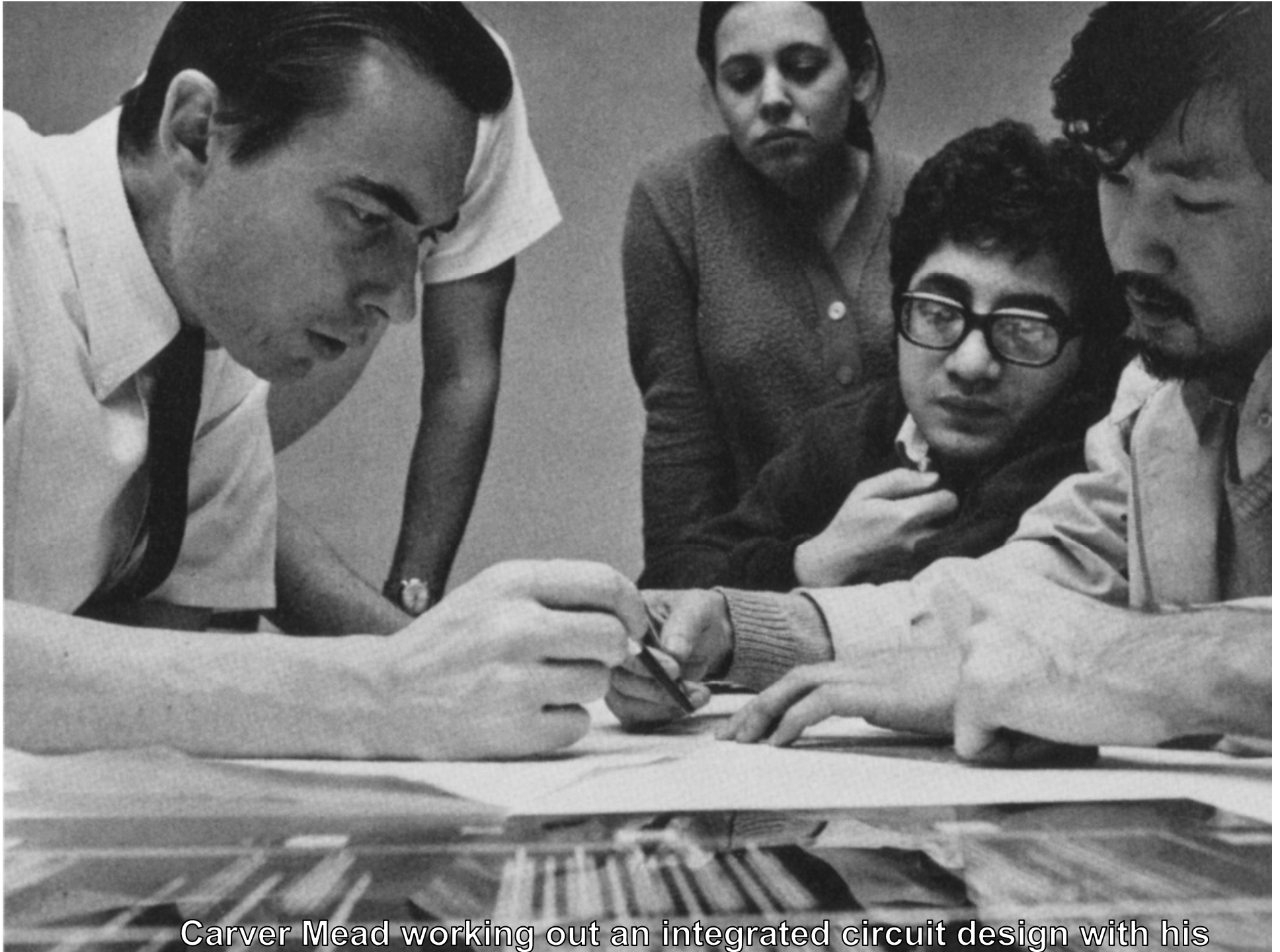
**High voltage
Demonstration,
1949**

Bruno & Maria Crosignani

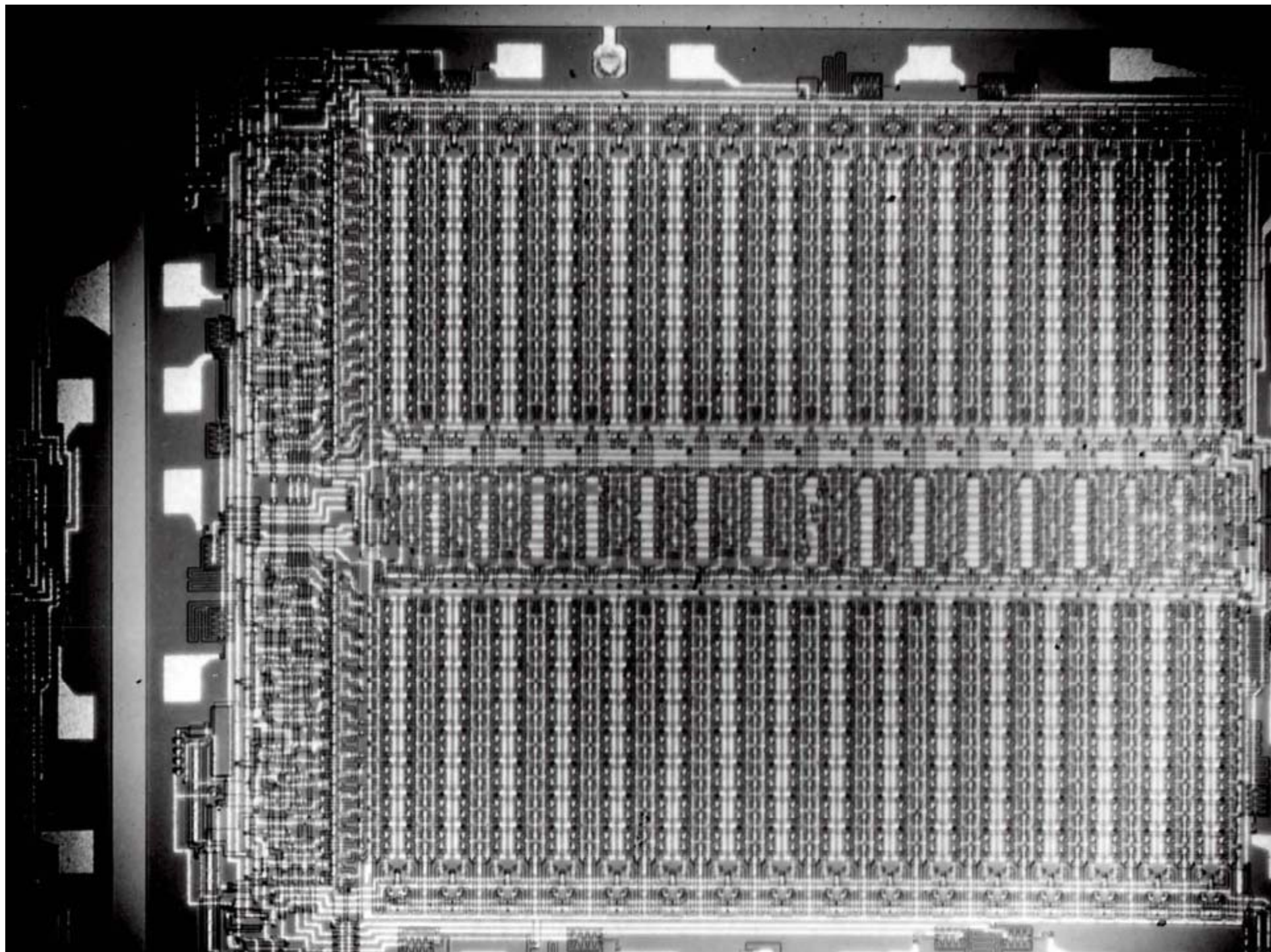


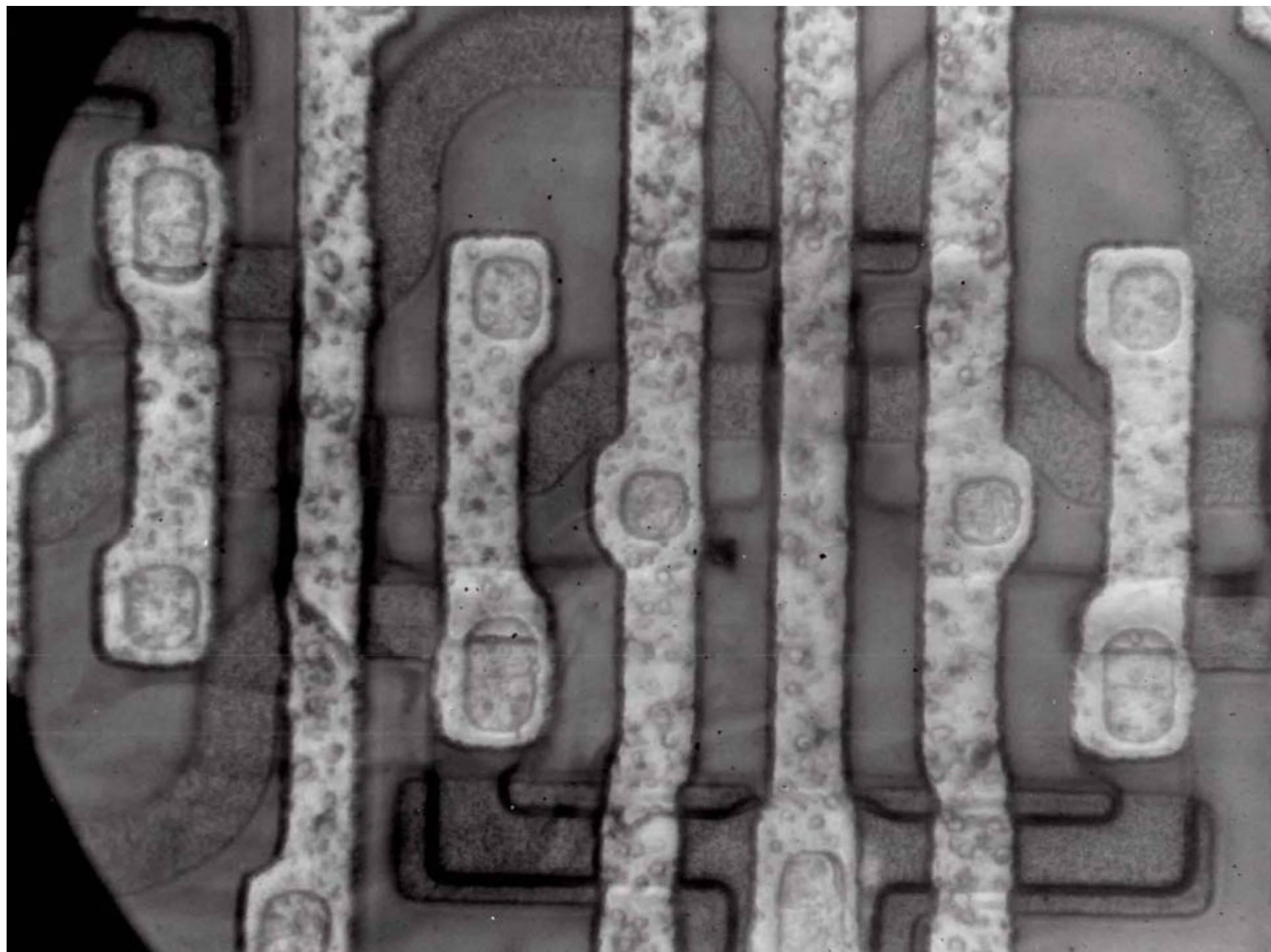
Fran & Amnon Yariv

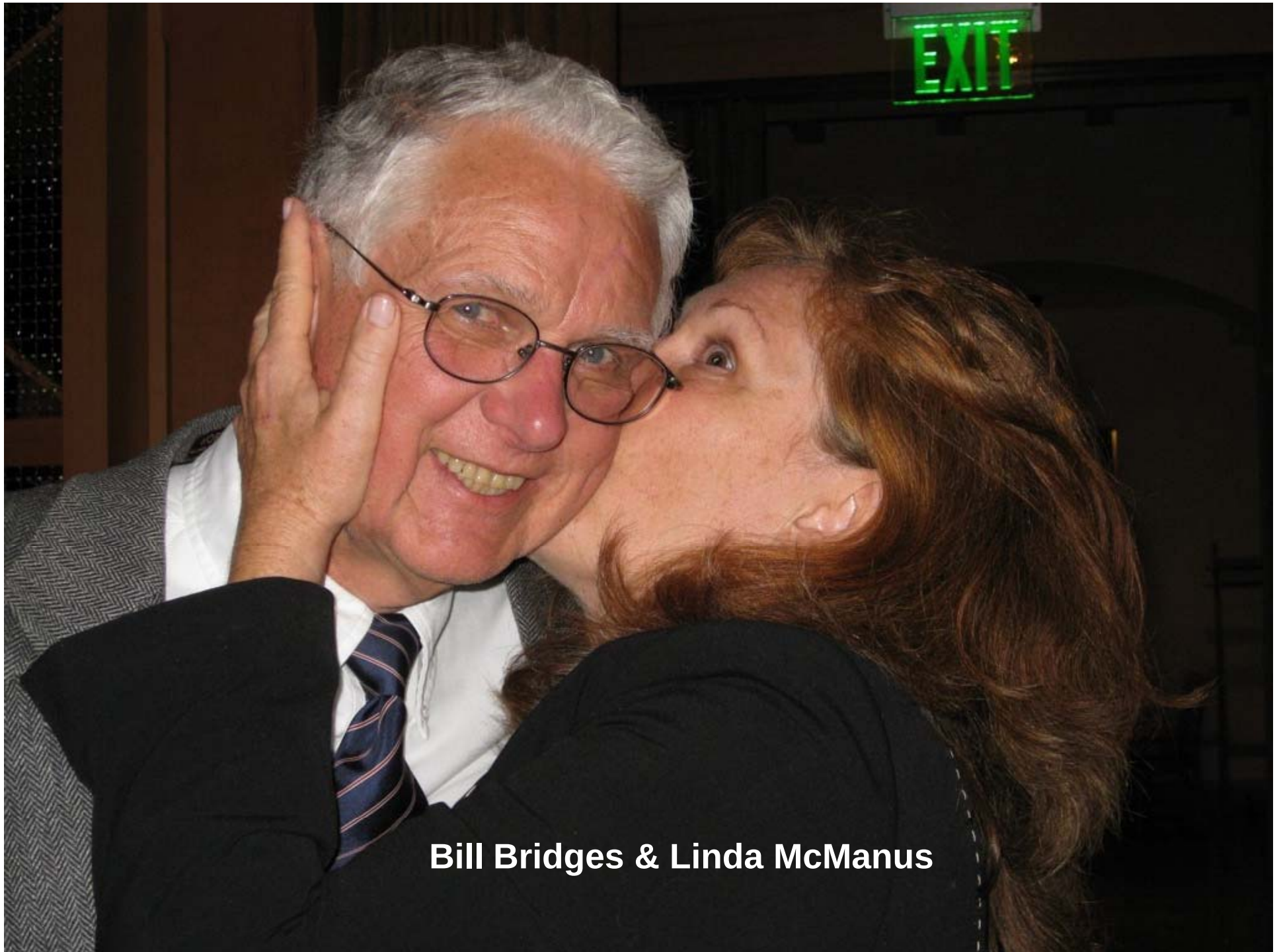




Carver Mead working out an integrated circuit design with his

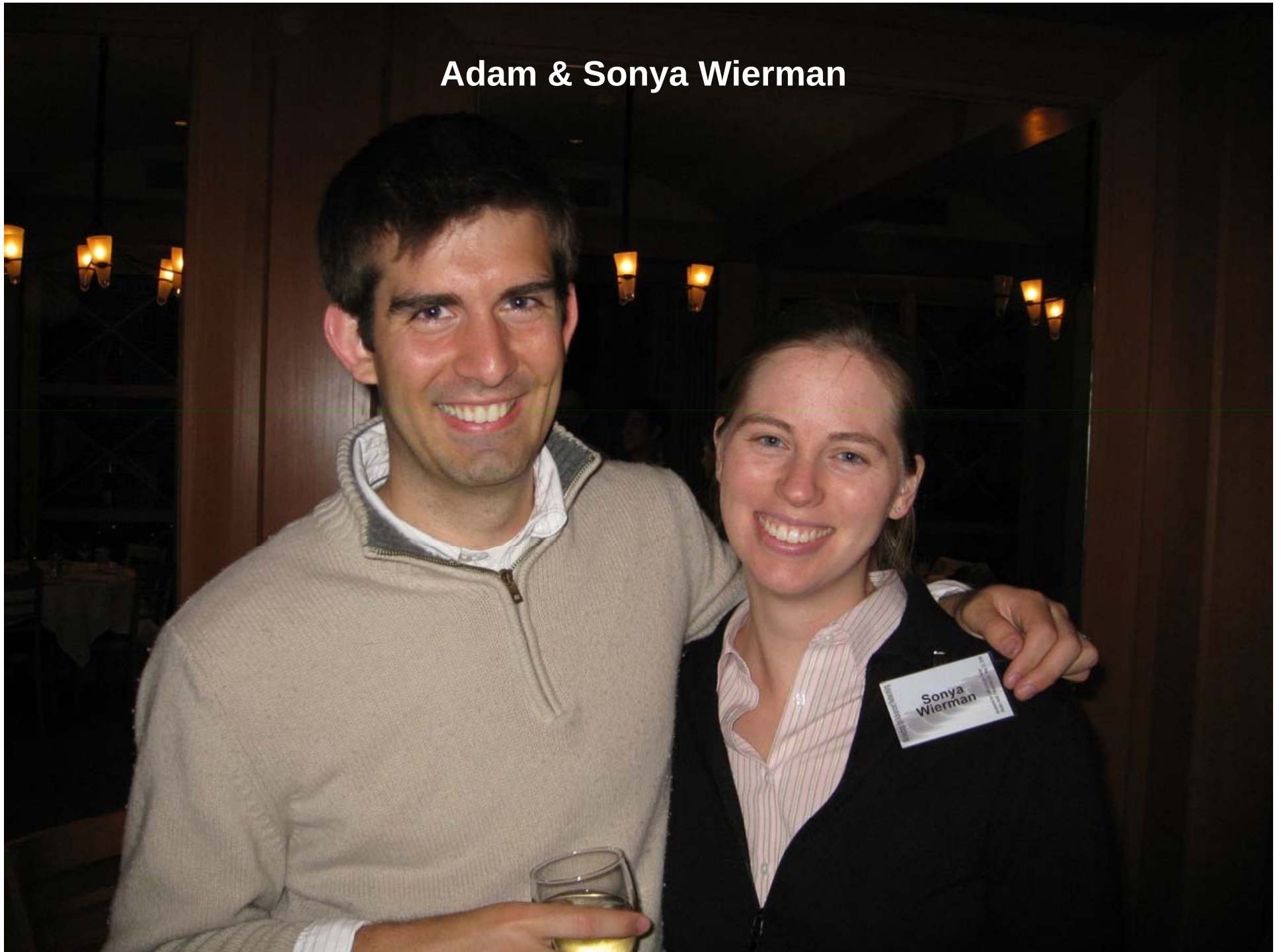




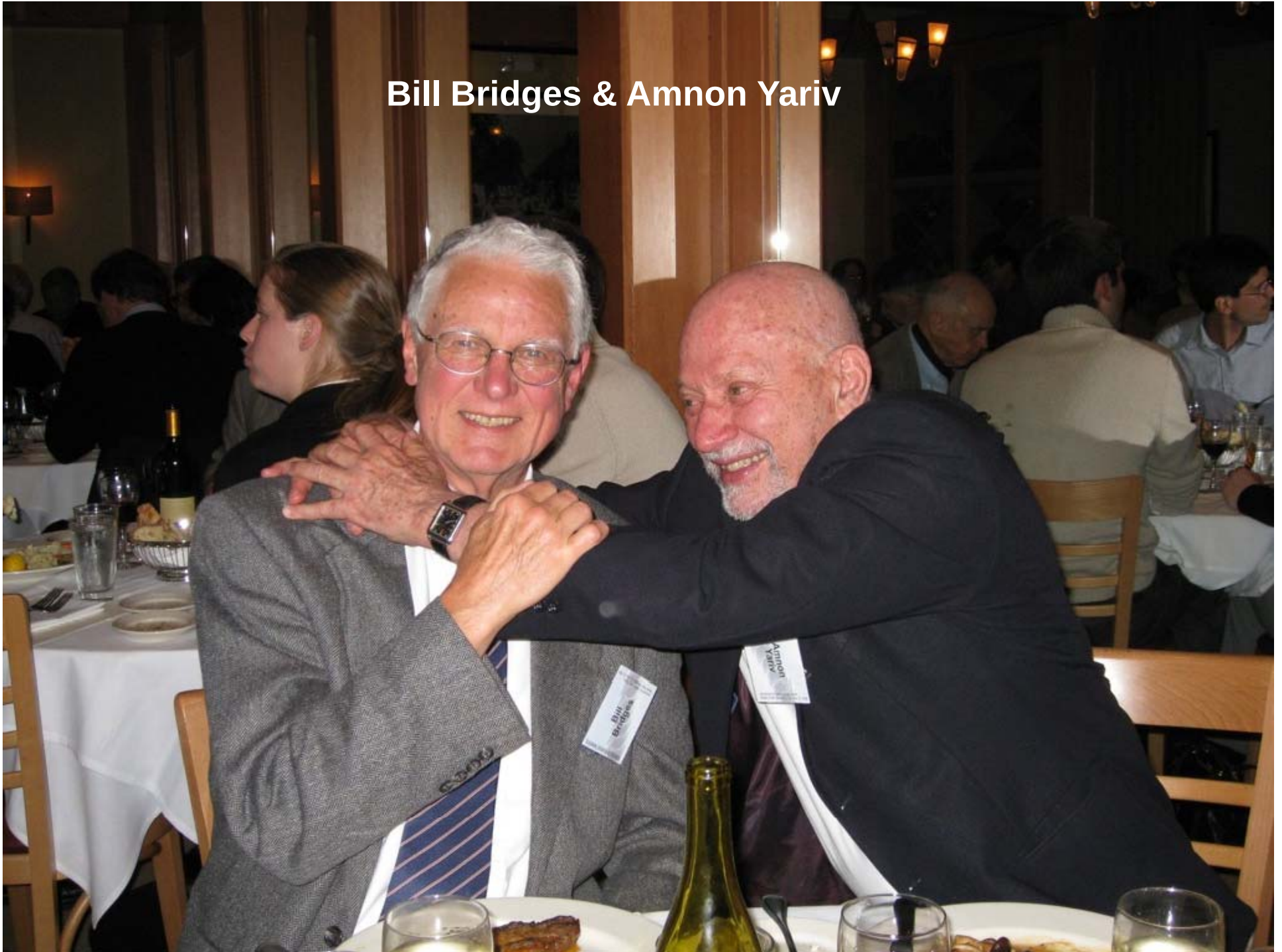


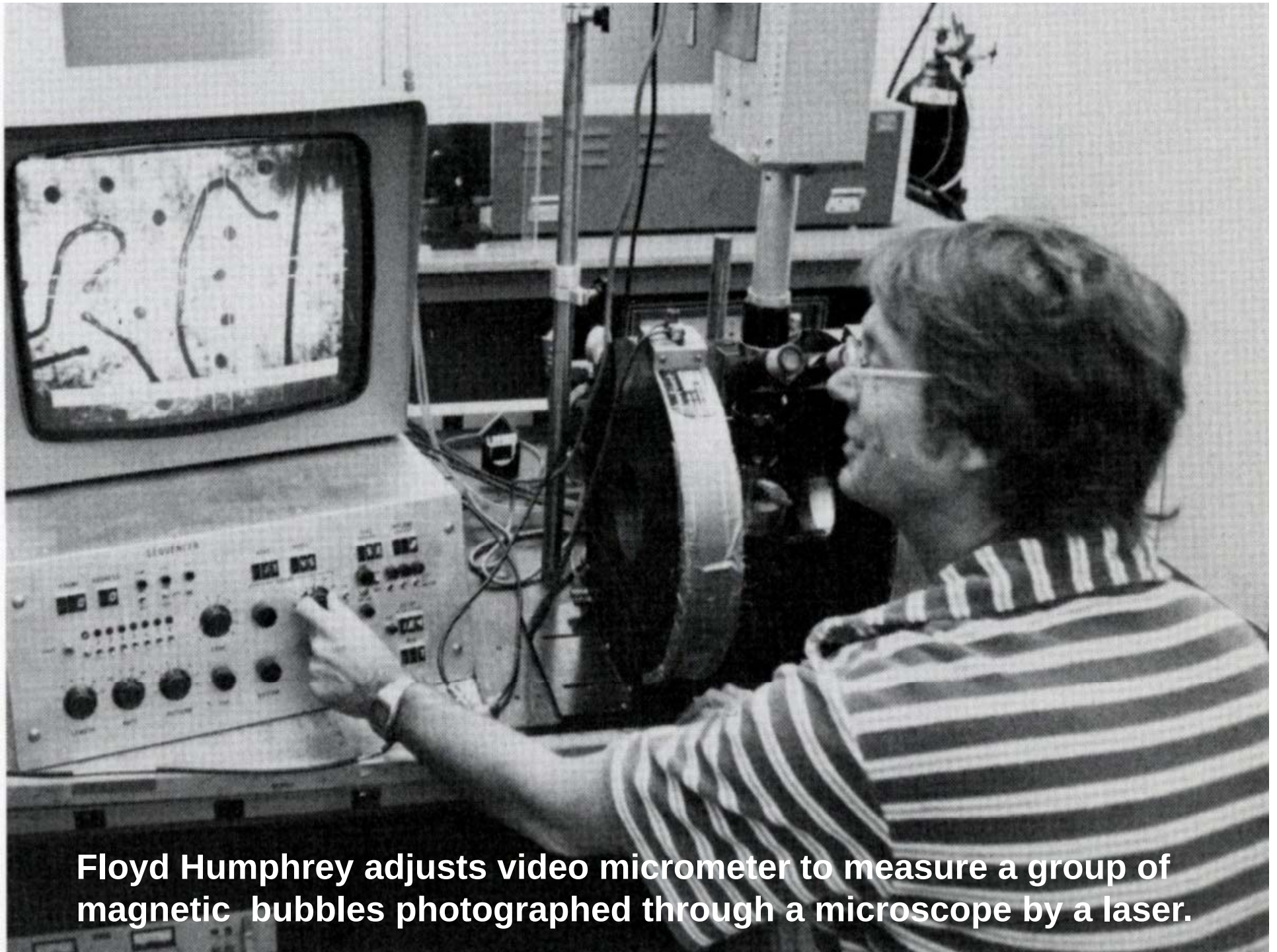
Bill Bridges & Linda McManus

Adam & Sonya Wierman



Bill Bridges & Amnon Yariv



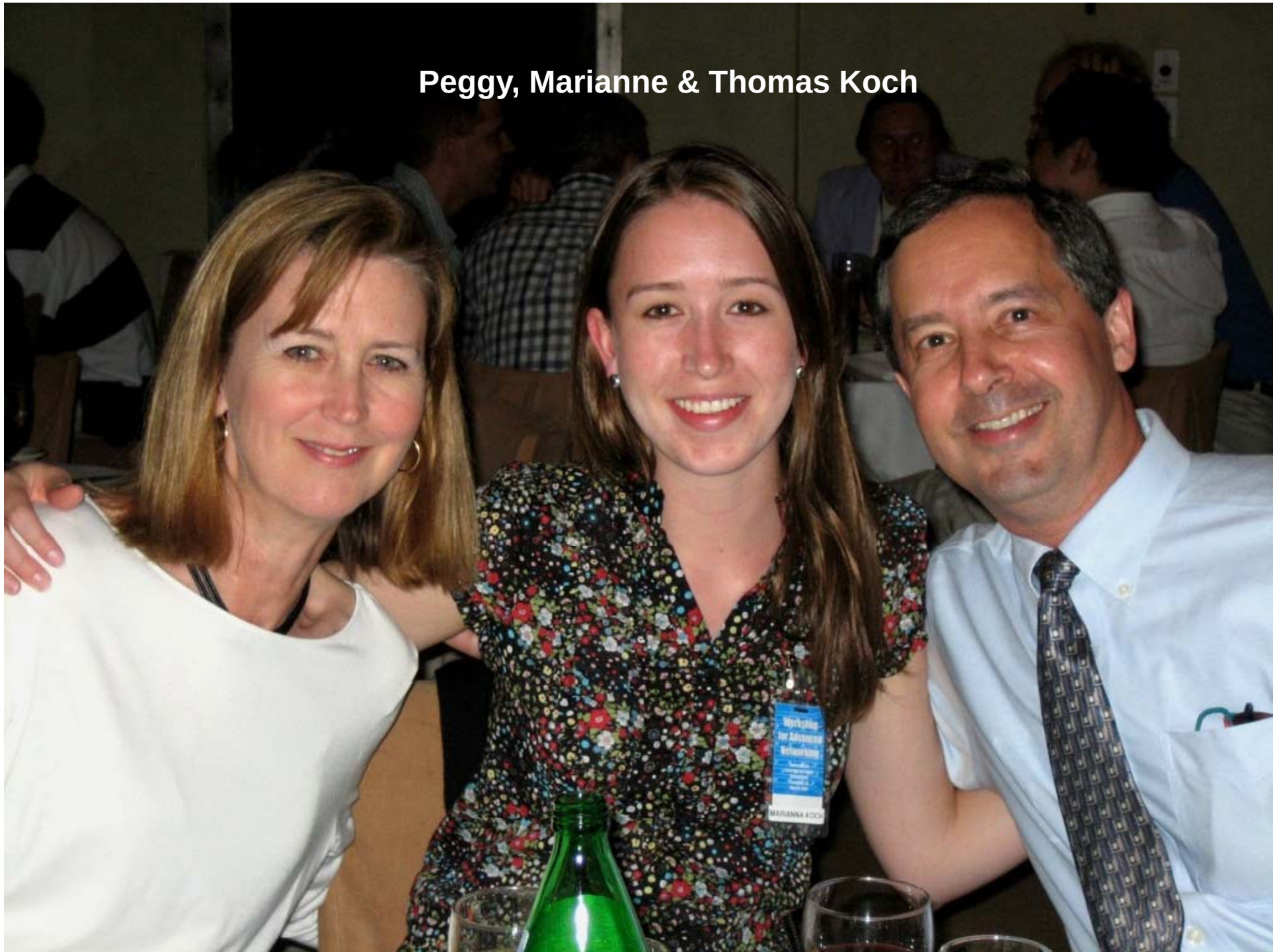


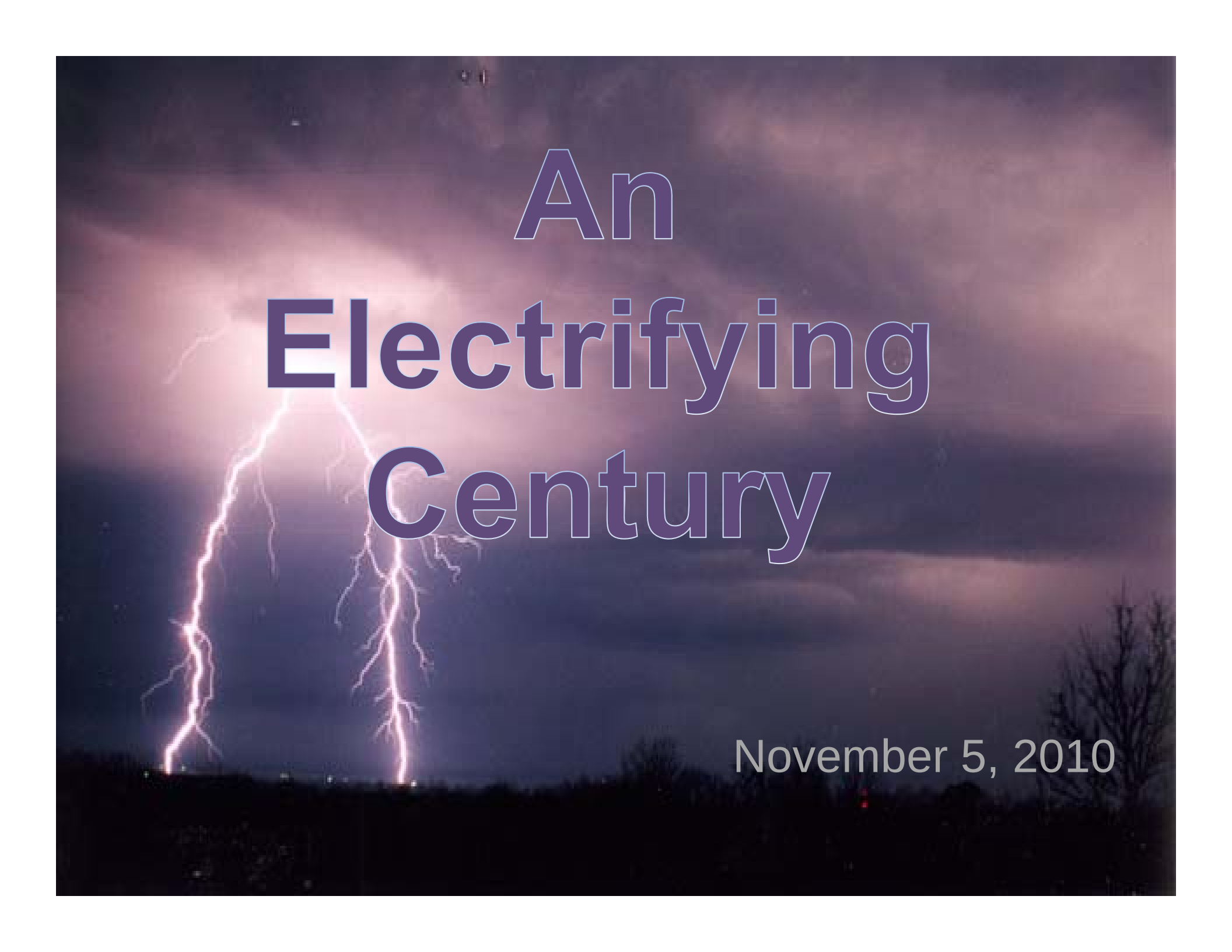
Floyd Humphrey adjusts video micrometer to measure a group of magnetic bubbles photographed through a microscope by a laser.

Yu-Han Chang & Tracey Ho



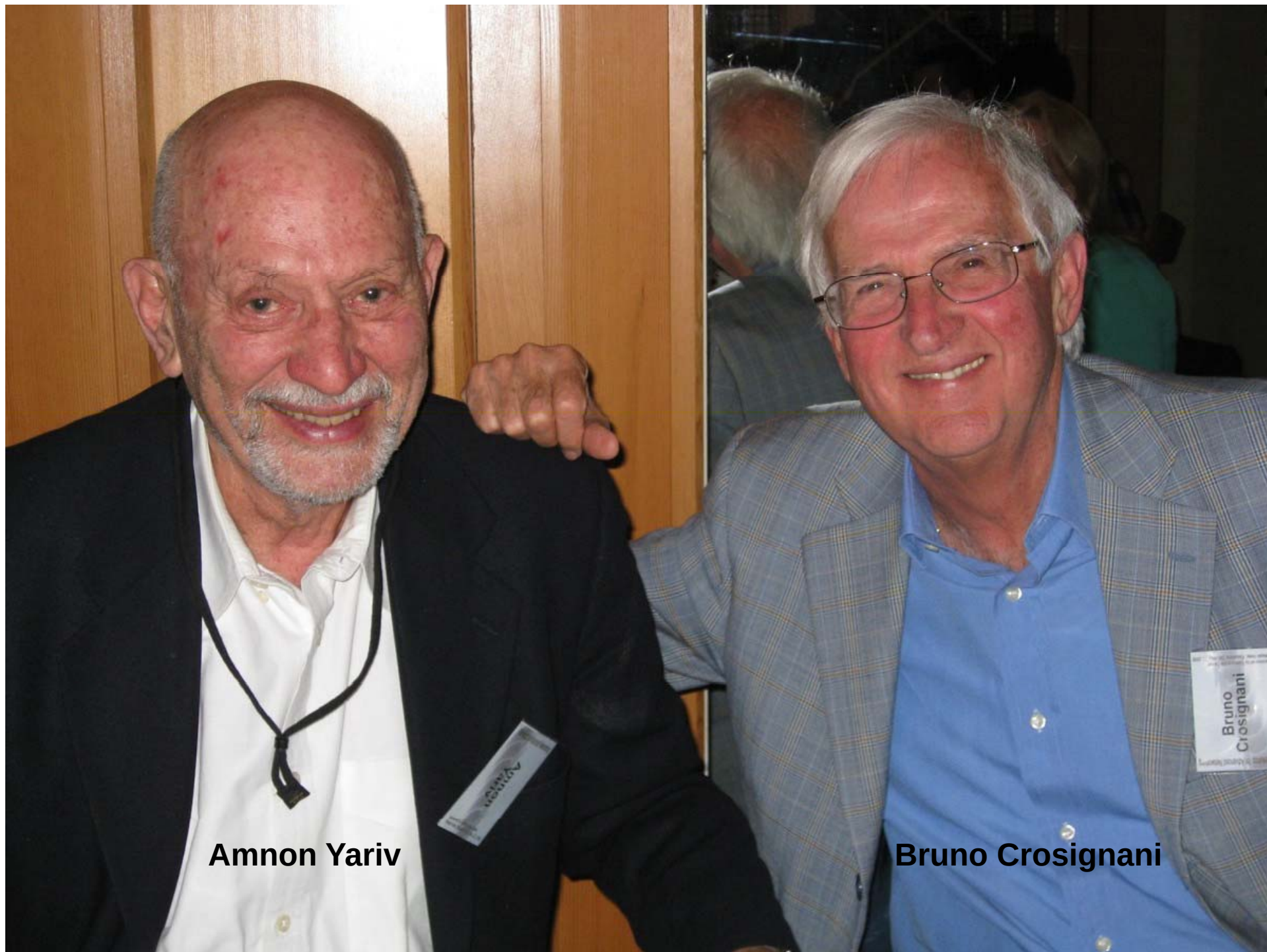
Peggy, Marianne & Thomas Koch





An Electrifying Century

November 5, 2010



Amnon Yariv

Bruno Crosignani



Virendra and Venita Sarohia



Marc-Aurèle Nicolet



Judy & Chuck Wheatley



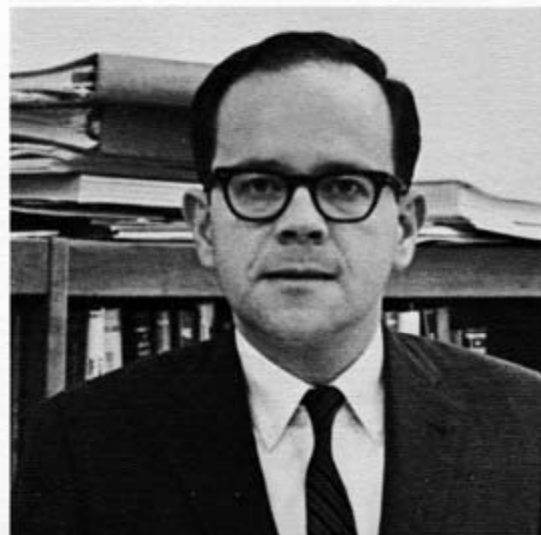
Azita Emami



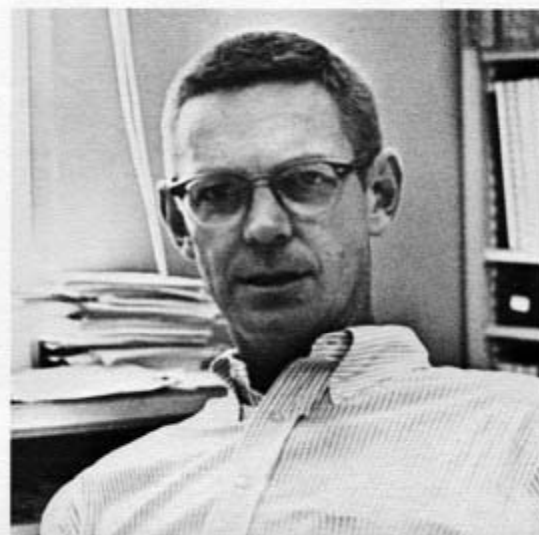
1968

William Pickering

Joel Franklin



Floyd Humphrey

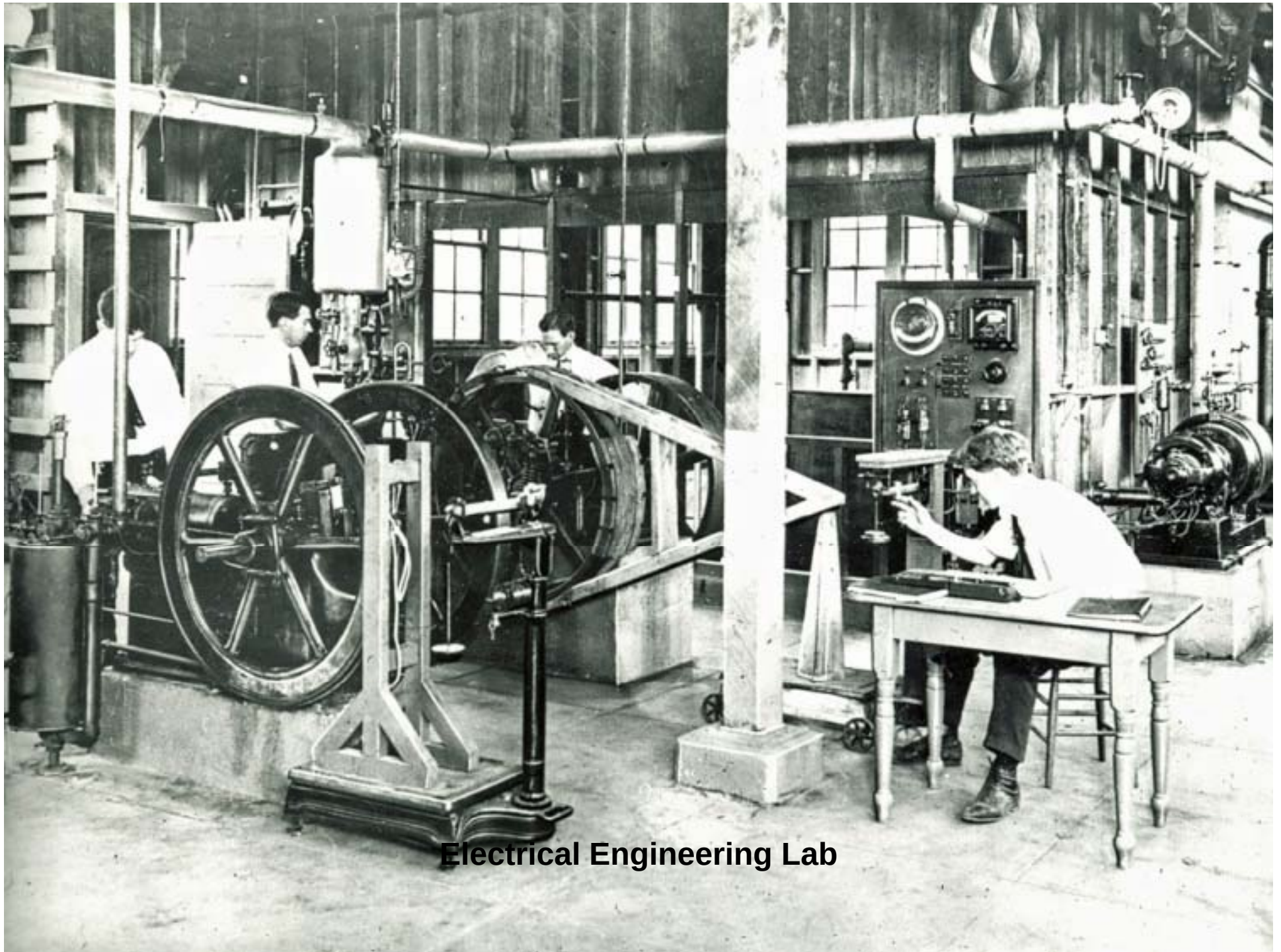




Laif Swanson

Bob McEliece





Electrical Engineering Lab



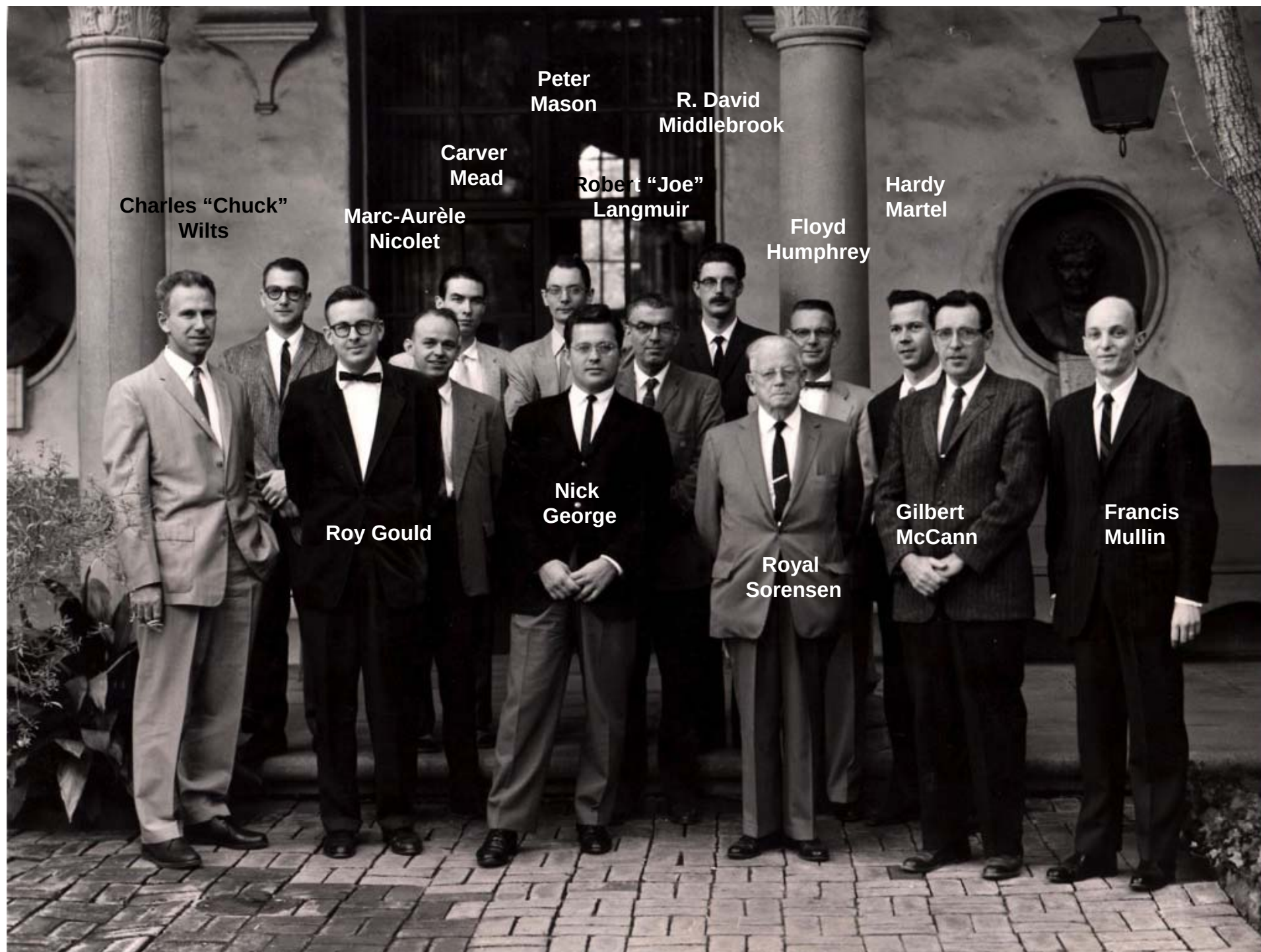
Antenna delivery for Moore Lab



**Positioning the
Antenna on top
Of Moore Lab**



Installation team, Moore Lab



Peter
Mason

R. David
Middlebrook

Carver
Mead

Robert "Joe"
Langmuir

Hardy
Martel

Charles "Chuck"
Wilts

Marc-Aurèle
Nicolet

Floyd
Humphrey

Roy Gould

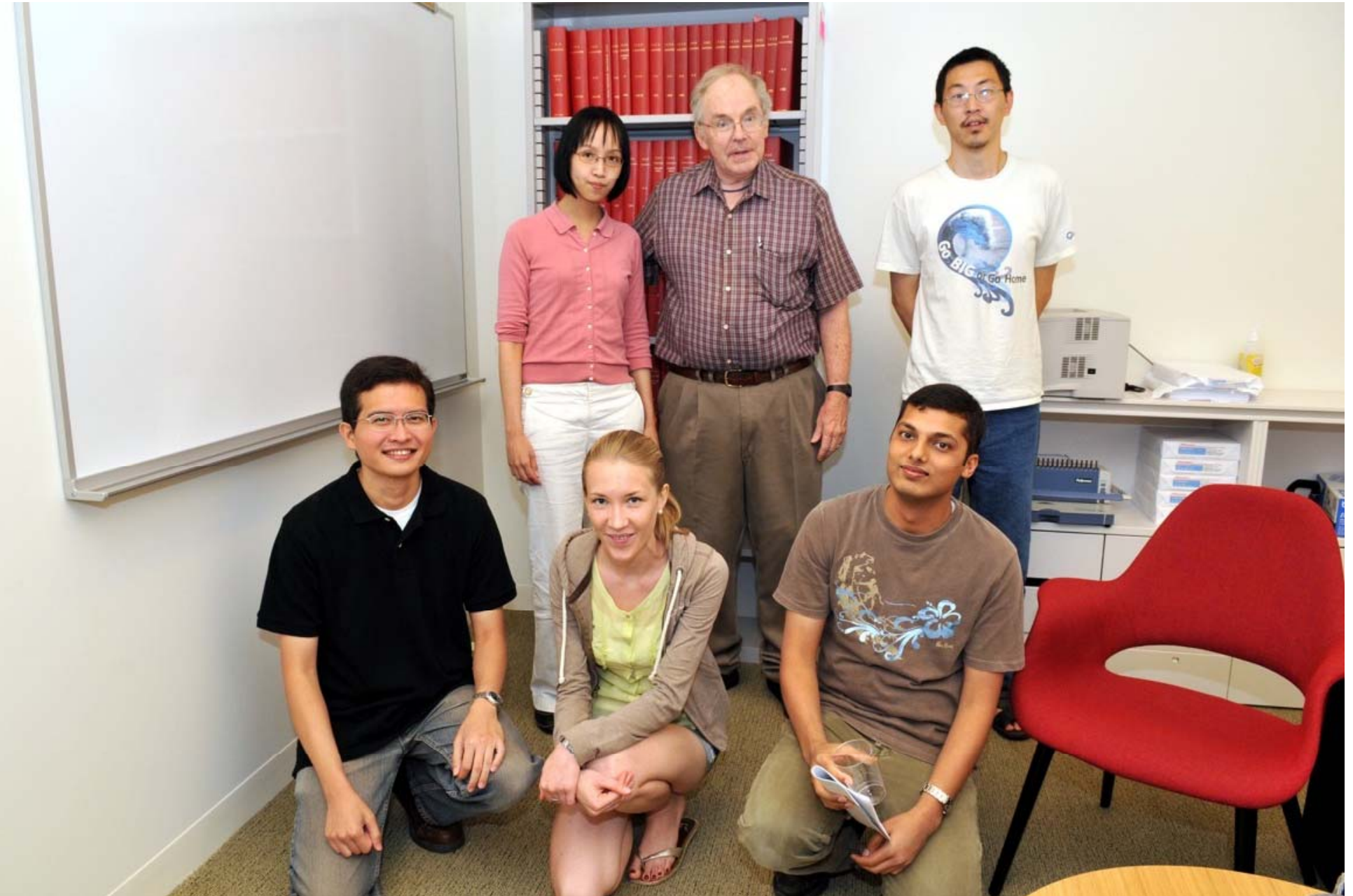
Nick
George

Royal
Sorensen

Gilbert
McCann

Francis
Mullin

Tracey Ho & Bob McEliece with students

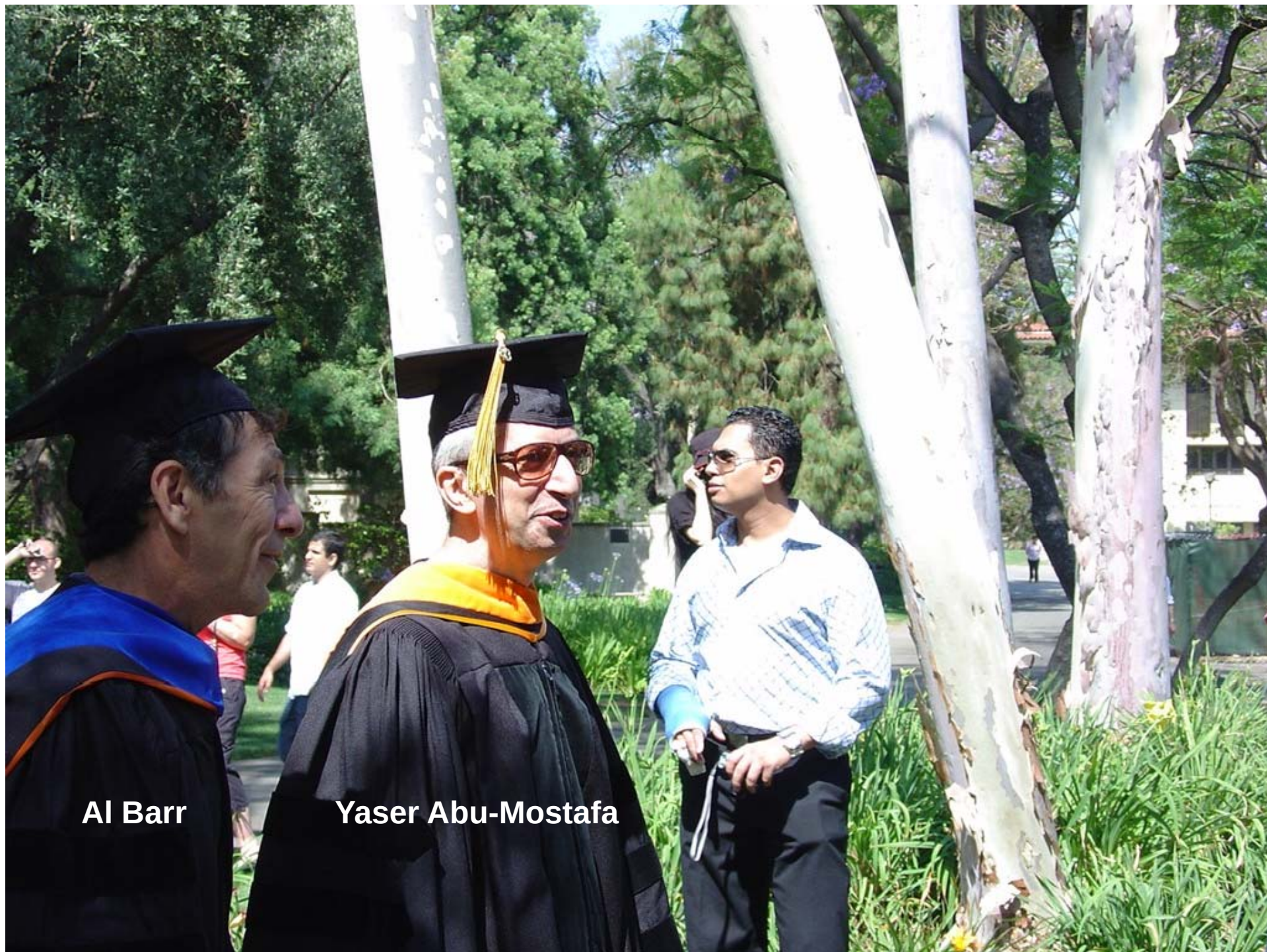




**William H.
Pickering
1910-2004**



Edwin Soedarmadji

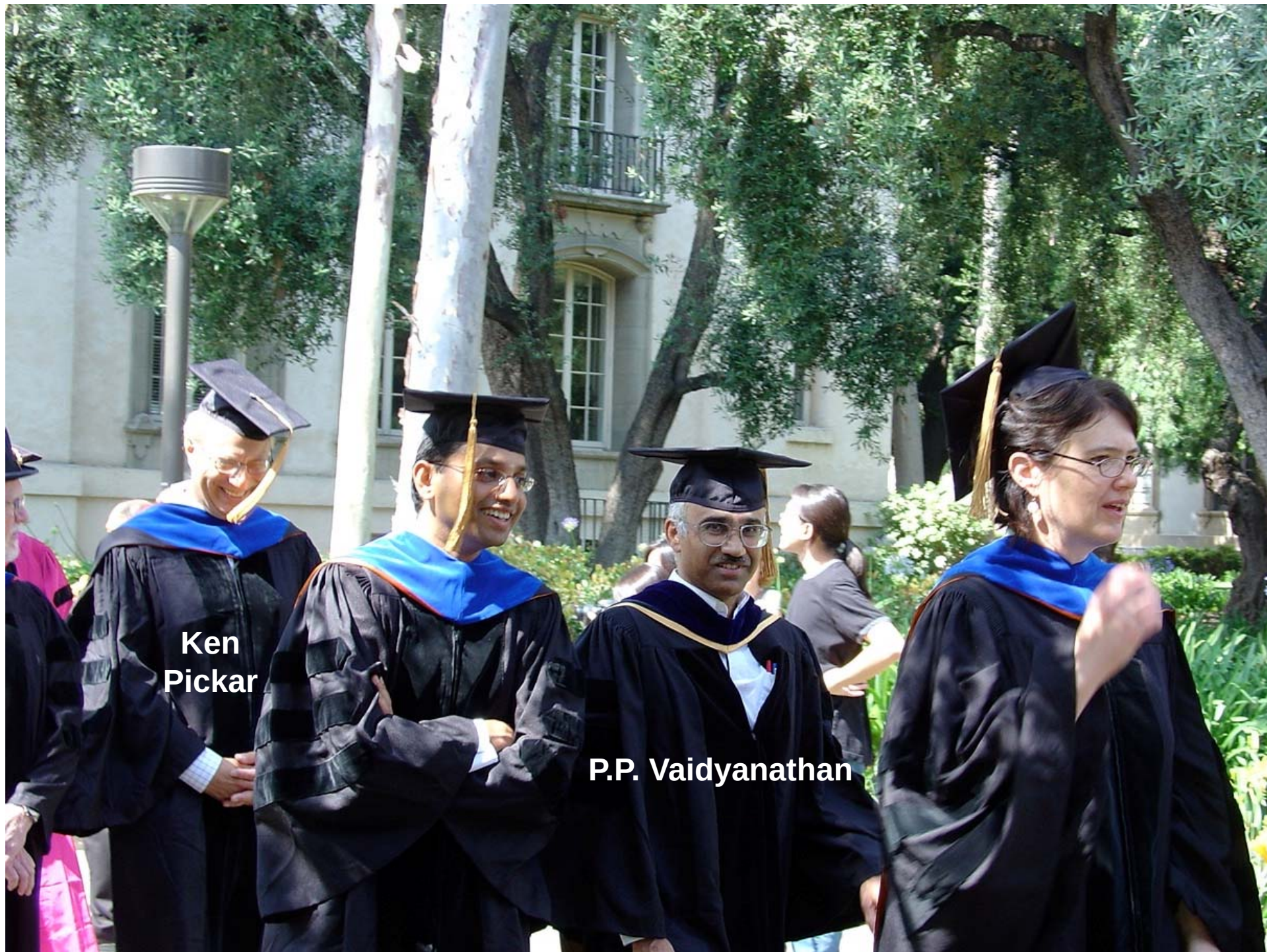


Al Barr

Yaser Abu-Mostafa



**Glenn
George**

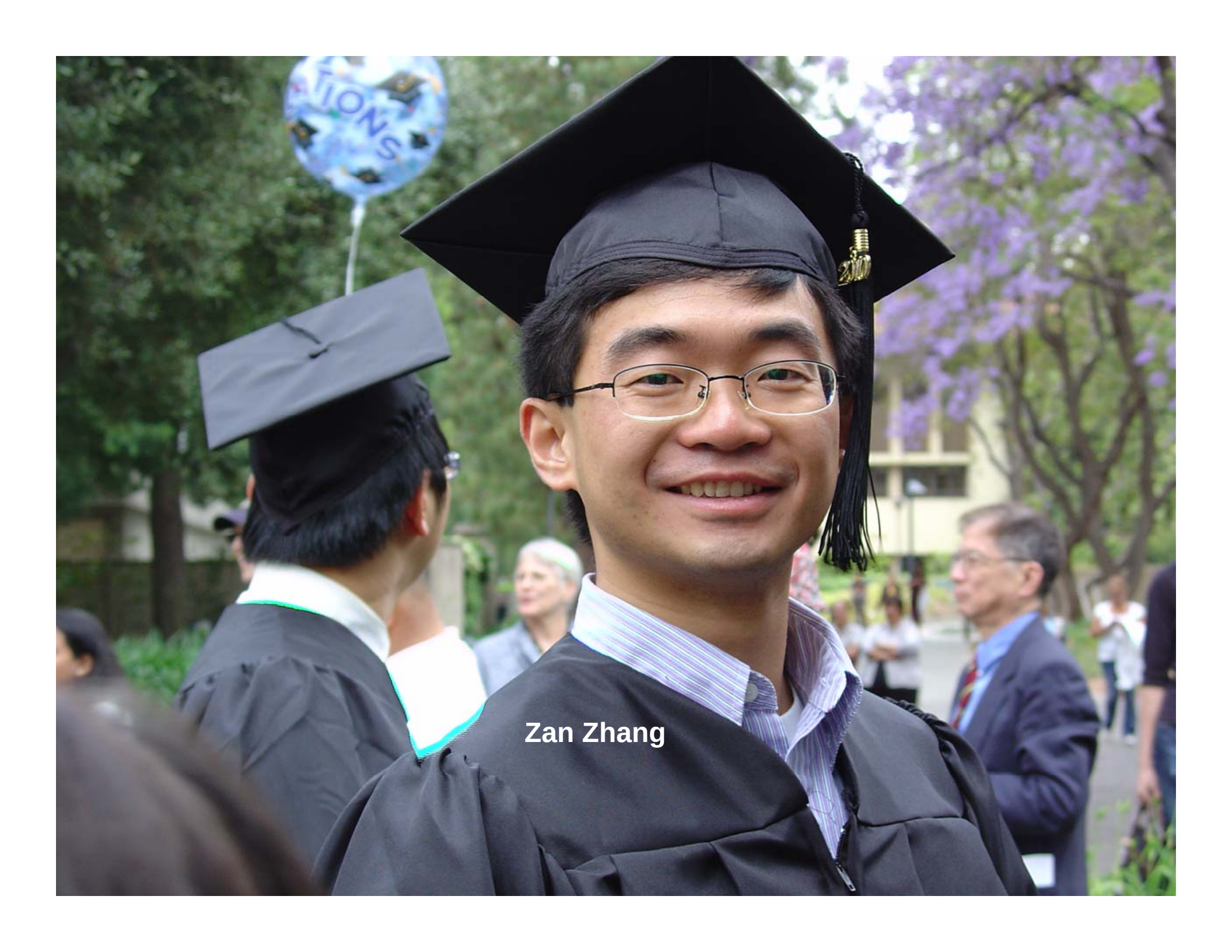


**Ken
Pickar**

P.P. Vaidyanathan

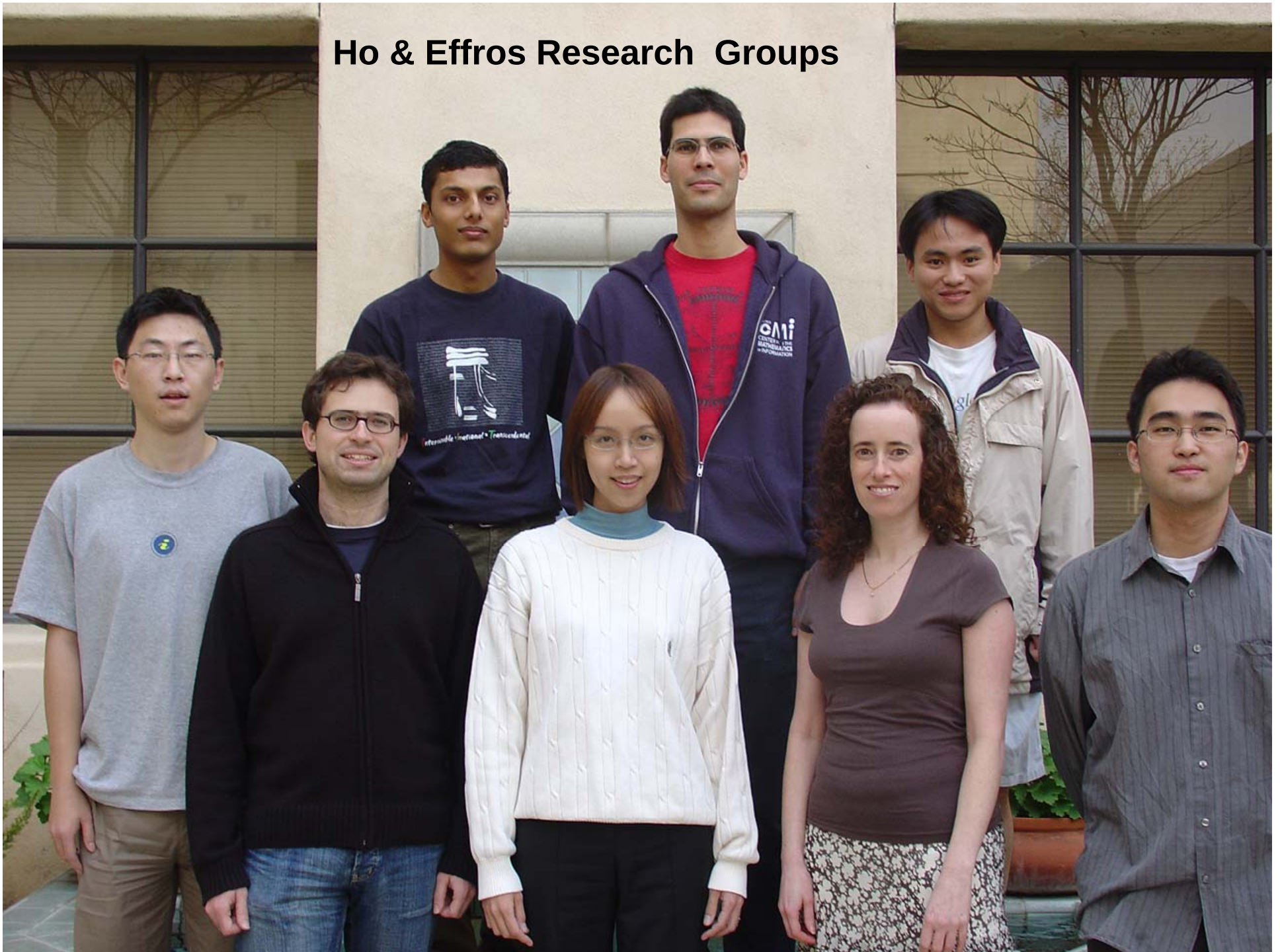


Jeremy Thorpe



Zan Zhang

Ho & Effros Research Groups





**Sandy
Weinreb**

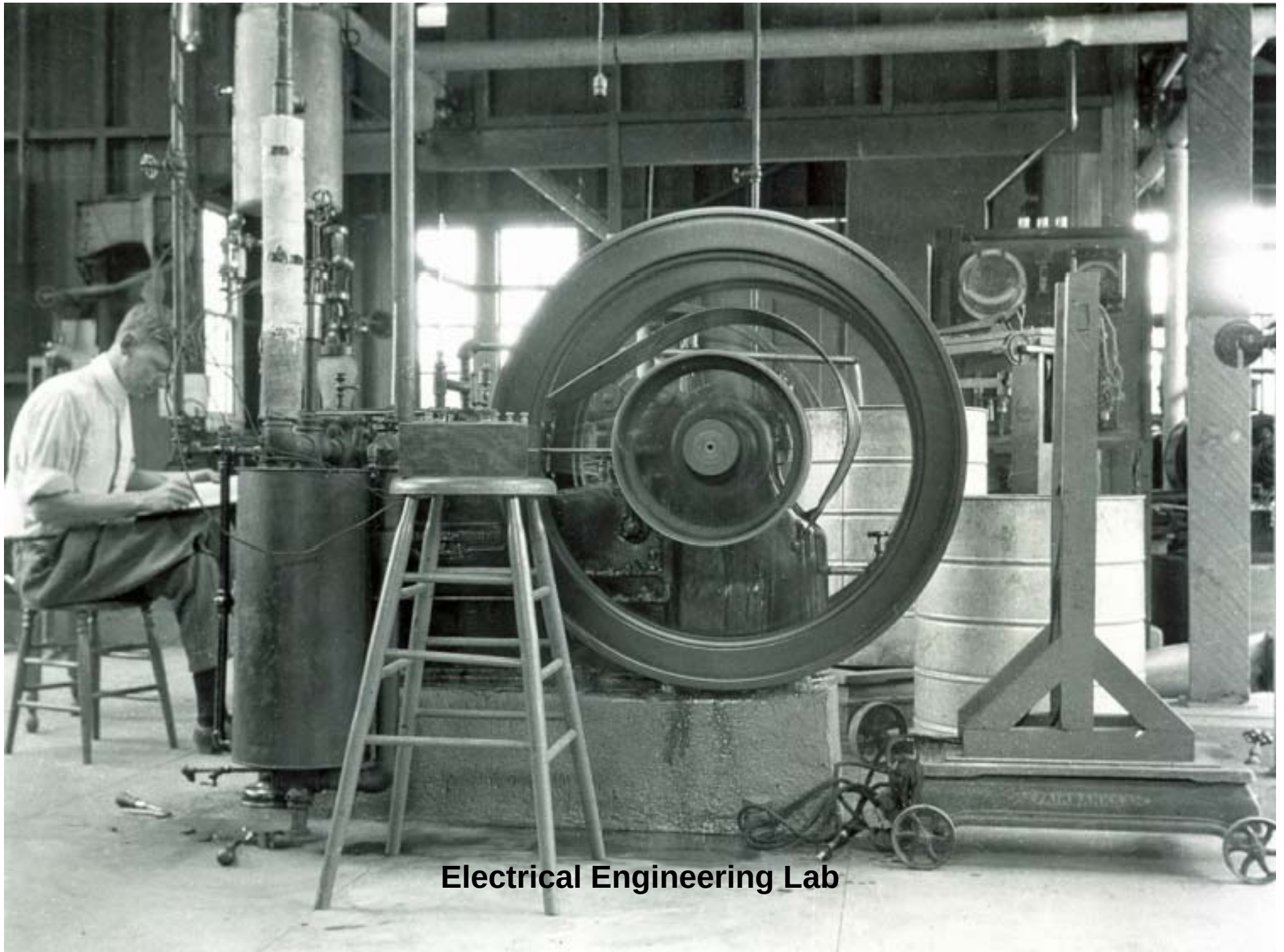
Amnon Yariv

Shuki Bruck

Dave Rutledge

Dick Edmiston





Electrical Engineering Lab

Lizzie McEliece scratching a CD with a paper clip as her father winces in mock horror- although he knows that Error correction will save his music.





Steve Low

Bruck Alumni

Massimo
Franceschetti

Charles
Fan

Vincent
Bohossian

Yuval
Cassuto

Kevin
Foltz

Lihao
Xu





**Steve
Low**

David Lee



Kerry & Karen Vahala



Bunny & Roy Gould

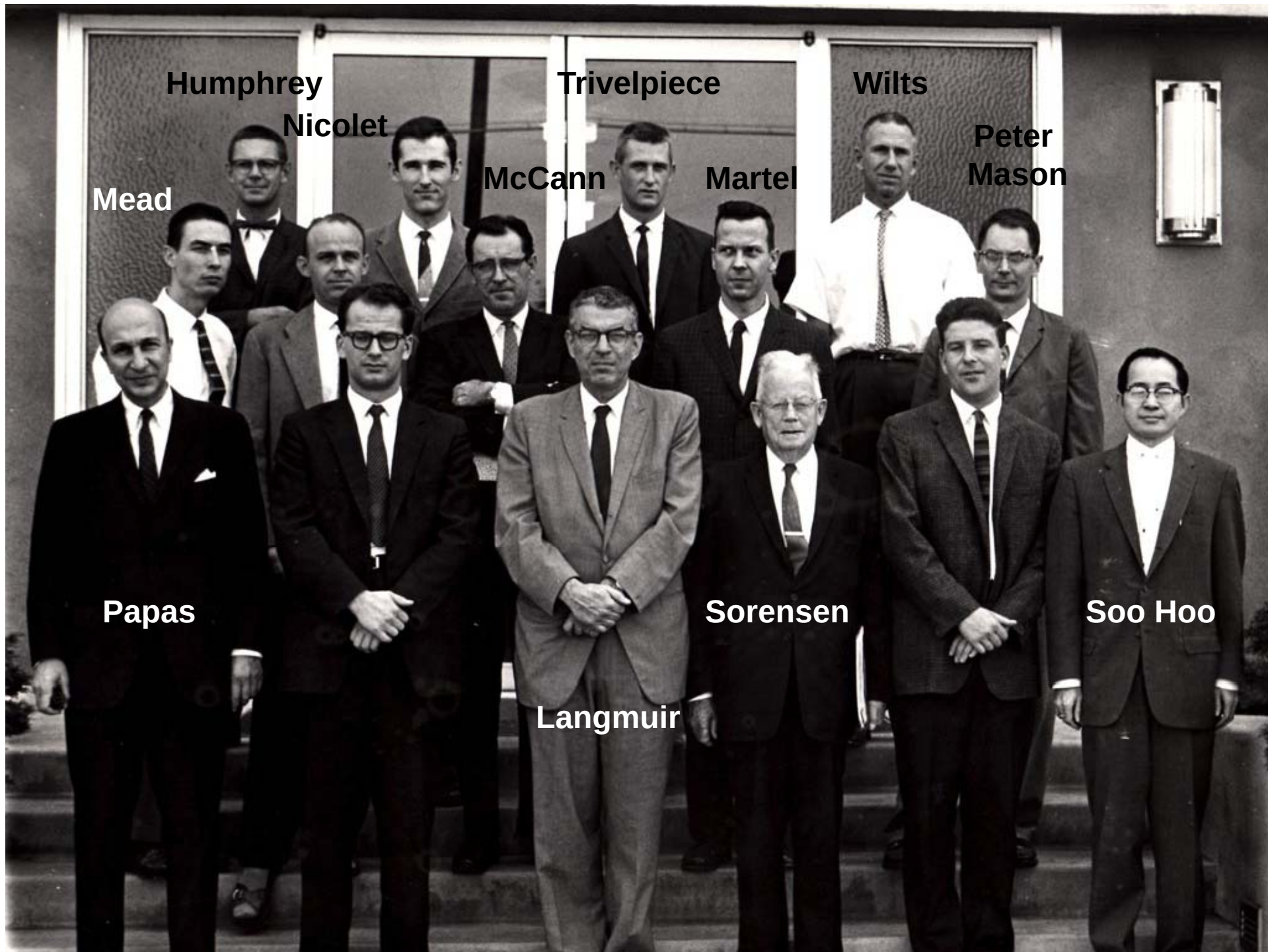


Ali Hajimiri and Roshi Shafiiha



**Marc-Aurèle
Nicolet**

Kalfie and Jacob van Zyl



Humphrey

Trivelpiece

Wilts

Nicolet

Peter
Mason

Mead

McCann

Martel

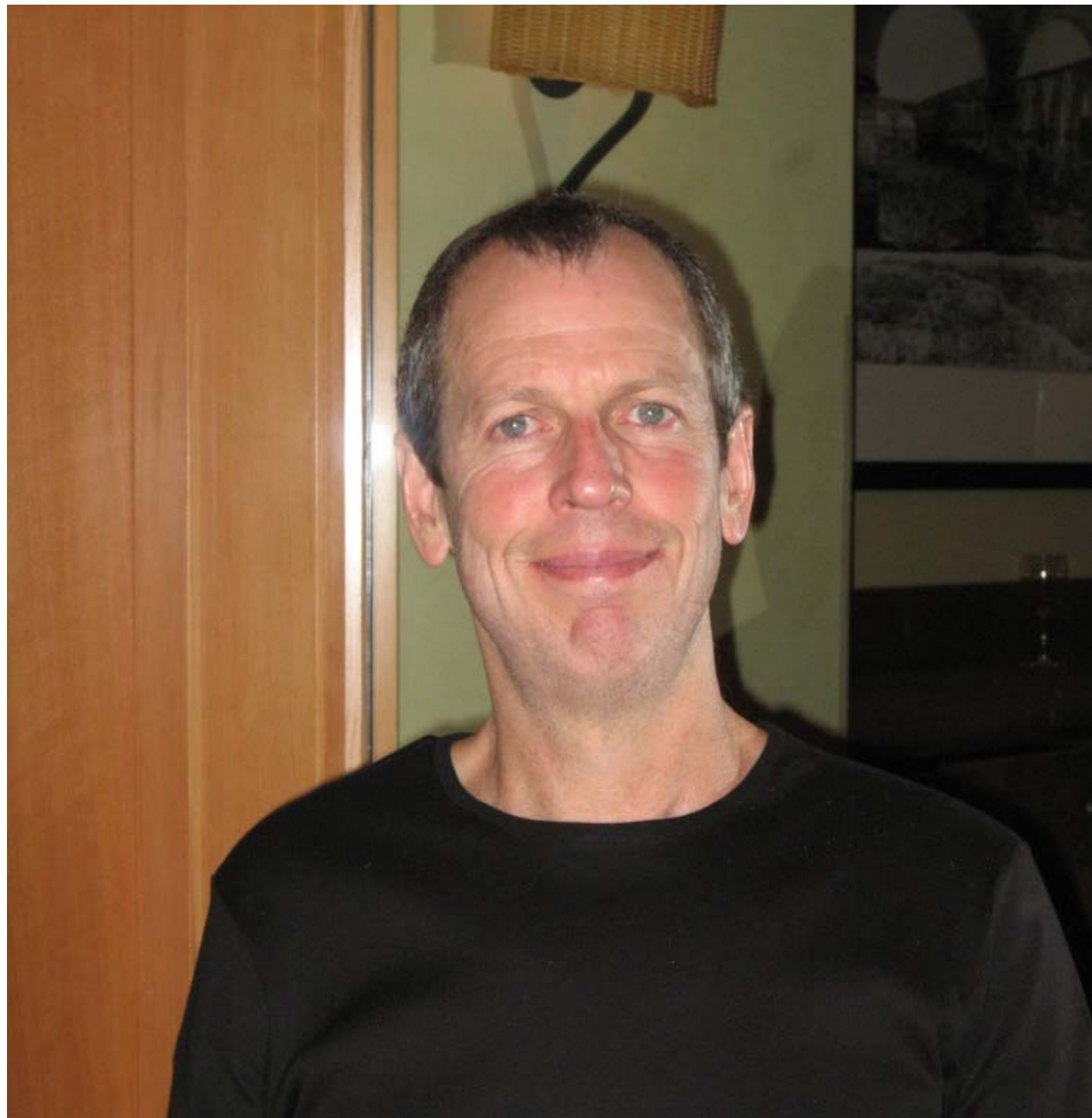
Papas

Sorensen

Soo Hoo

Langmuir

John Doyle

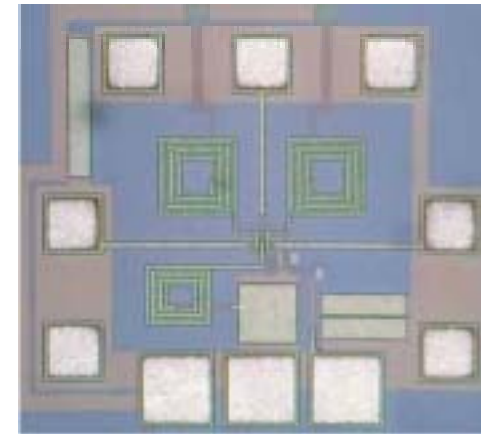
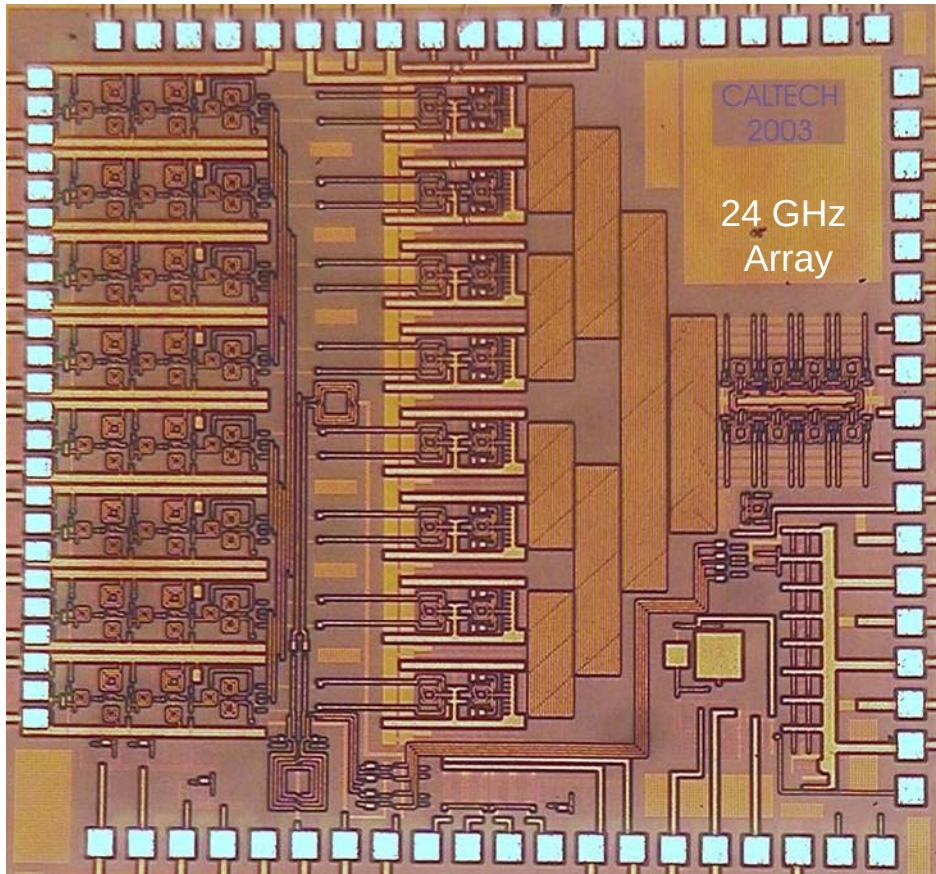




Andrea Armani

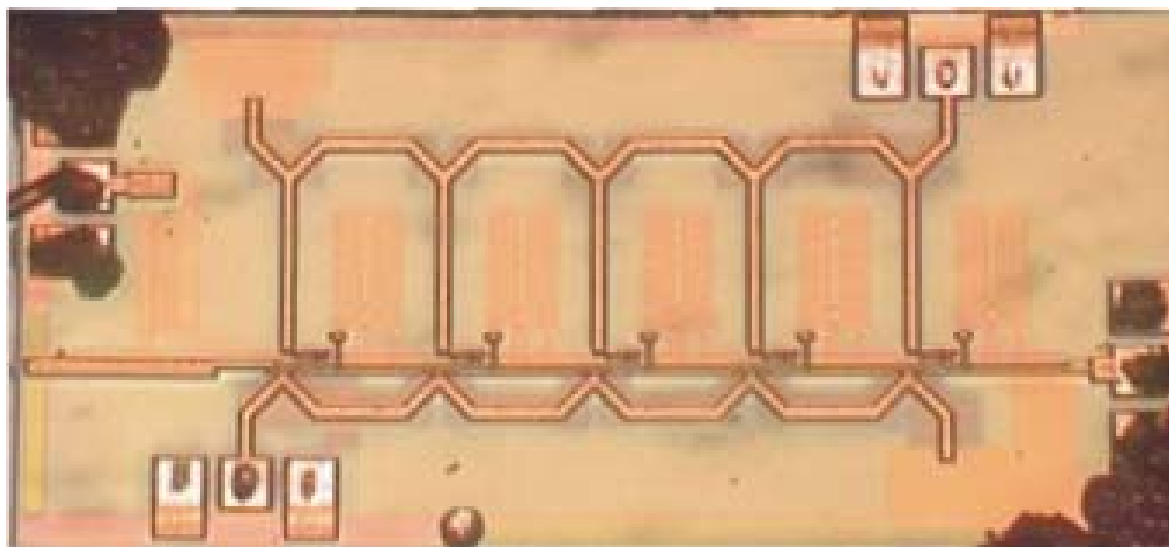
Charles Fan

Hajimiri's Research Group



Distributed Voltage-controlled Oscillator

11 GHz SiGe Distributed Amplifier





Shuki Bruck

Charles Fan

Roy Gould

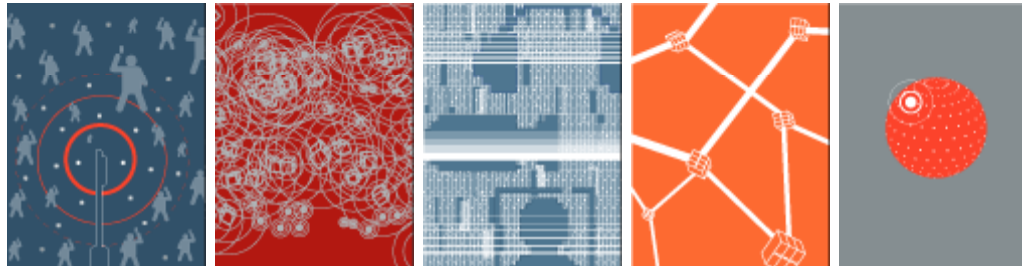


The Lee Center for Advanced Networking

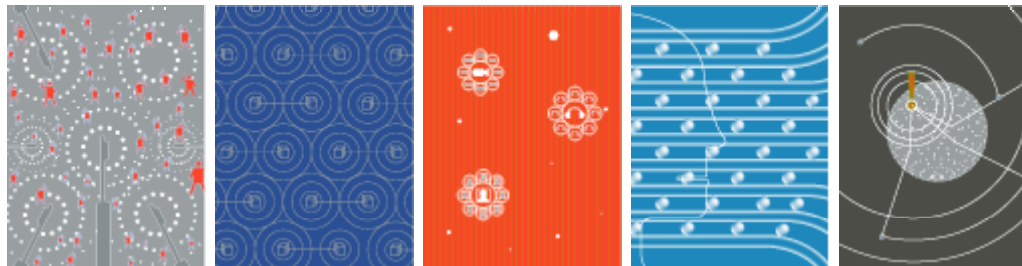
CALIFORNIA INSTITUTE of TECHNOLOGY



Problems:



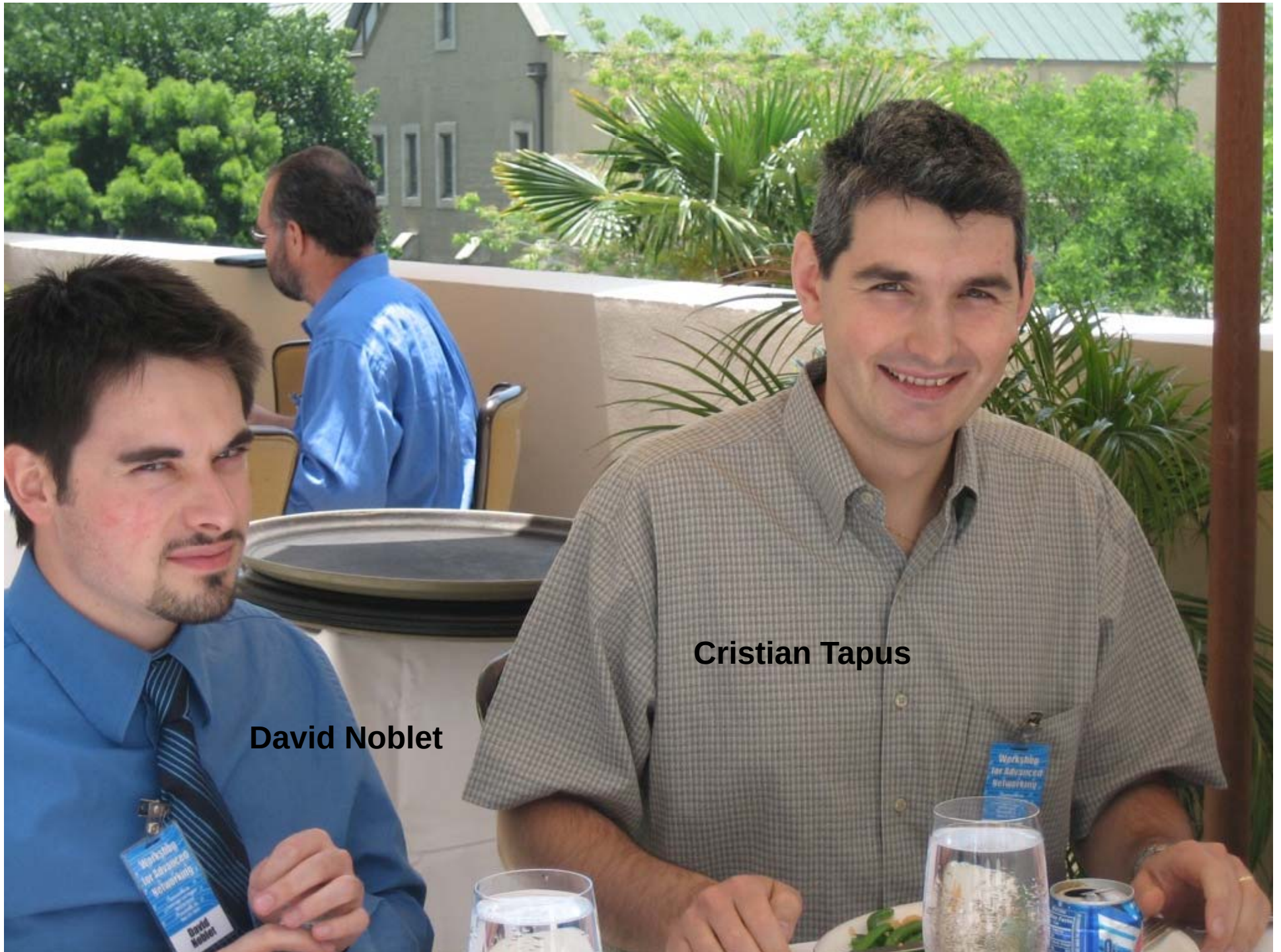
Solutions:





Glenn Jones

**Aydin
Babakani**



David Noblet

Cristian Tapus



Satoshi Masuda

Glenn Jones

Aydin Babakhani



Thomas Koch

Kerry Vahala

Daniel Wilhelm



Lorentz Microscopy, January 1969



**Shafigh
Shirinfar**

**Juhwan
Yoo**

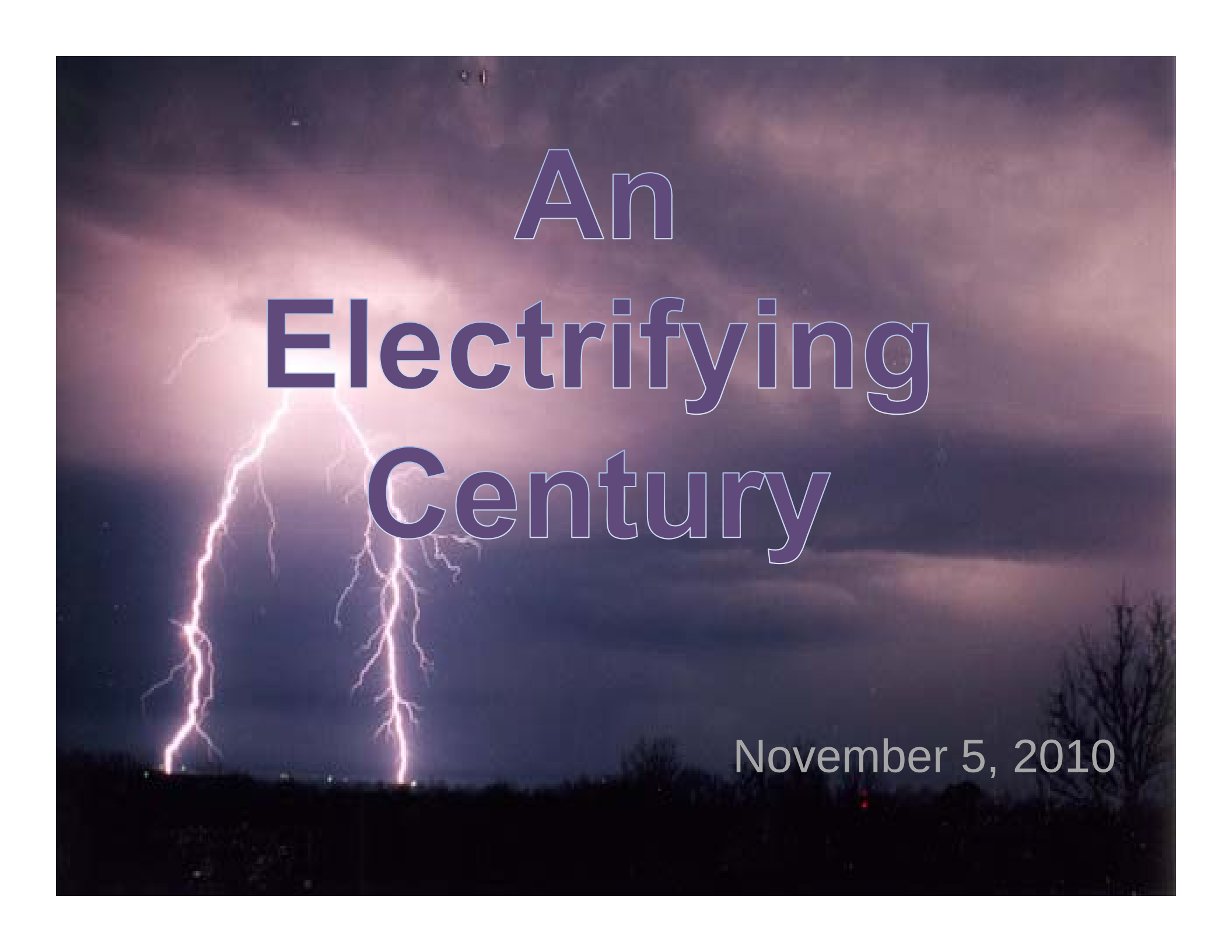
Chaghuei Yang's research group





Tao Cui

Ravi Sukhavasi



An Electrifying Century

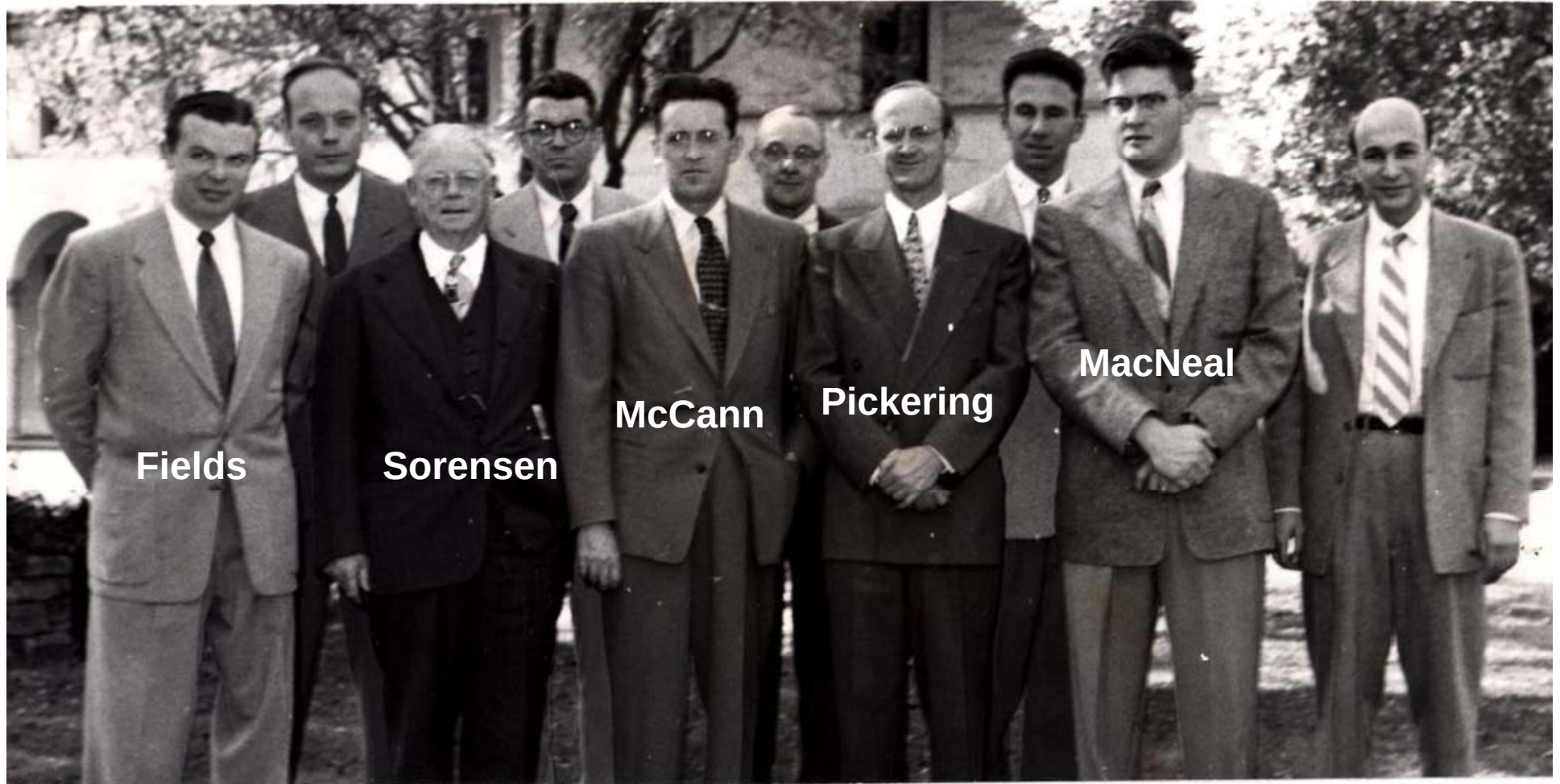
November 5, 2010

Langmuir

Maxstadt

Wilts

Papas



Fields

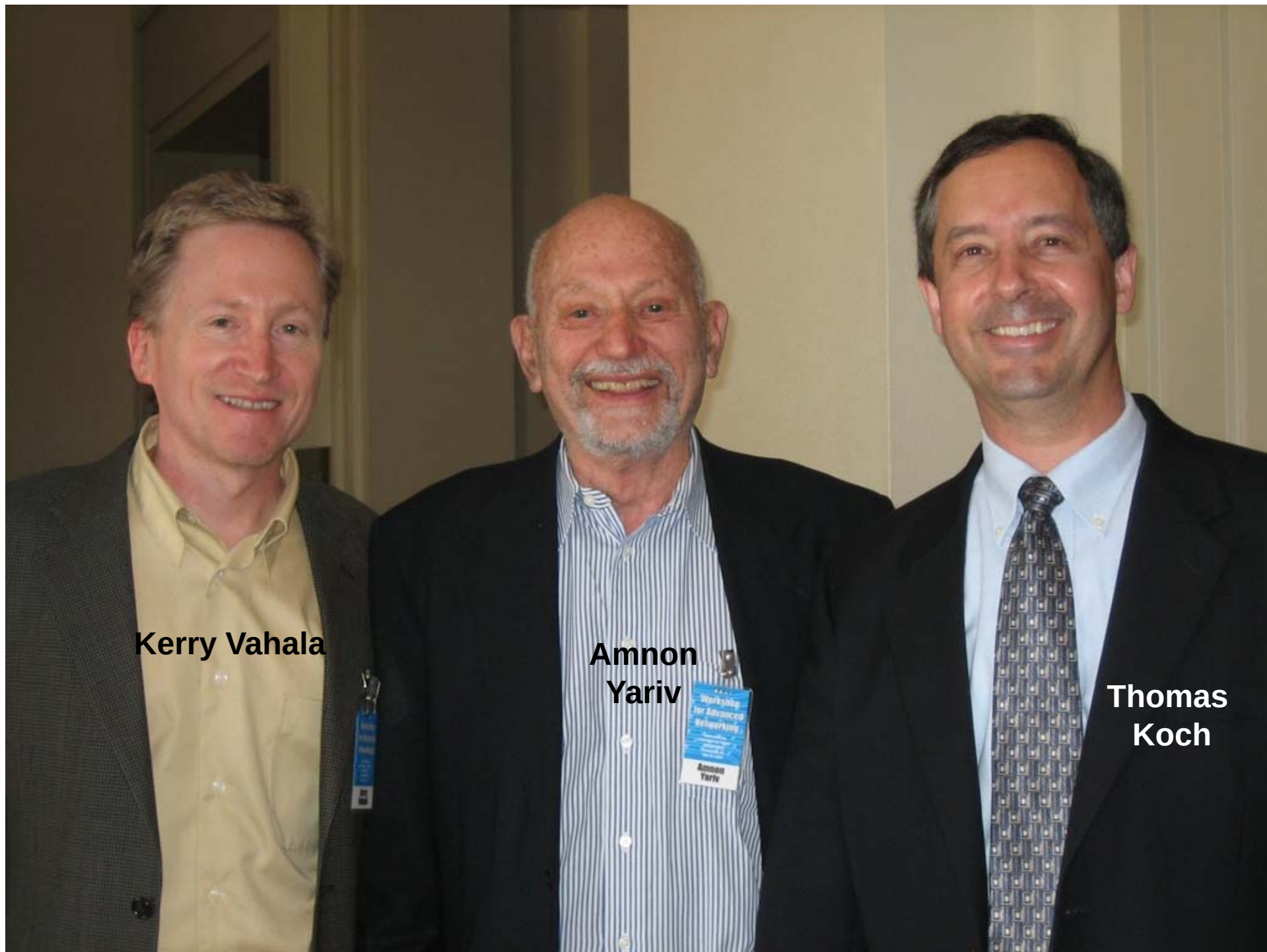
Sorensen

McCann

Pickering

MacNeal

Papas



Kerry Vahala

**Amnon
Yariv**

**Thomas
Koch**



Jakob van Zyl

Heather Hein



Patama Taweesup





Bruce
Genung

Michele
Effros

Tao Cui



Suk Won Kim



Gabriel Rebeiz

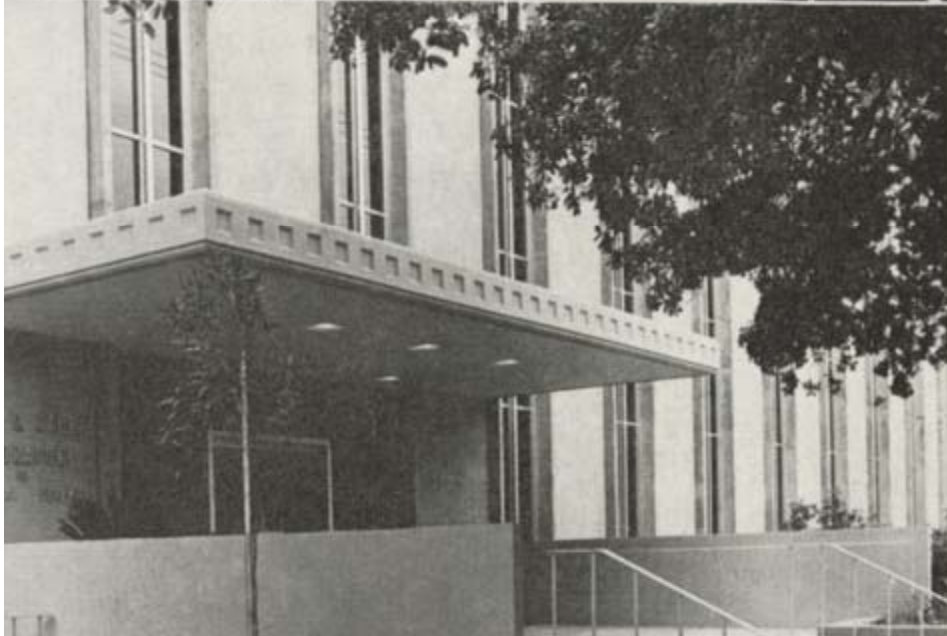
Yong "Gary" Guo



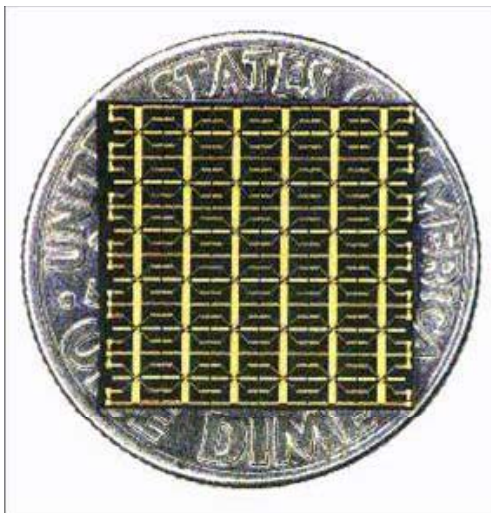
**Dr. Abdul Kalam
Past President
Of India**

P.P. Vaidynathan

9/20/2007 10:26

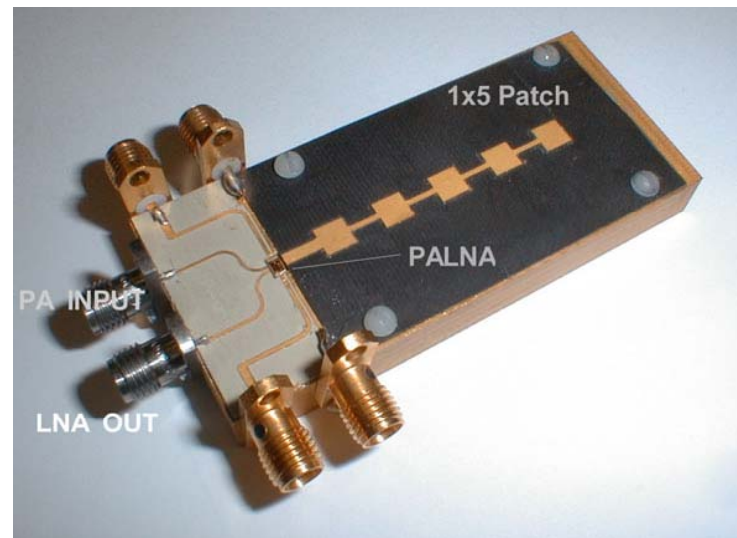


Harry G. Steele Laboratory of Electrical Sciences made possible by a gift from the Harry G. Steele Foundation of Pasadena. Named in honor of the late president of U.S. Electrical Motor. Notice that San Pasqual Street continued up to the middle of campus at the time.

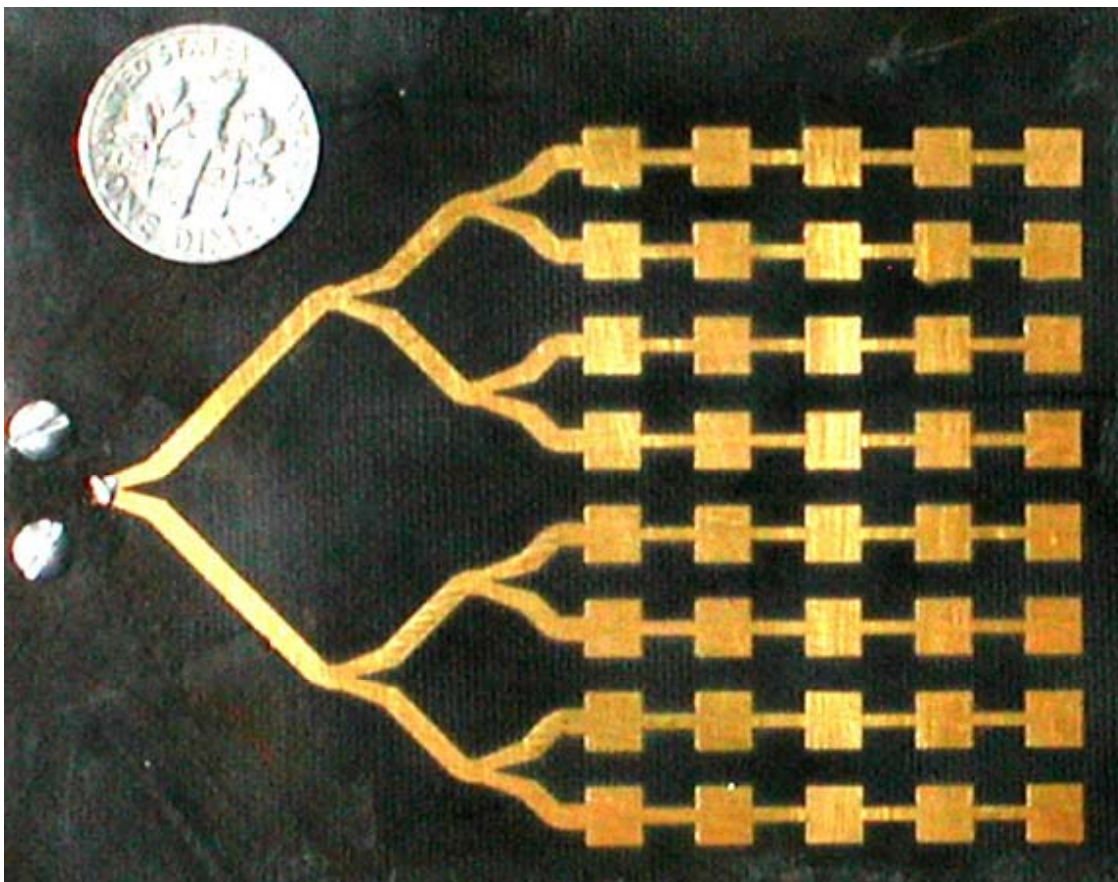


35GHz Amplifier

Rutledge research group



24-GHz Patch Array



**5-watt, 37-GHz
Grid Amplifier**



Trevor Roper

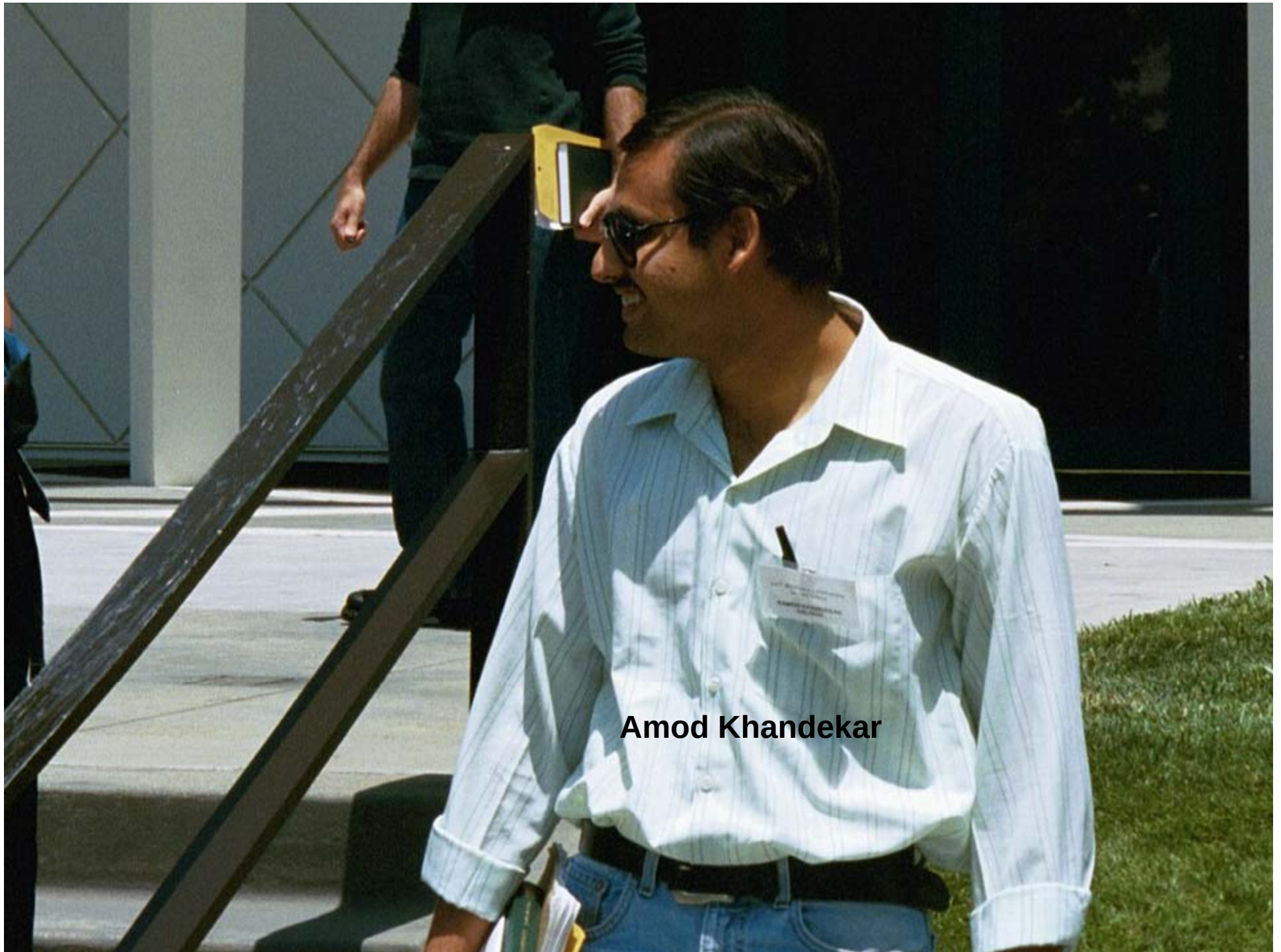
Helen Carrier

Monica Roper



Hassibi Group





Amod Khandekar



Calvin Jackson

Carver Mead



Robert V. Langmuir



Floyd B. Humphrey



1967

Rutledge & Mizuno Alumni Reunion

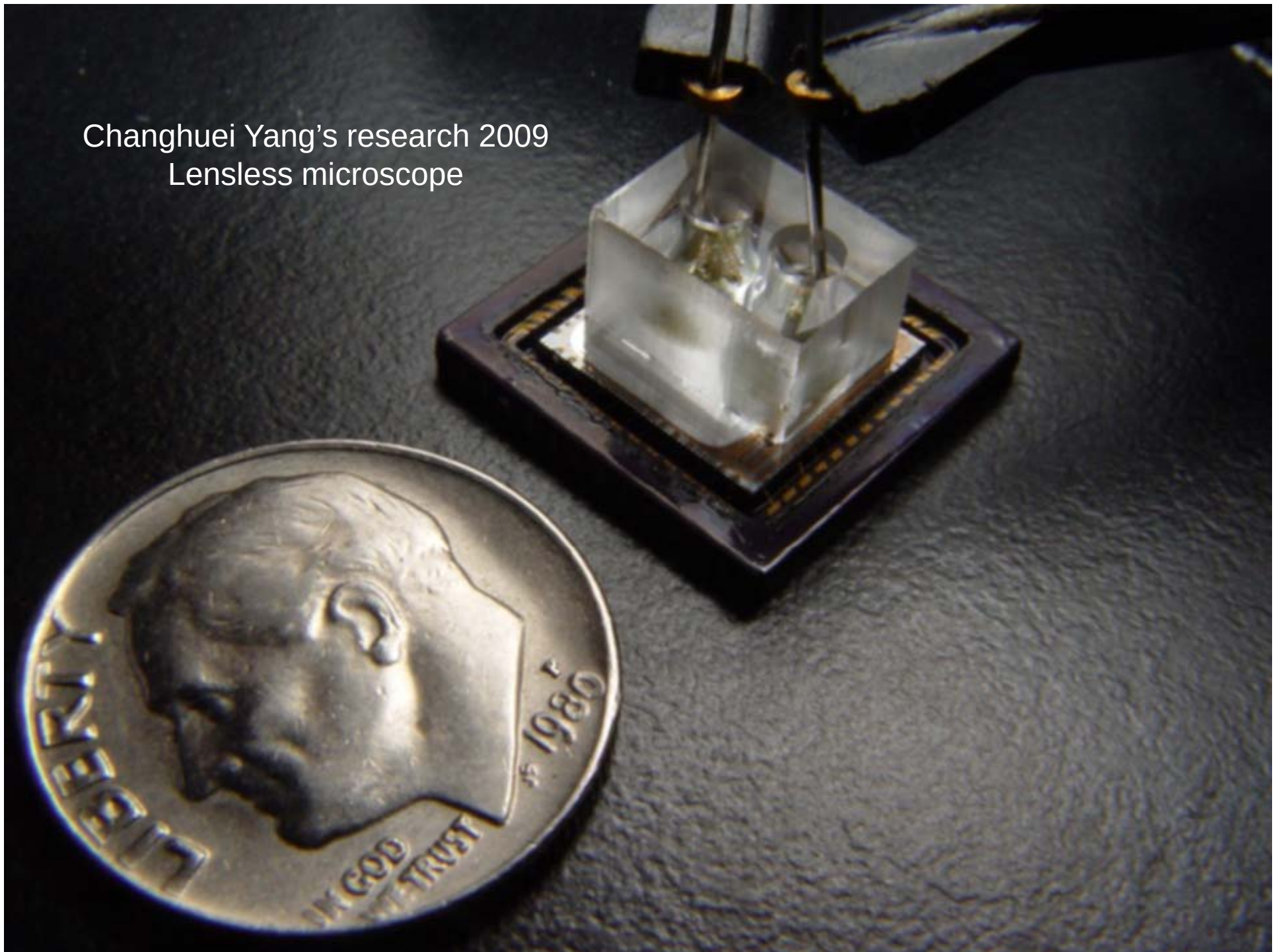




Mario Blaum

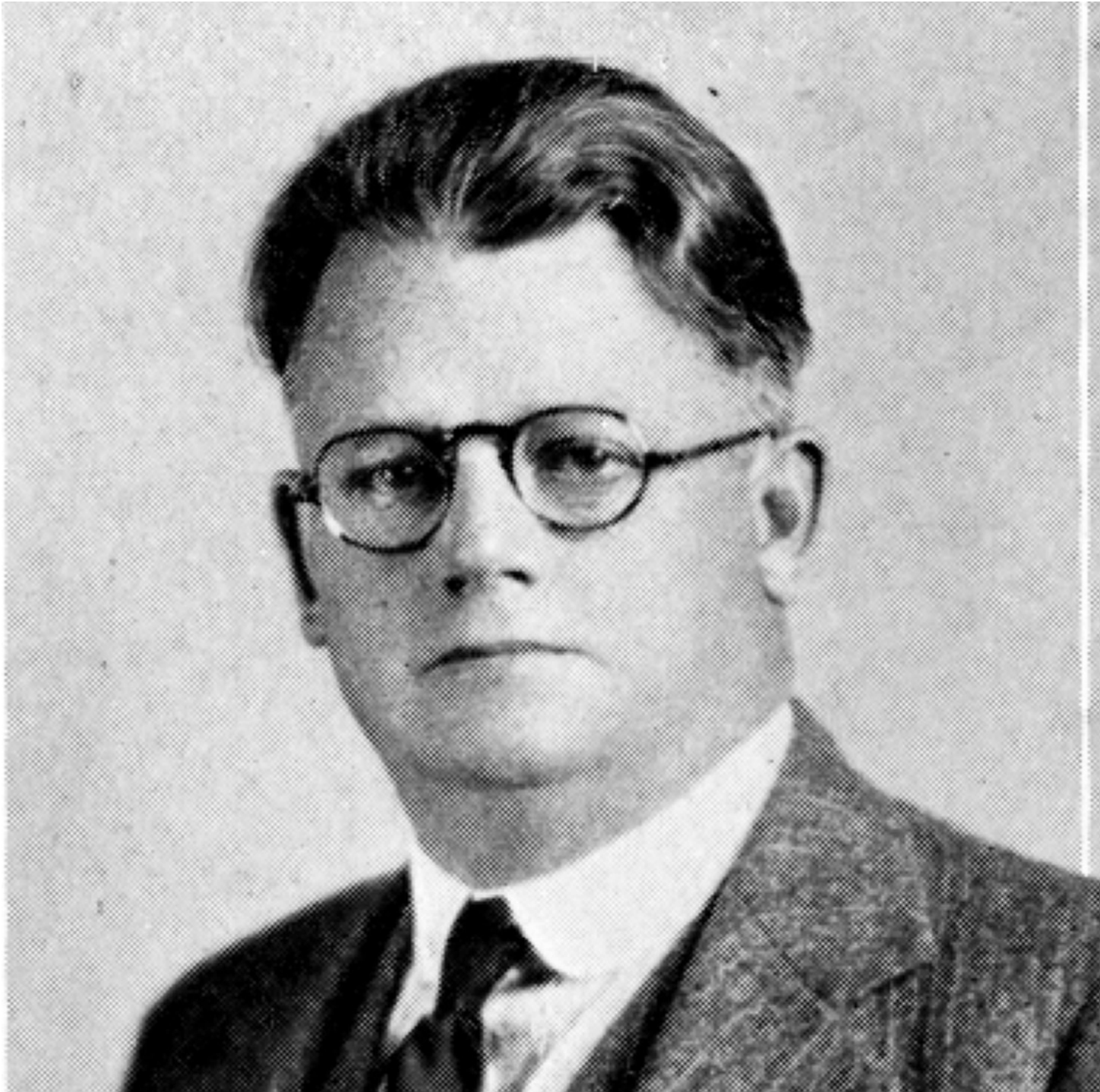
Shuki Bruck

Changhuei Yang's research 2009
Lensless microscope



Changhuei Yang's research group





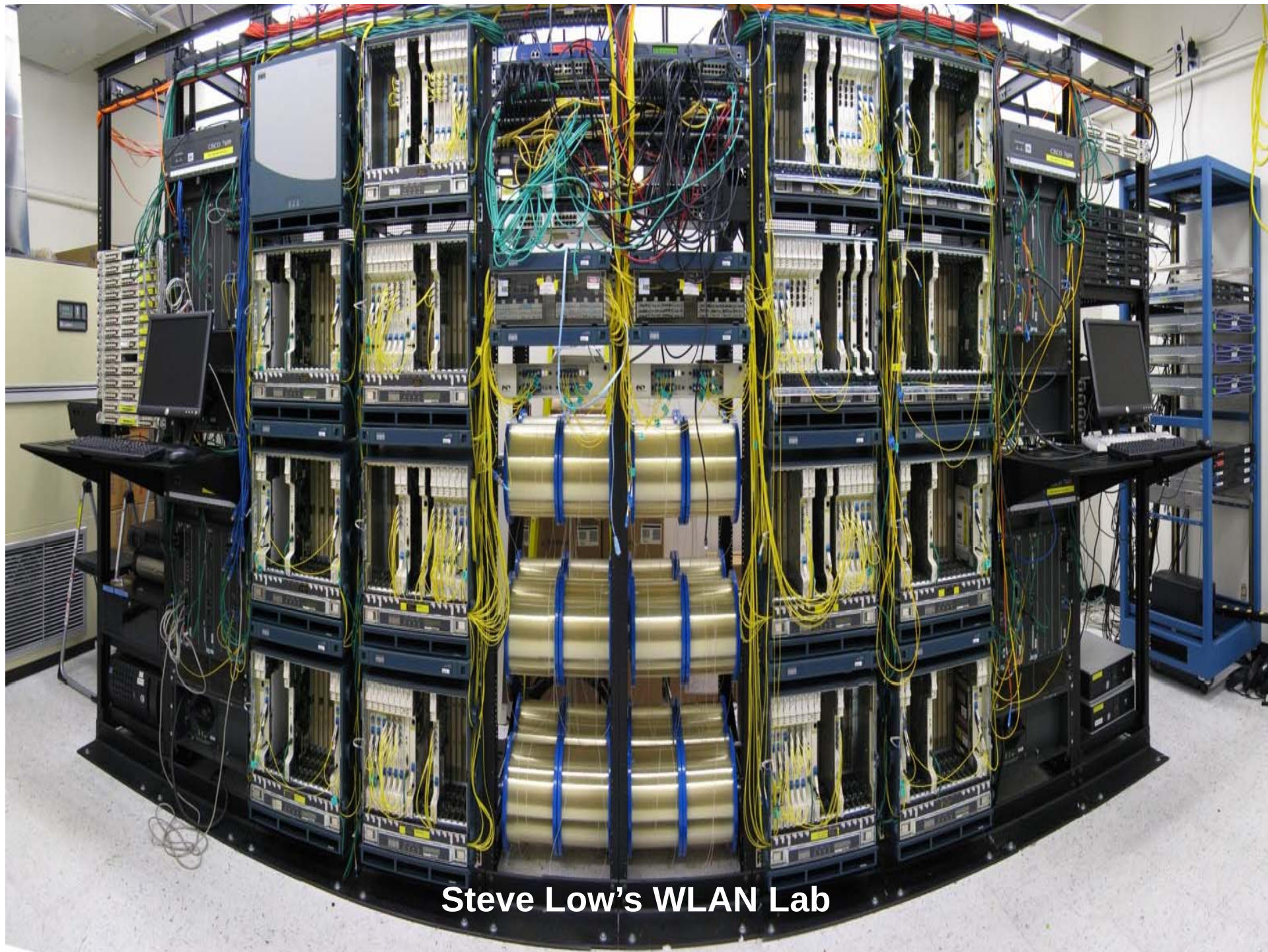
**Royal W.
Sorensen**
1882-1965



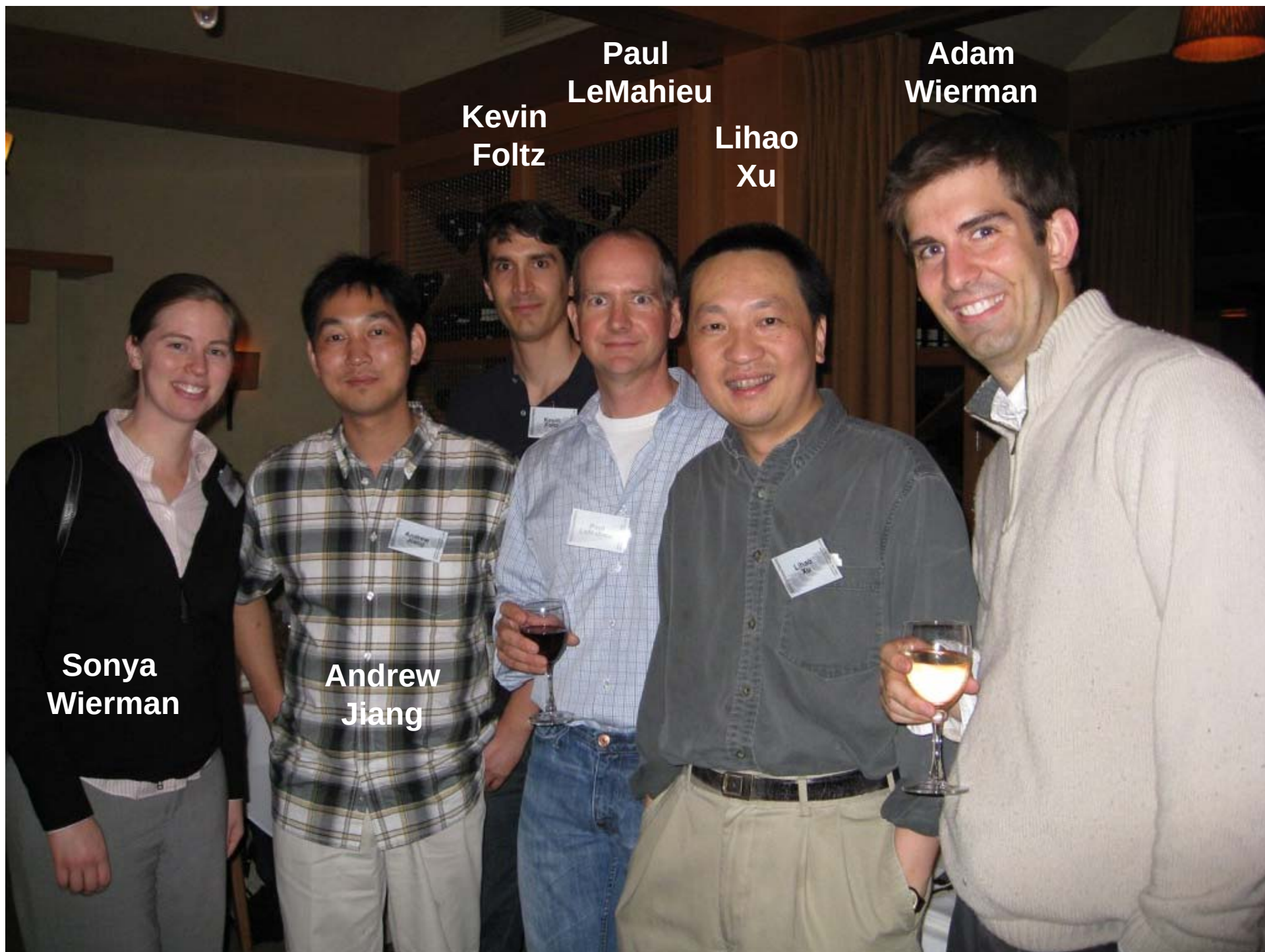
Scott Wedge

Dimitri Antsos

Matthew Cook



Steve Low's WLAN Lab



Paul
LeMahieu

Adam
Wierman

Kevin
Foltz

Lihao
Xu

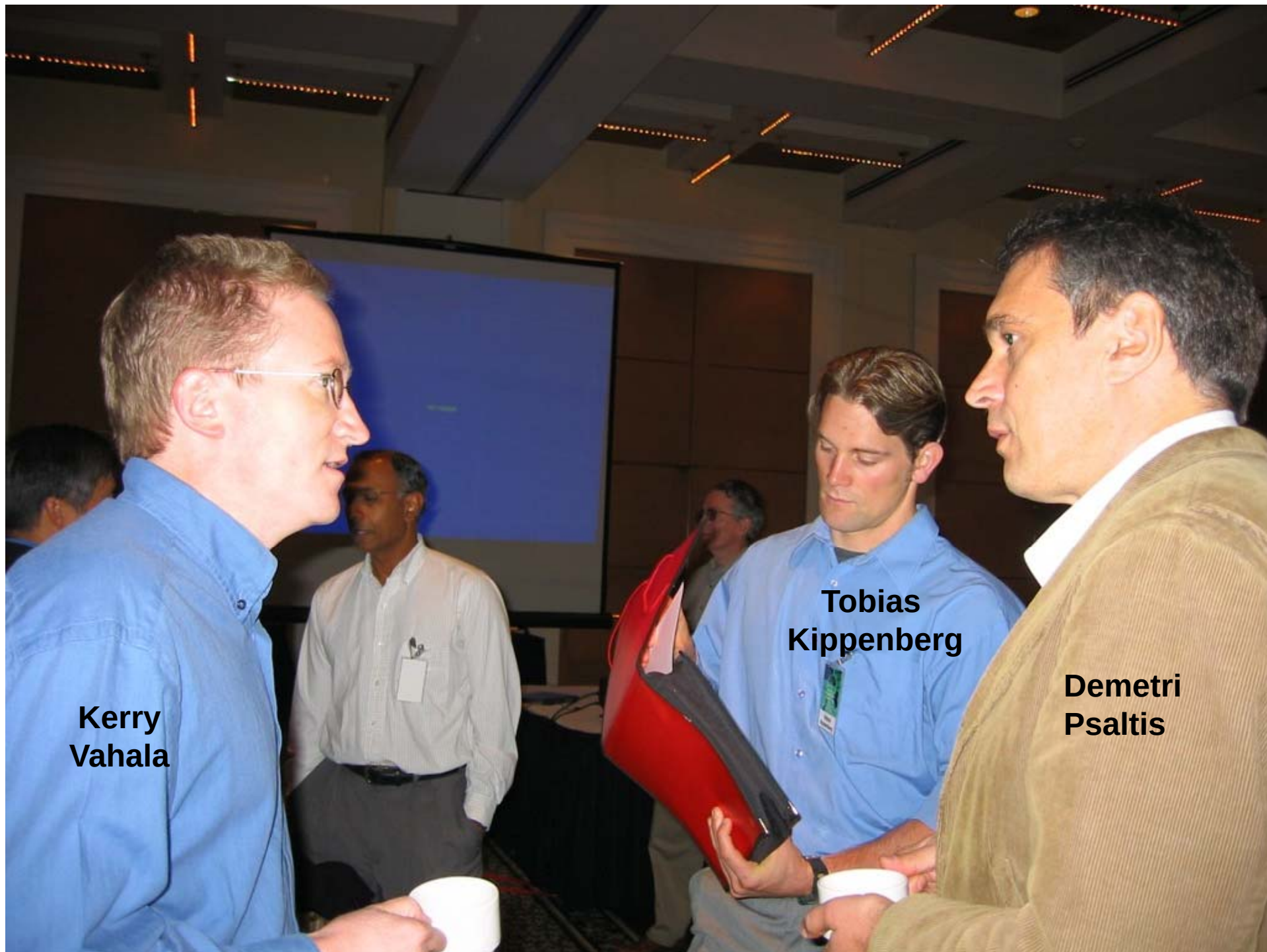
Sonya
Wierman

Andrew
Jiang



Doug Tygar

Mani Chandy

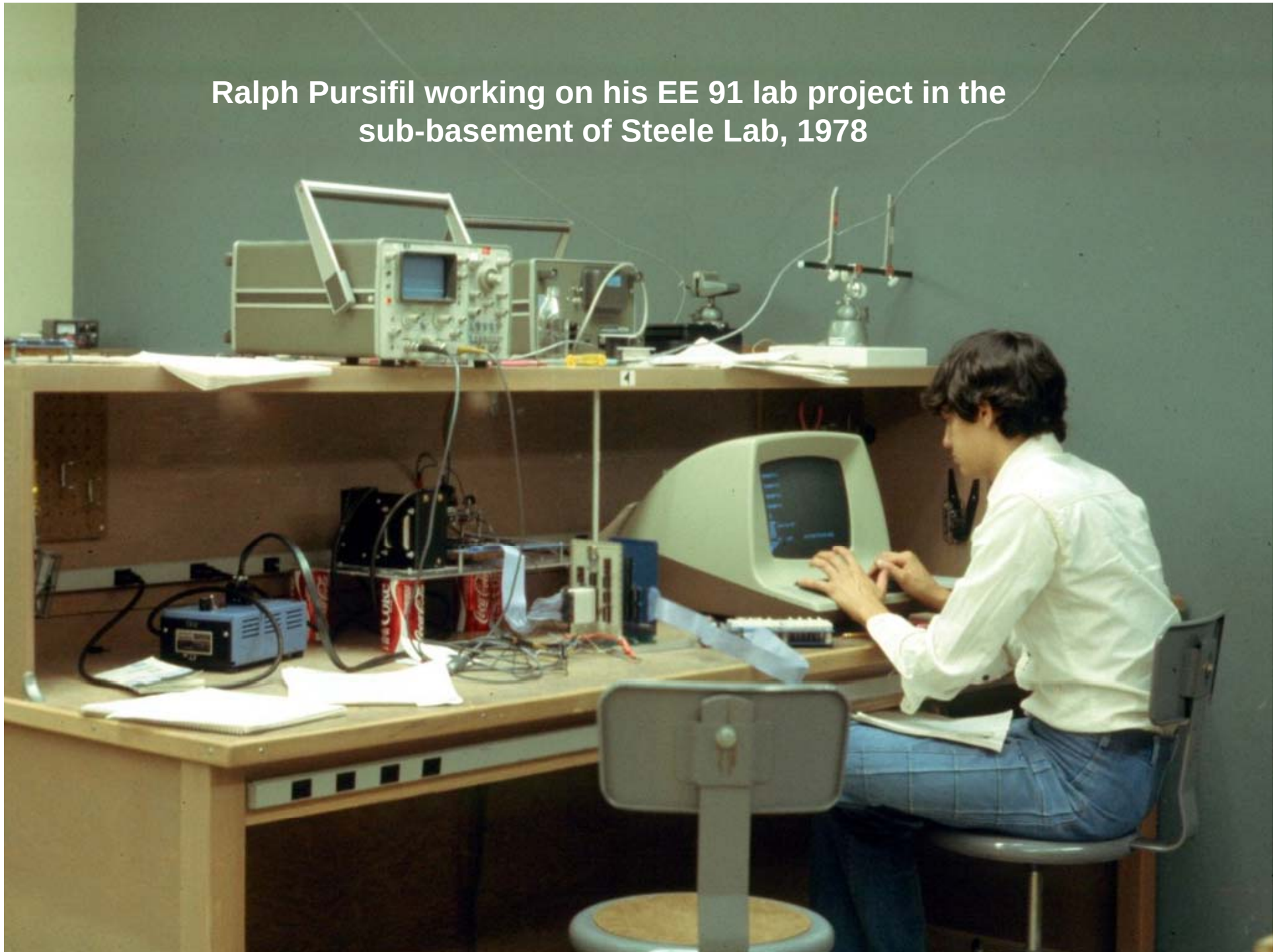


**Kerry
Vahala**

**Tobias
Kippenberg**

**Demetri
Psaltis**

Ralph Pursifil working on his EE 91 lab project in the
sub-basement of Steele Lab, 1978





Chad & Wendy
Deckman

David
Rutledge

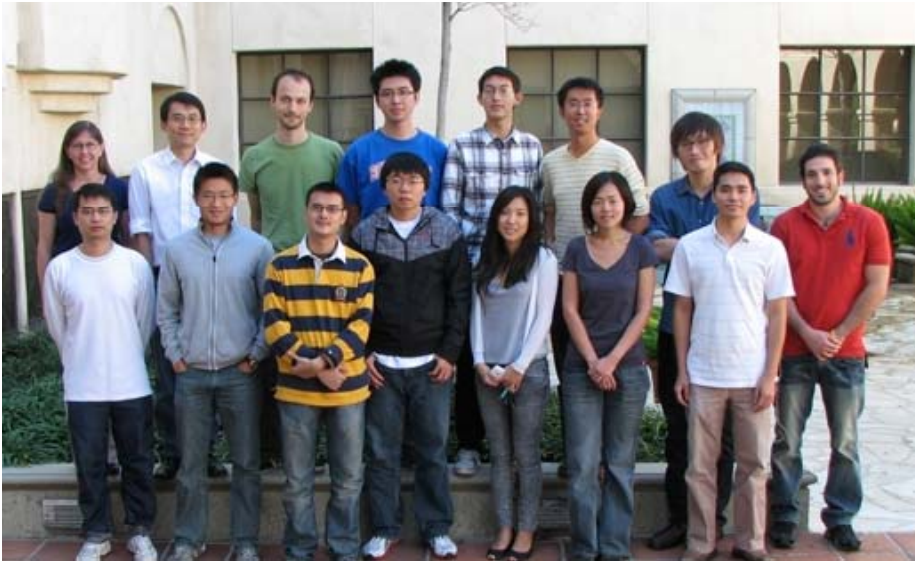
Yoshio
Nikawa

Yong
Guo

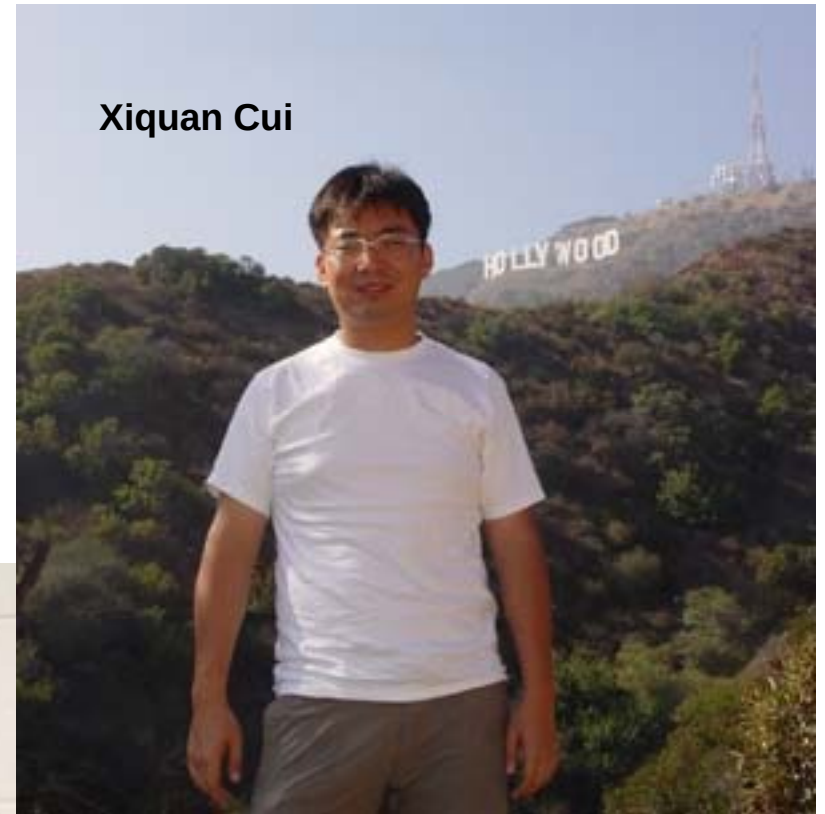
Dale Yee



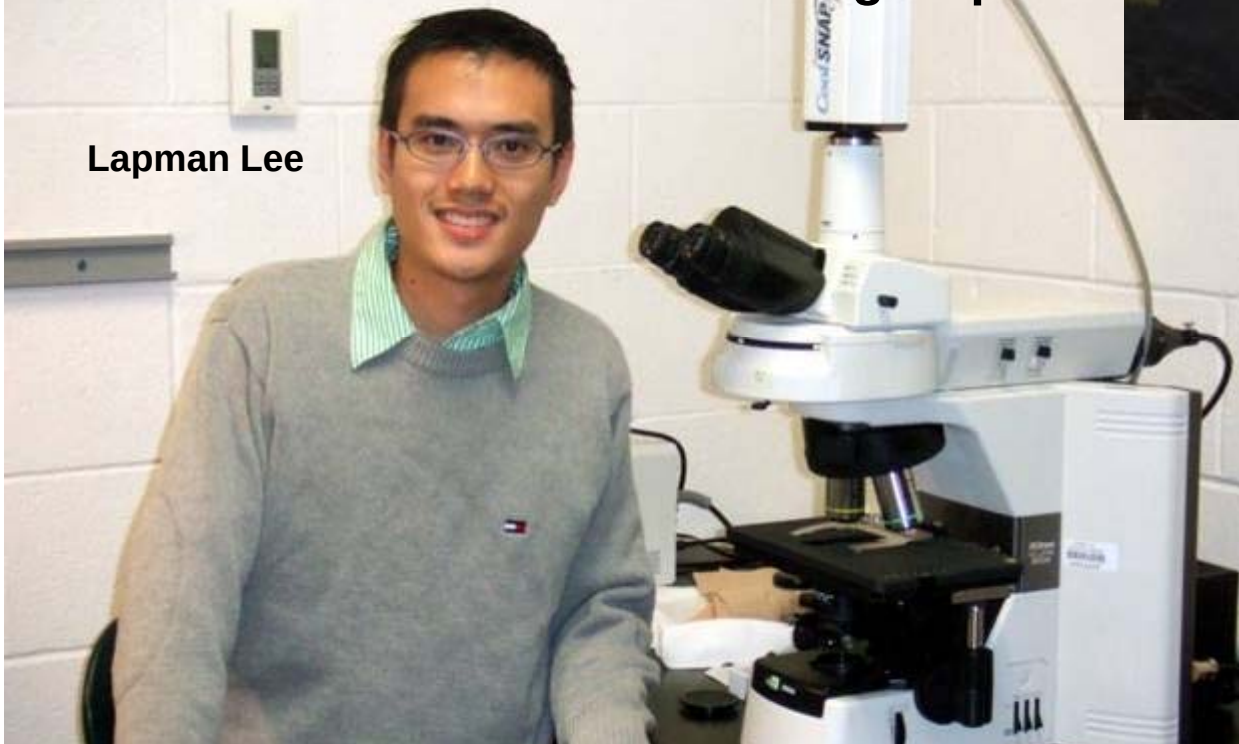
Erik Winfree studying the local fauna at Moore Lab



**Changhuei Yang's
research group**



Xiquan Cui

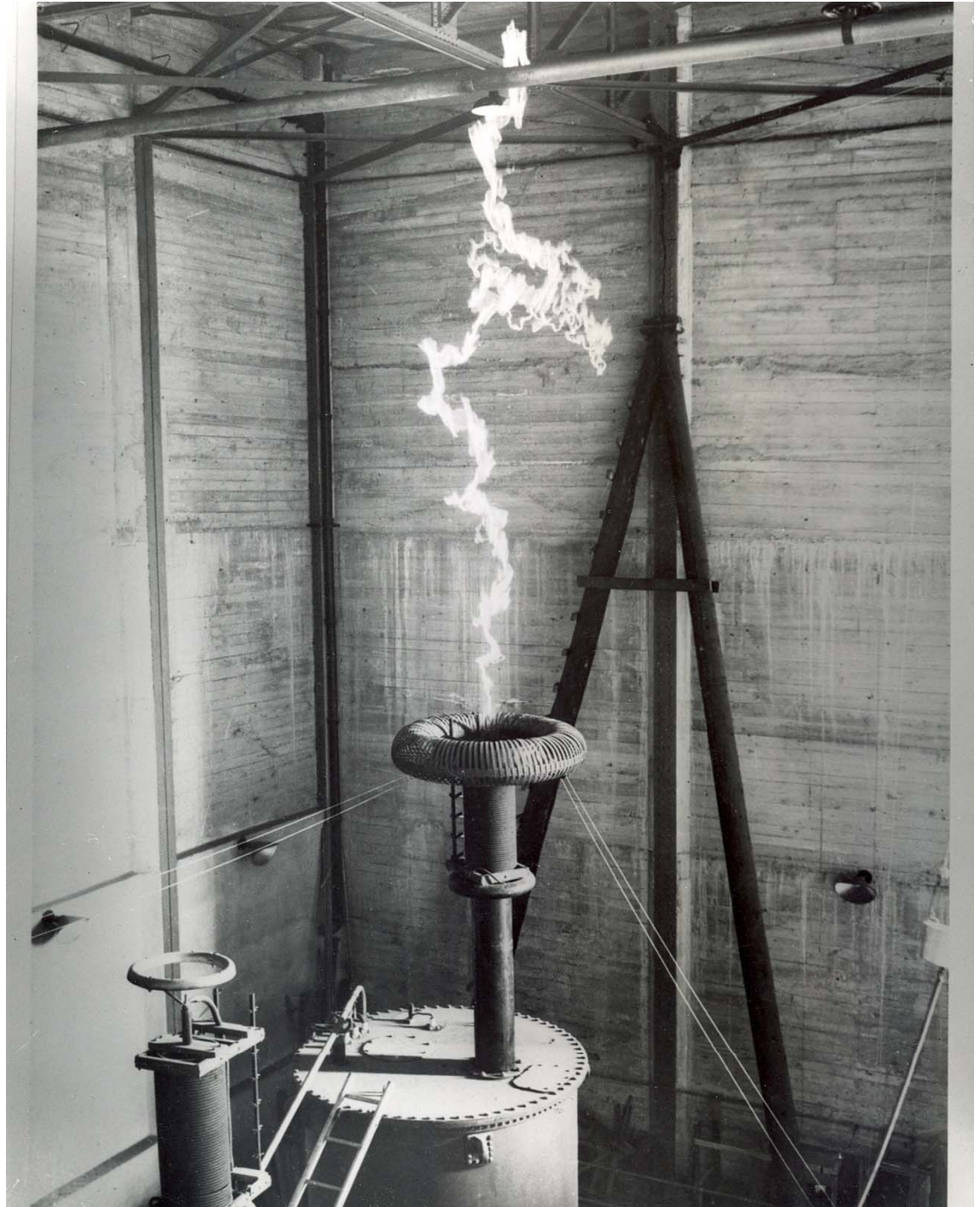


Lapman Lee

Emily McDowell

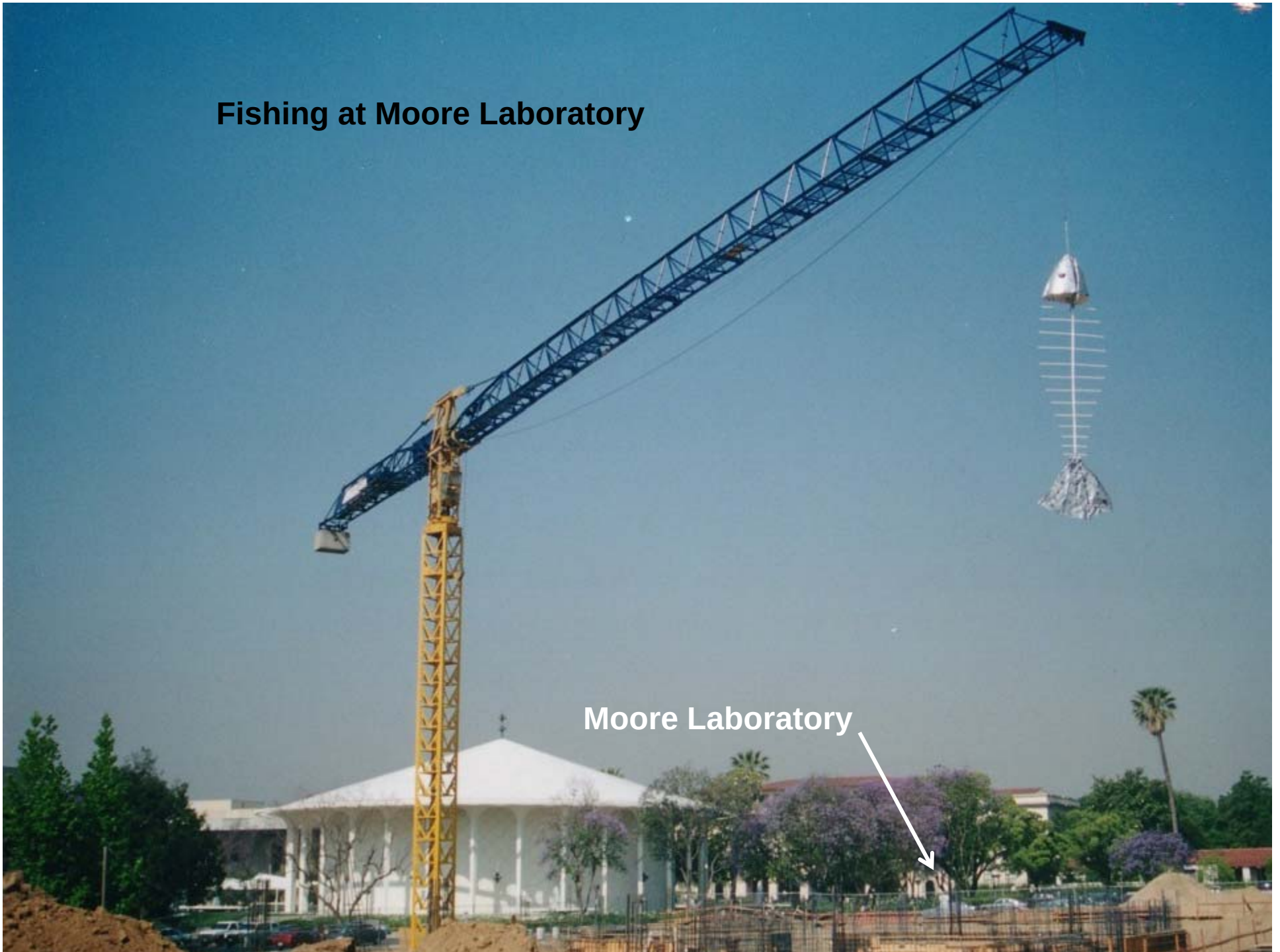


**High-Voltage lab,
Research for high-
Voltage electrical
Lines, located in what
Is now the Kellogg
Radiation Lab**



Fishing at Moore Laboratory

Moore Laboratory



A photograph of two women sitting at a restaurant table. The woman on the left has curly brown hair and is wearing a white button-down shirt. The woman on the right has dark hair in a braid and is wearing a black and white patterned short-sleeved shirt. They are both smiling at the camera. The table is set with white plates of food, glasses of water, and a glass of red wine. In the background, there is a wooden cabinet and a framed picture of a winter scene with lights.

Michelle Effros

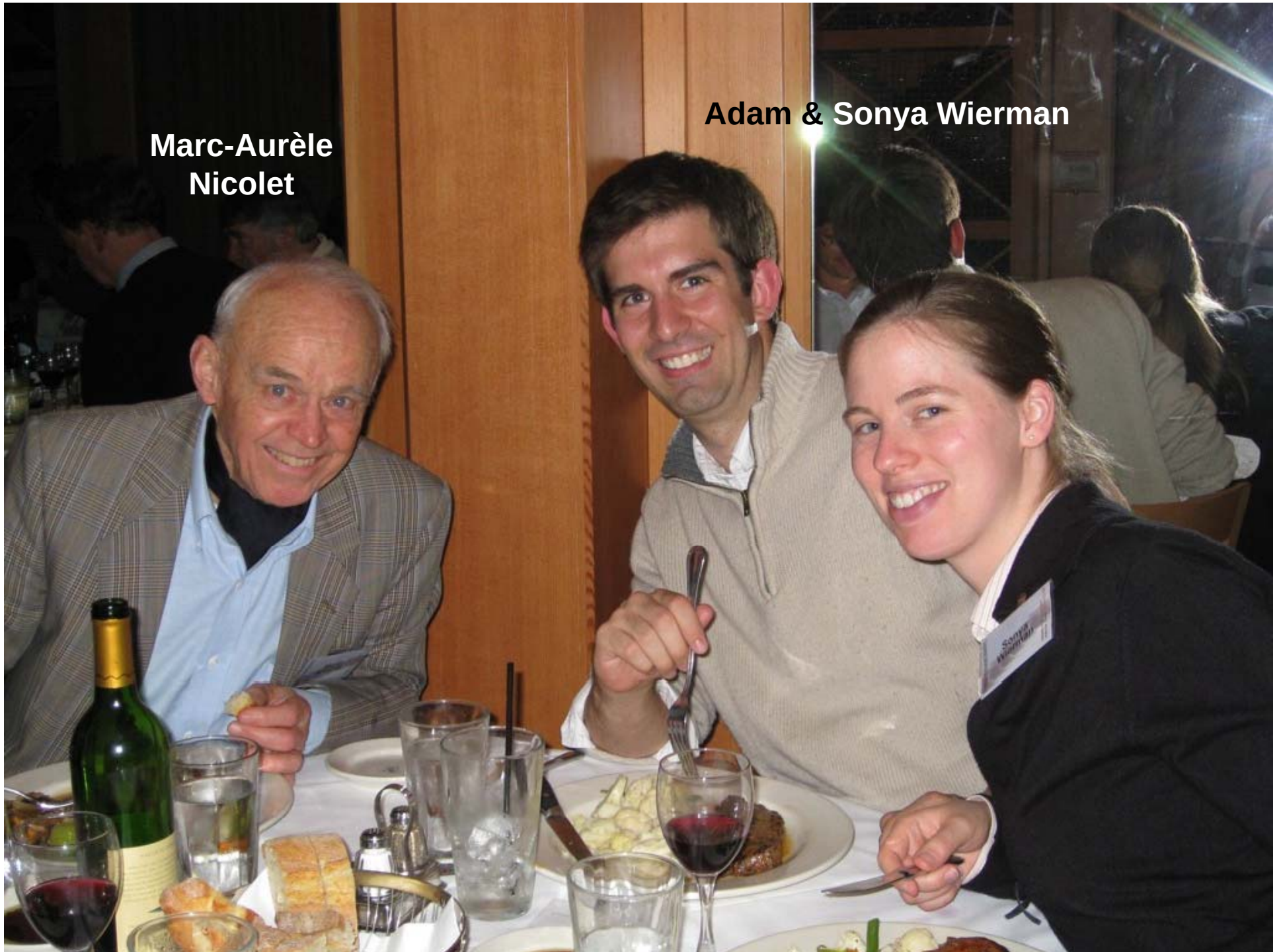
Azita Emami



**R. David
Middlebrook
1929-2010**

**Marc-Aurèle
Nicolet**

Adam & Sonya Wierman





Lihao Xu

Shuki Bruck



Rutledge

Masuda

Hickey

Yoshi
Yasuoka

Koji
Mizuno

Moto
Arii

Kayoko
Hirata



Caltech-Japan Reunion, Tokyo University, 2006



**CALTECH ALUMNI REUNION
JAPAN 2006**



Matt Lew



Jeff Fingler

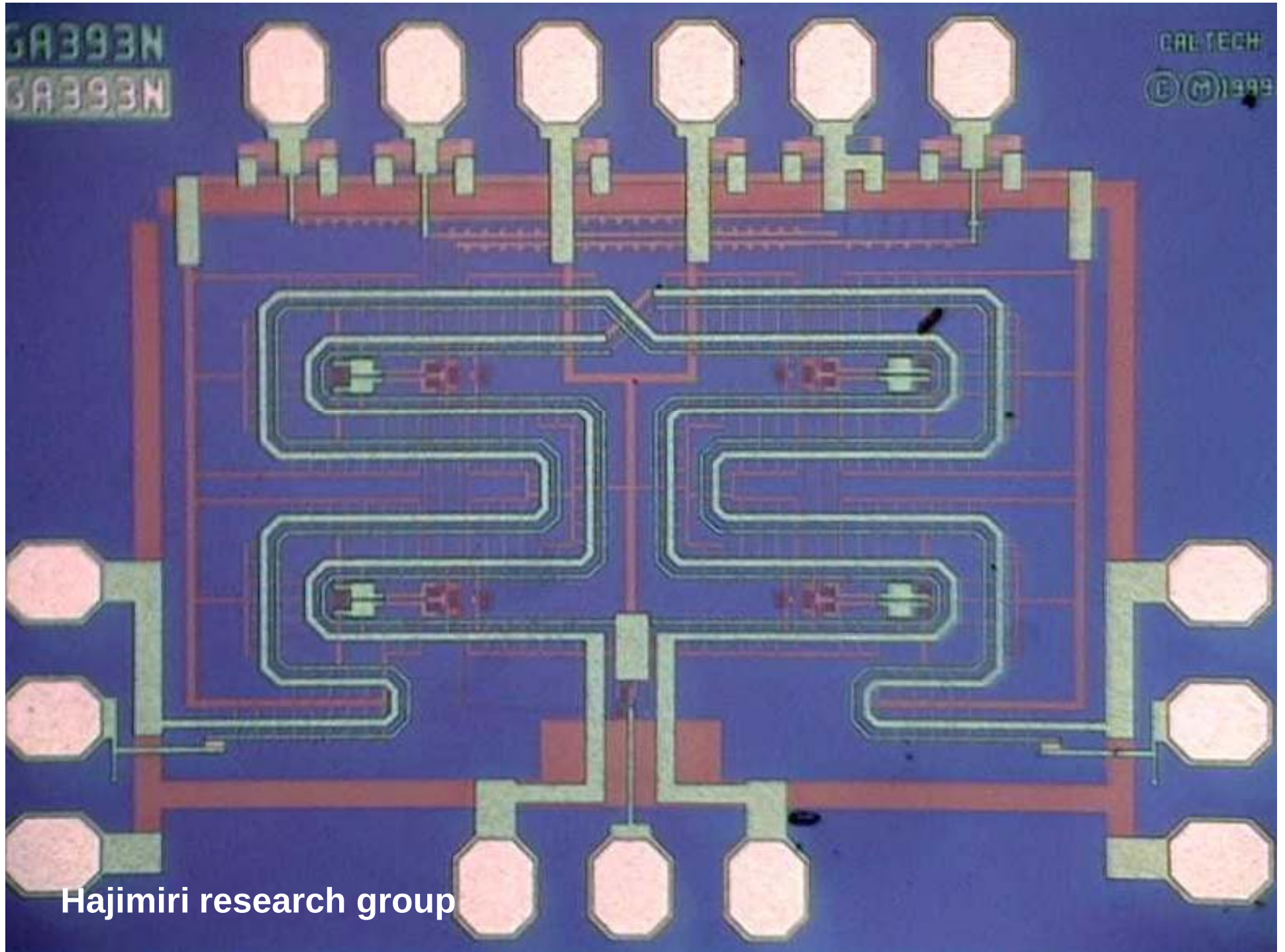


Xin Heng

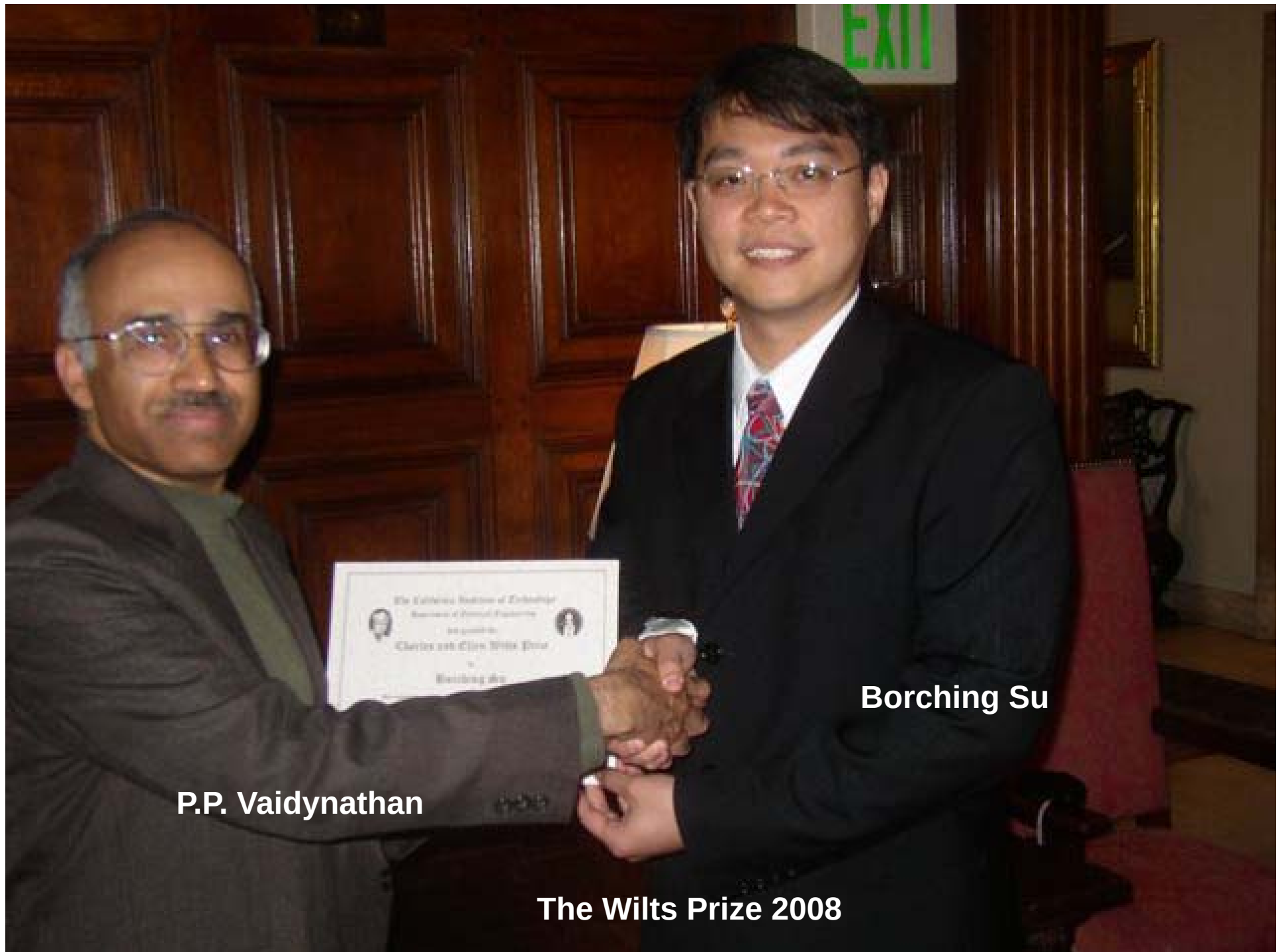
Changhuei Yang's research group



Zahid Yaqoob



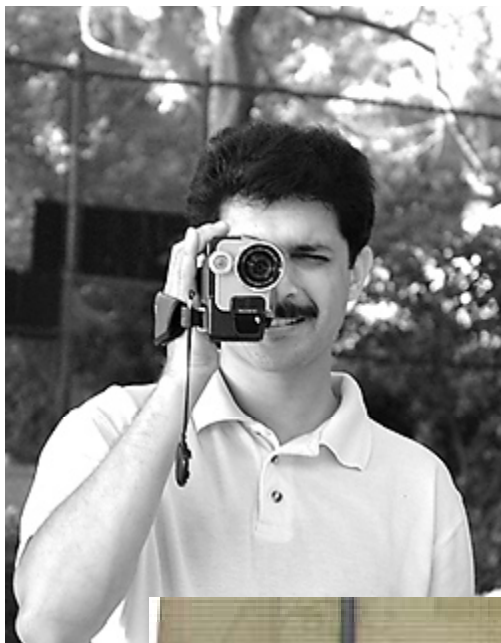
Hajimiri research group



P.P. Vaidynathan

Borching Su

The Wilts Prize 2008



Changhuei Yang's research group



Room- mother
Anne Sullivan



**Younkyu
Chung**

**Sanggeun
Jeon**

**David
Rutledge**

**Mike
DeLisio**

**Lawrence
Cheung**

**Yoshio
Nikawa**



Left to right: Robert Macmillan, David Middlebrook, Lester Fields, Robert Nathan, Joel Franklin, Hardy Martel, Gilbert McCann, Charles Wilts, Charles Papas, Peter Mason.

1958



Shuki Bruck in charge, at graduation

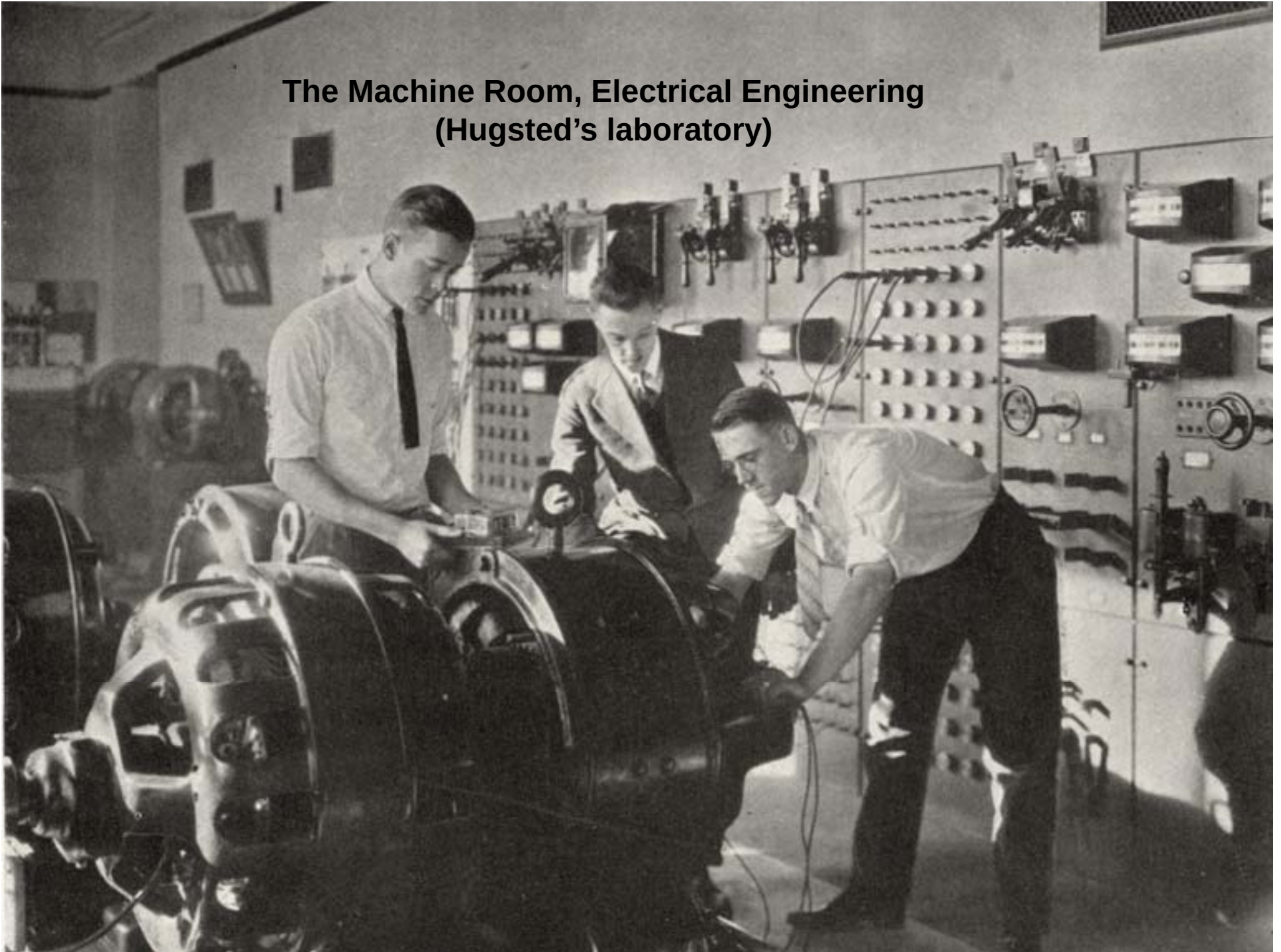
Eiko & Kiyo Tomiyasu



**Henk Van Tilborg,
The Dutch cowboy**

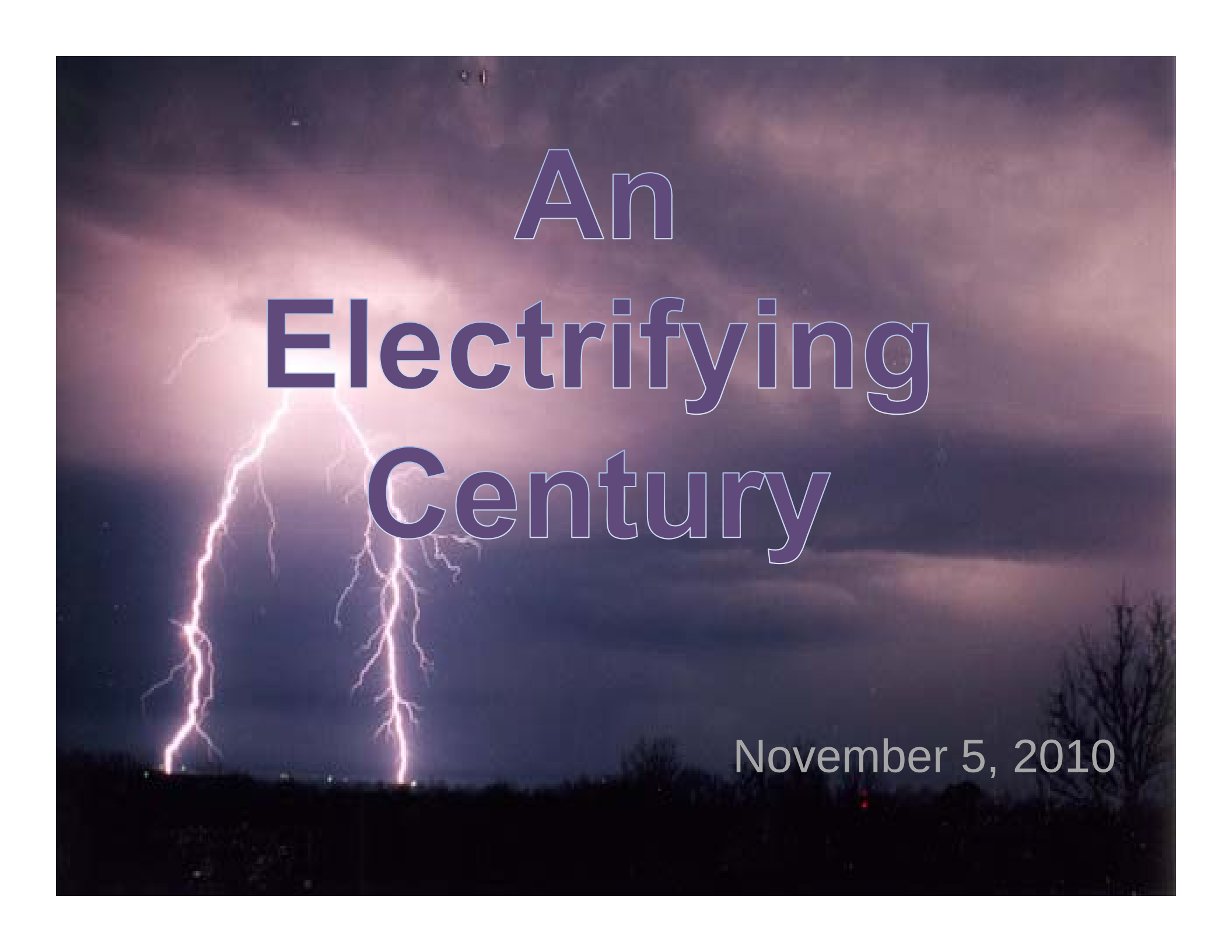


**The Machine Room, Electrical Engineering
(Hugsted's laboratory)**



Rutledge research group reunion





An Electrifying Century

November 5, 2010



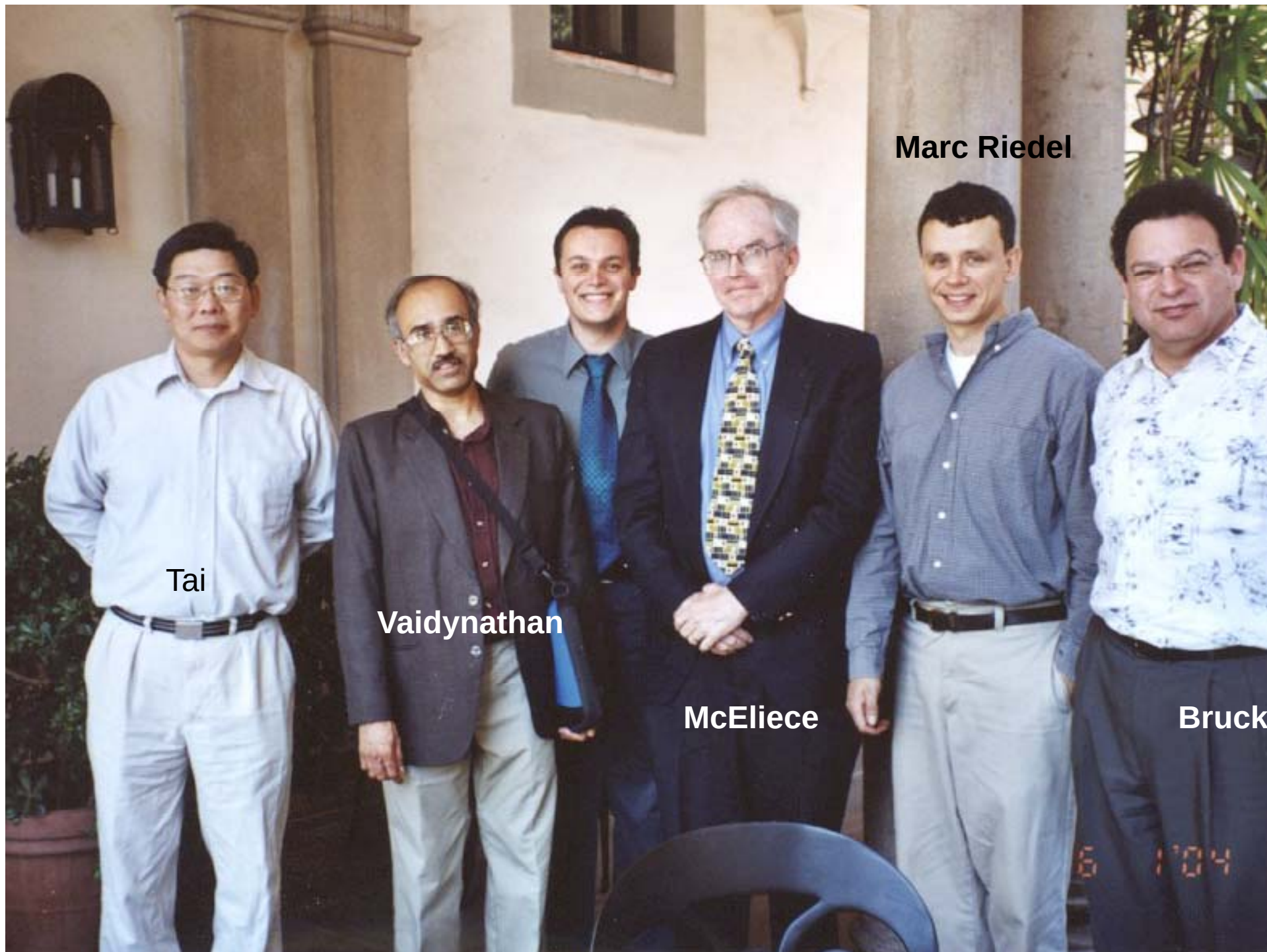
Shuki & Anat Bruck

Dale Yee & Elizabeth Chen





On the steps of Throop Hall THE FACULTY under Calder's arches



Tai

Vaidynathan

McEliece

Marc Riedel

Bruck



Bob McEliece



Hattori

McEliece's research group

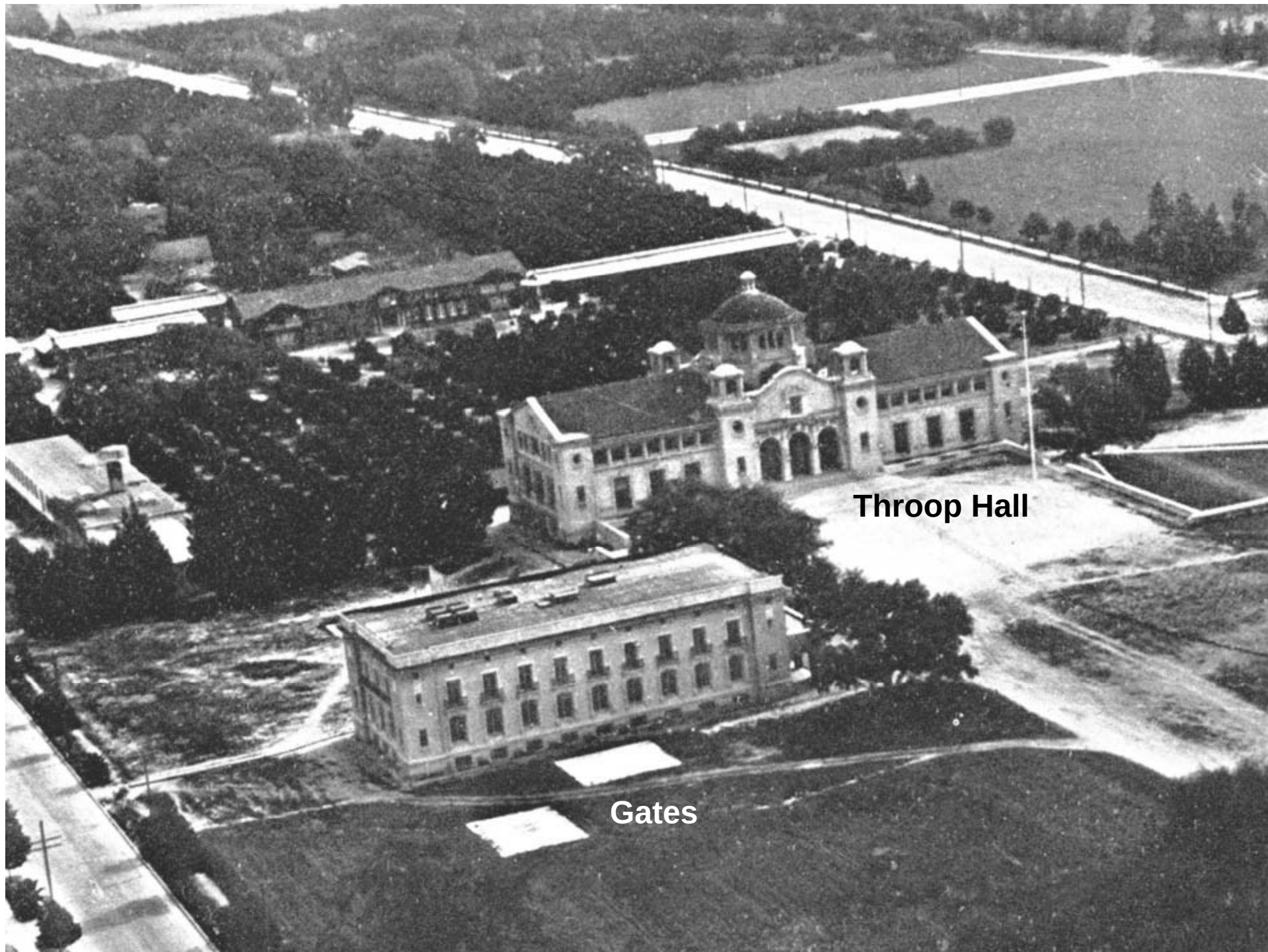


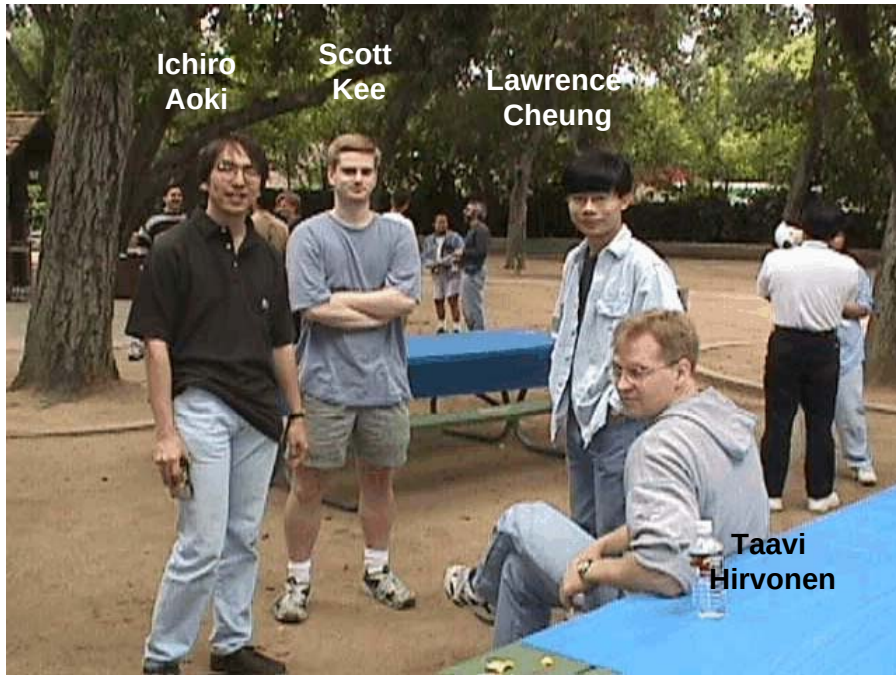
SATIMO
Lars Foged



Numb3rs TV show





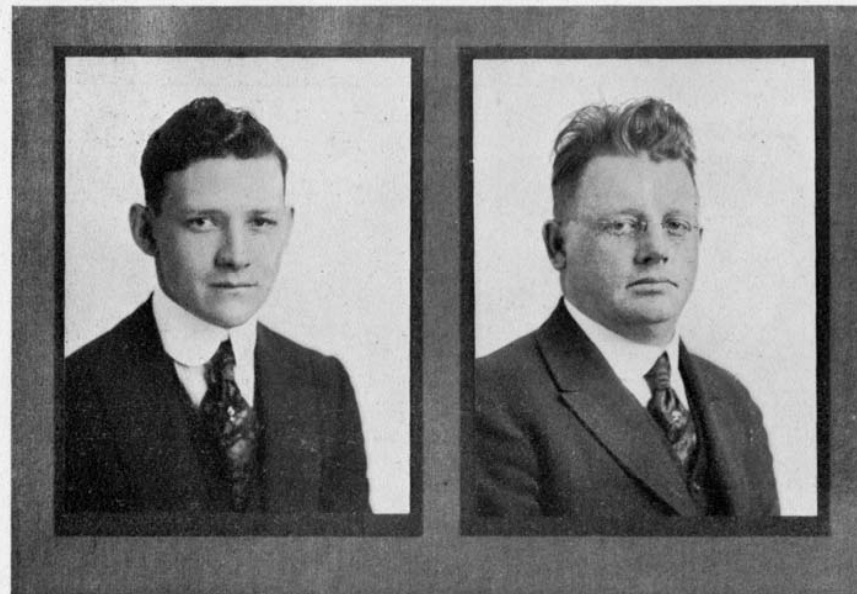


Dave Rutledge's research group





RAY CALL
Director of Athletics



R. ERRETT WOODBURY
Student Manager of Athletics

PROFESSOR ROYAL W. SORENEN
Chairman of Athletic Committee

**Royal Sorensen
as the Chair of
the Athletic
Committee**



P.P. Vaidynathan



**Axel
Scherer's
research
group**





Steve Low's research group's boot camp





Lynn Conway

Carver Mead

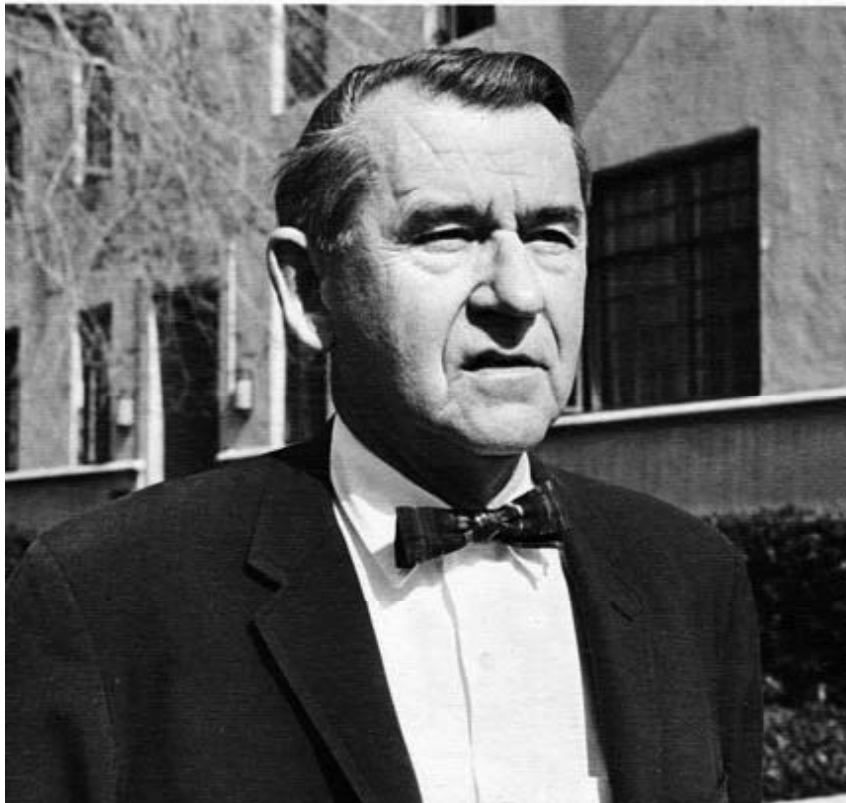


James Knowles



Fred Culick

Frederick Lindvall



**Engineering
Department,
1968**



Dale Yee

Paulett Liewer

Paul Bellan

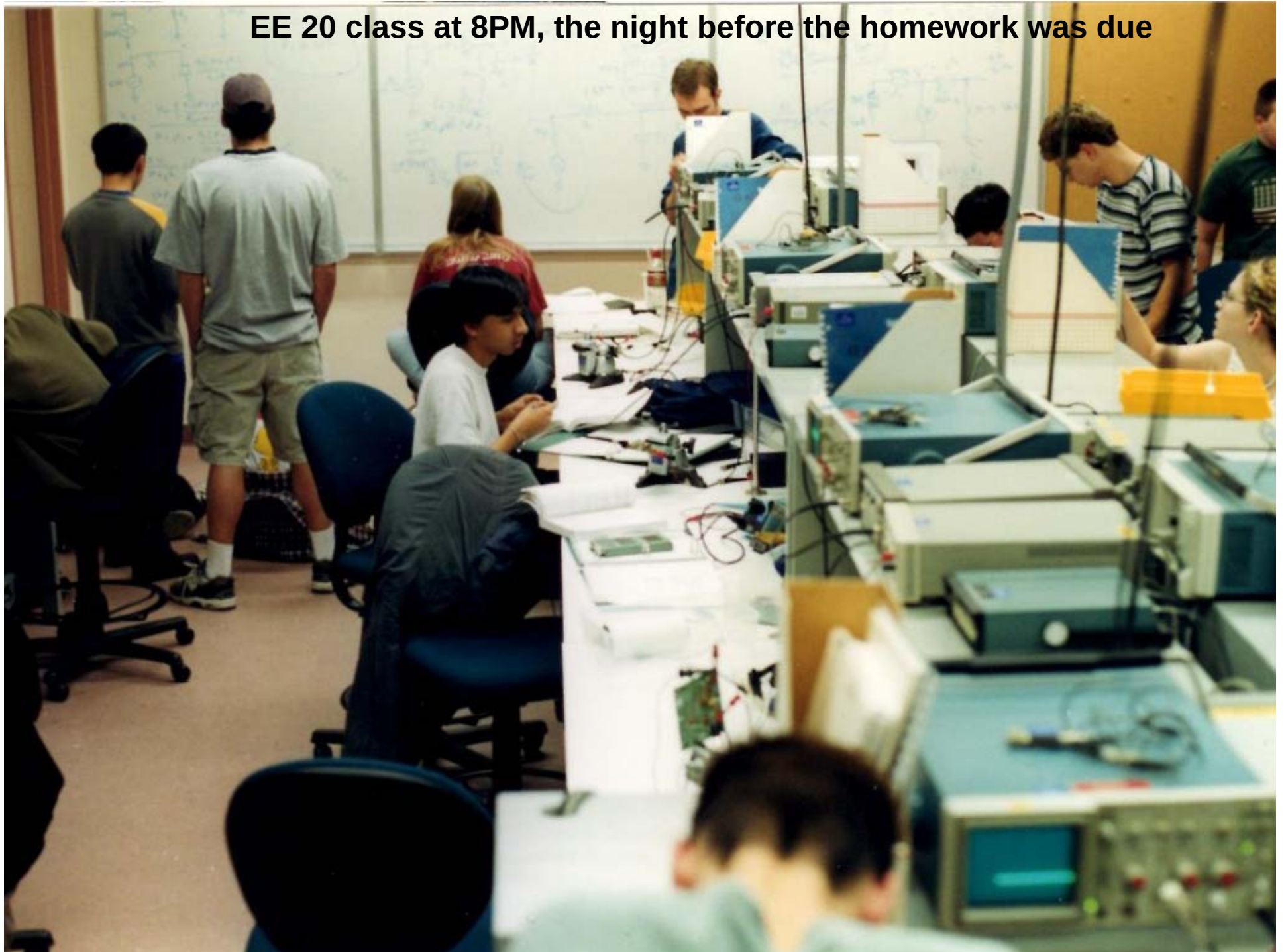
Erin & John Davidson

1986, Angeles National Forest, Caltech-JPL Picnic

Roy Gould and his Tokamak



EE 20 class at 8PM, the night before the homework was due





**The High-Voltage
Laboratory which
Was located in
Kellogg**



Scott
Wedge

Chad
Deckman

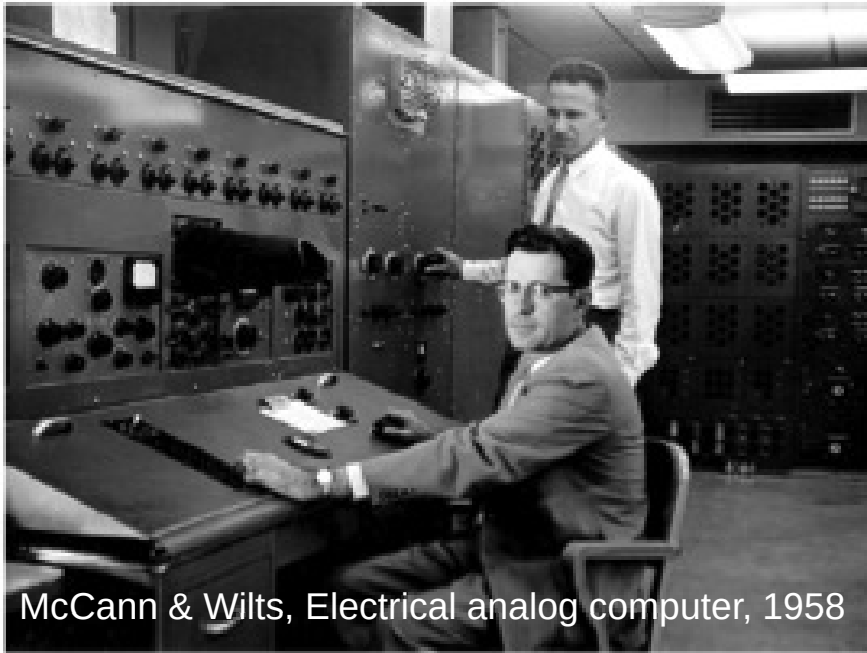
Zoya
Popovic

David
Rutledge

Michael P.
DeLisio

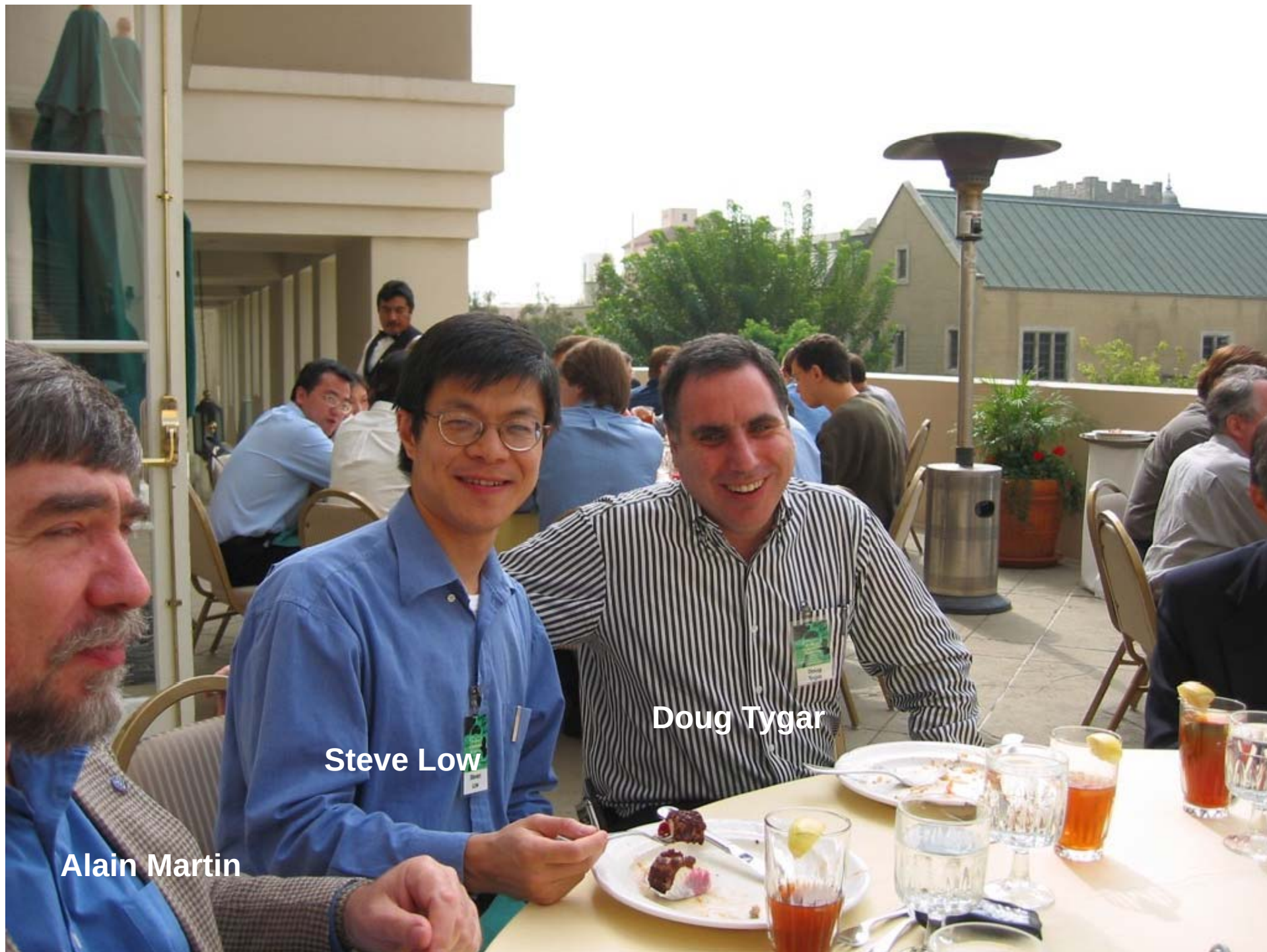
Yong
Guo

Robert
Weikle



McCann & Wilts, Electrical analog computer, 1958





Alain Martin

Steve Low

Doug Tygar

**Roy
Gould**





**Julie
Ponce**

Linda Dozsa

Tanya Owen



Thad Vreeland

1967

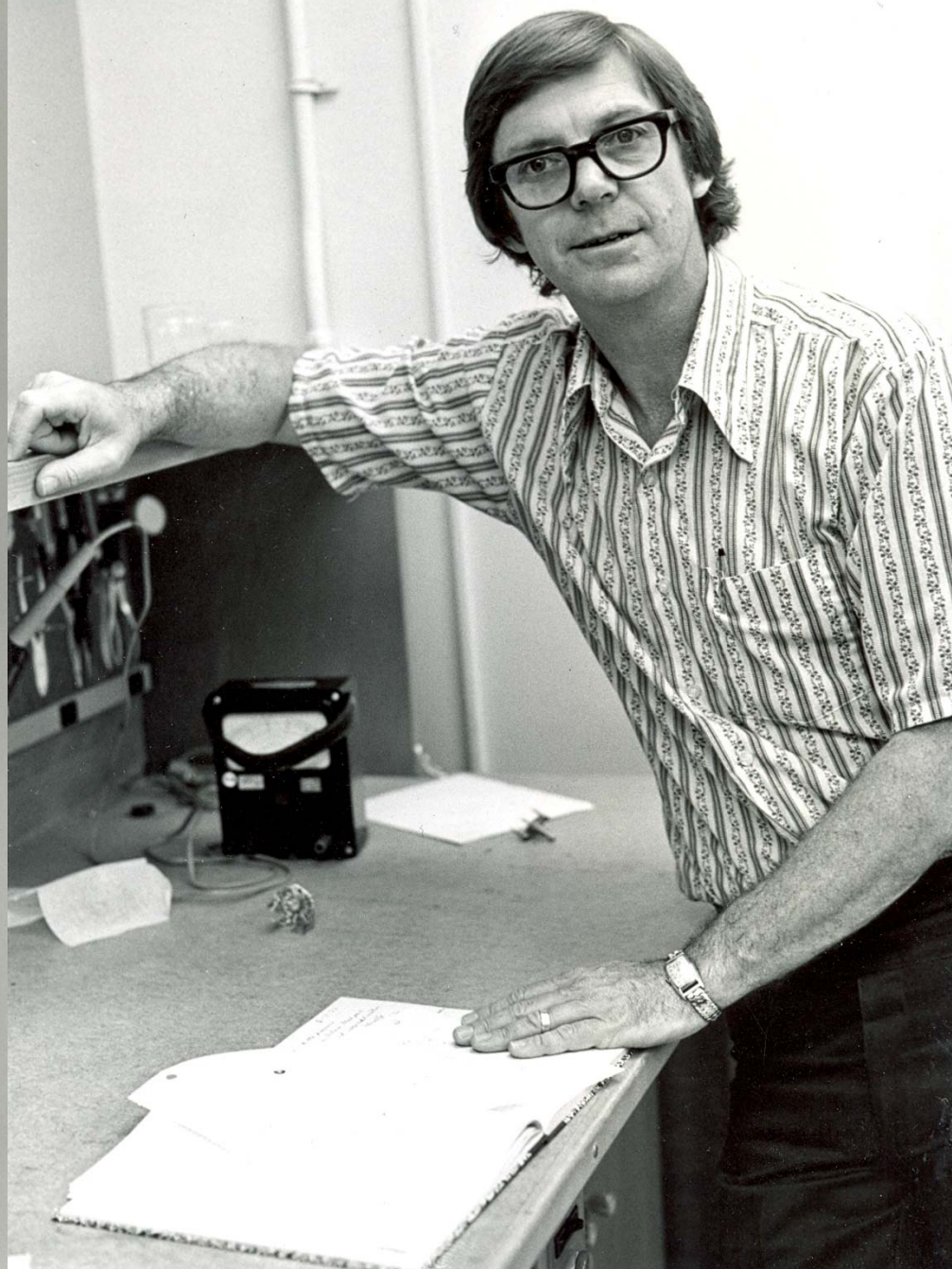


G. D. McCann

Hardy Martel



Floyd Humphrey





Shirley Slattery

Linda Dozsa

Carol Sosnowski



DONALD CLARK



TOM GRETTEBERG



CHARLES WILTS



FLOYD HUMPHREY



JAMES KNOWLES

1966



Linda Dozsa

Kevin Cooper

Demitrades Award 2007



Synchrotron Lab, ca. 1950

Langmuir



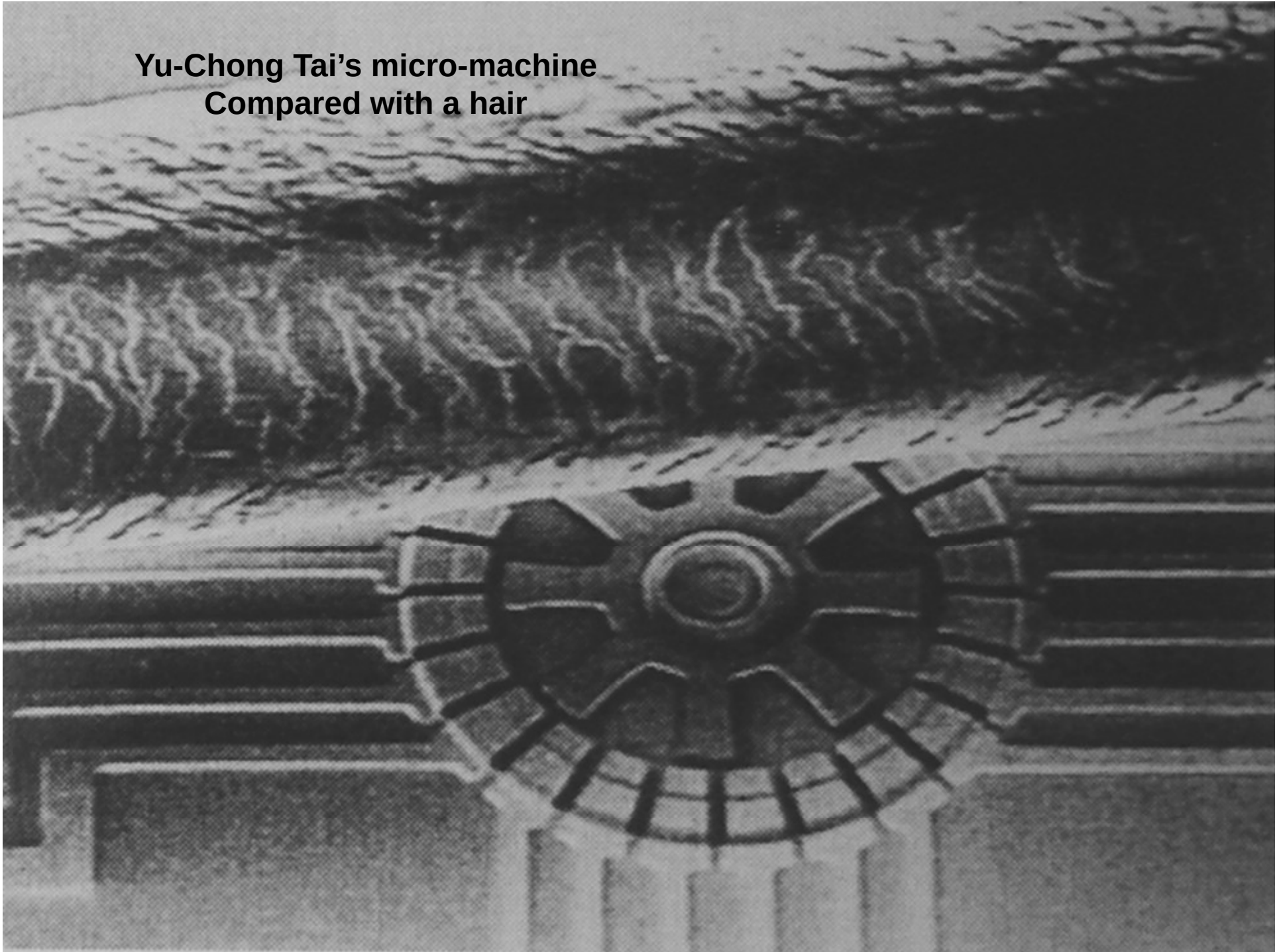
Yu-Chong Tai's super-clean room



Trevor Roper

Yu-Chong Tai

**Yu-Chong Tai's micro-machine
Compared with a hair**



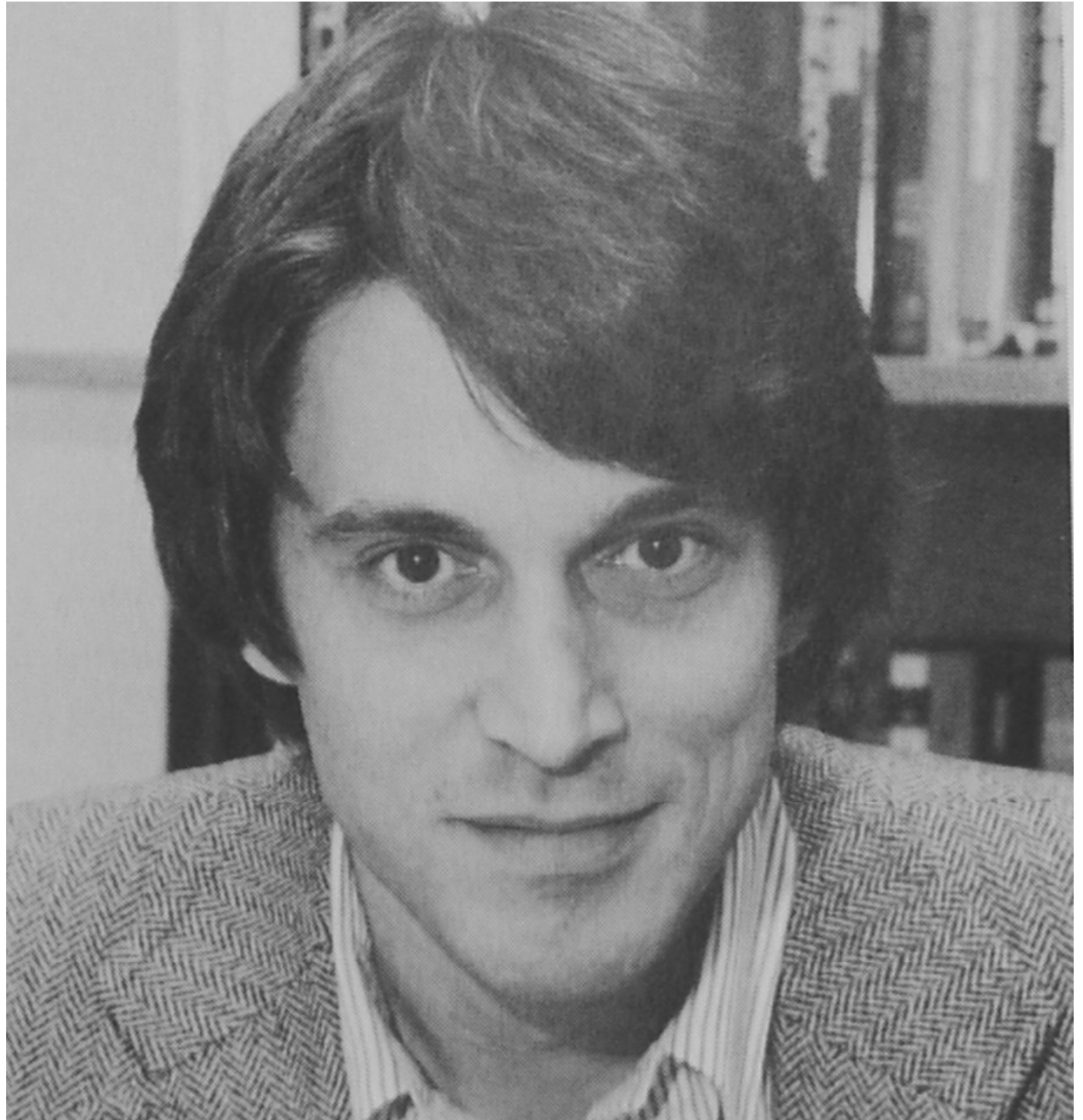


**Slobodan
Cuk**



EE 153 Class field trip, Owens Valley radio telescope

**Demetri
Psaltis**





Justin, Jay, Charles,
Clark and Joy

Room-mother
Christine

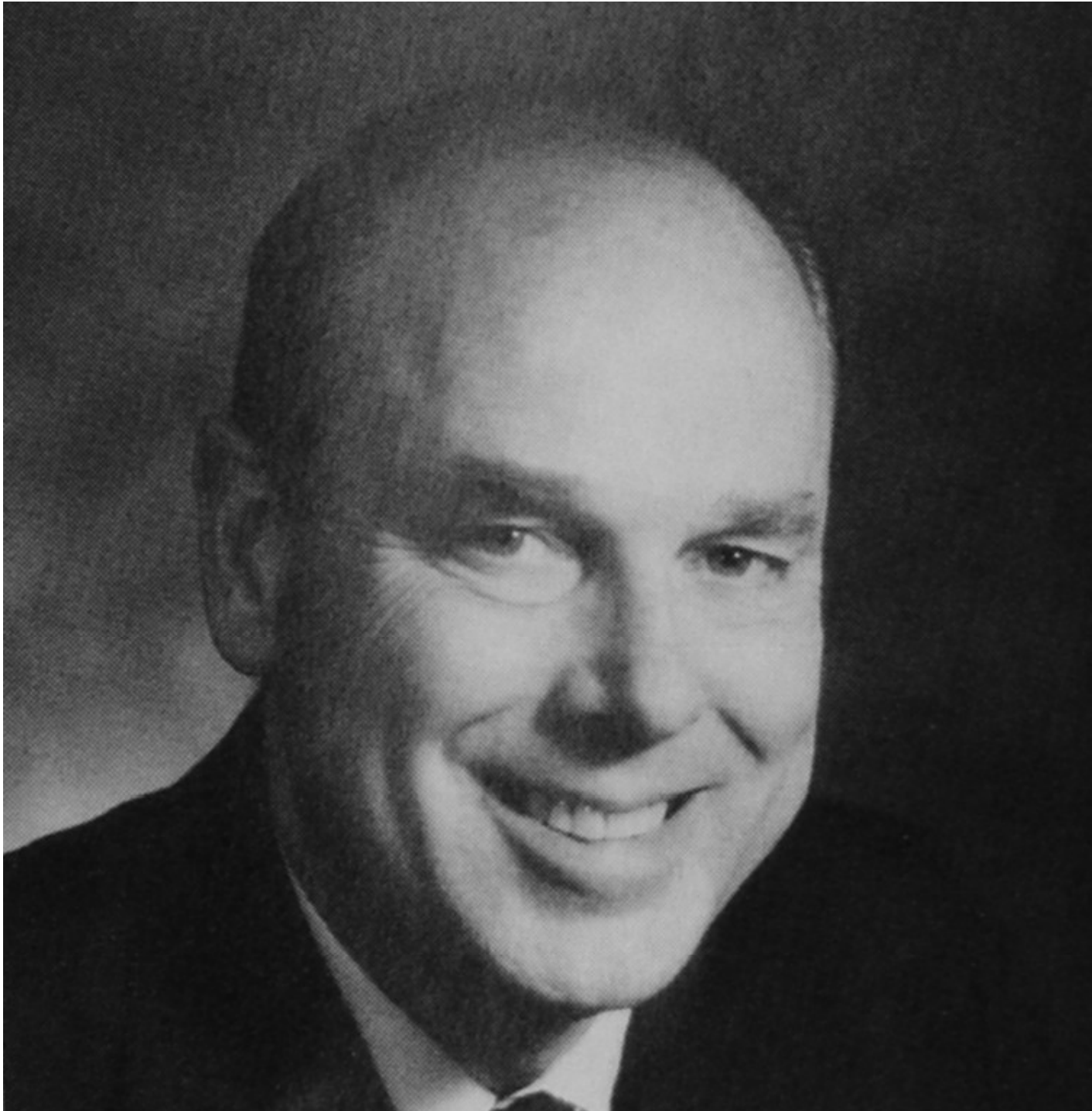


Short Biography: Joseph Bardin received the B.S.E.E. degree from the University of California, Santa Barbara in 2003, the M.S.E.E. degree from the University of California, Los Angeles in 2005.

In the summer of 2001, he worked with Titan Systems to design flexible frequency synthesizers to be integrated with millimeter wave super-heterodyne receivers. In the summer of 2002, he received a research summer undergraduate research fellowship where he worked under the guidance of Dr. Sander Weinreb, of Caltech/JPL, to develop a satellite-based local oscillator distribution system for very long baseline interferometry.

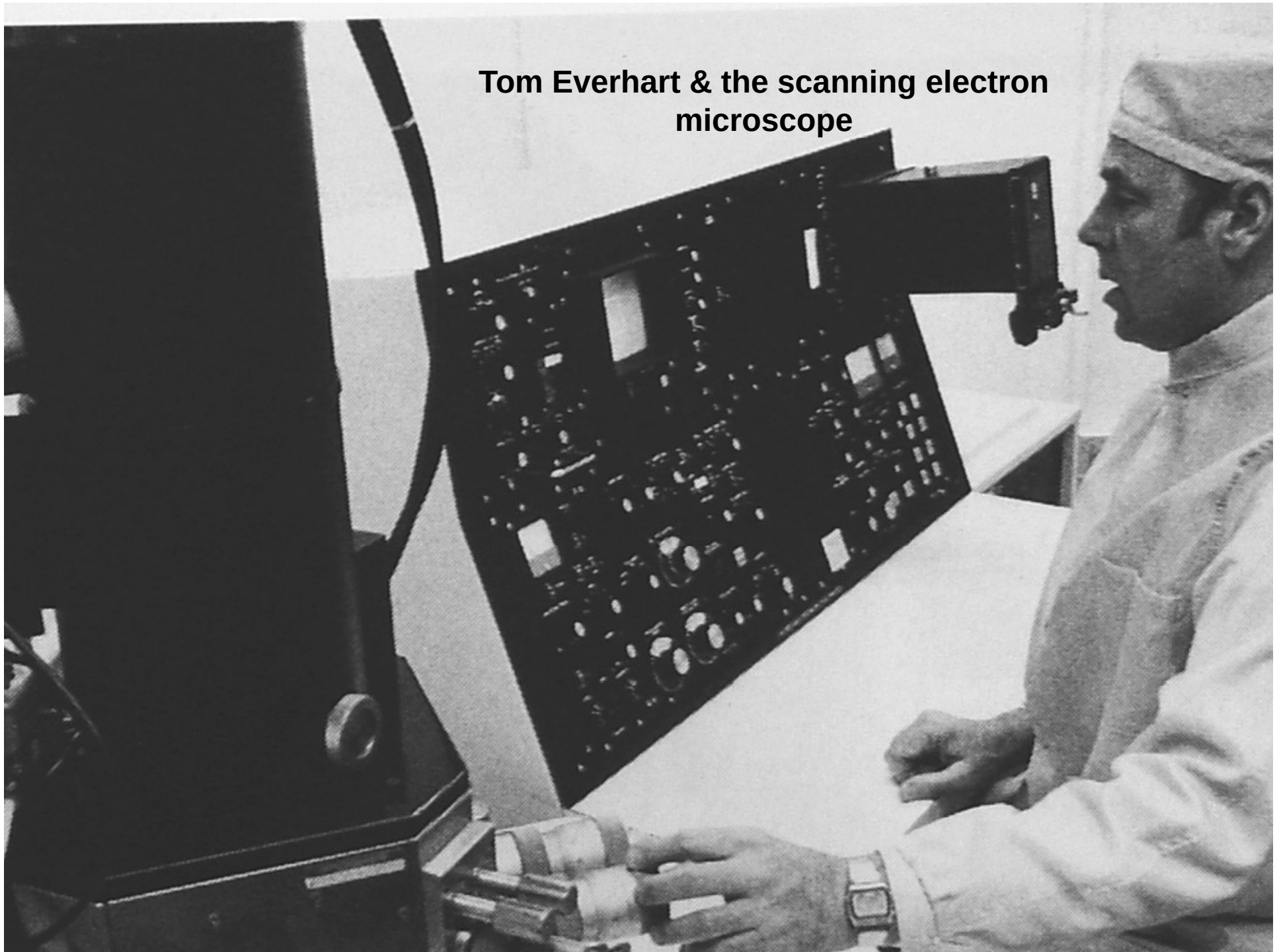
Joe Bardin





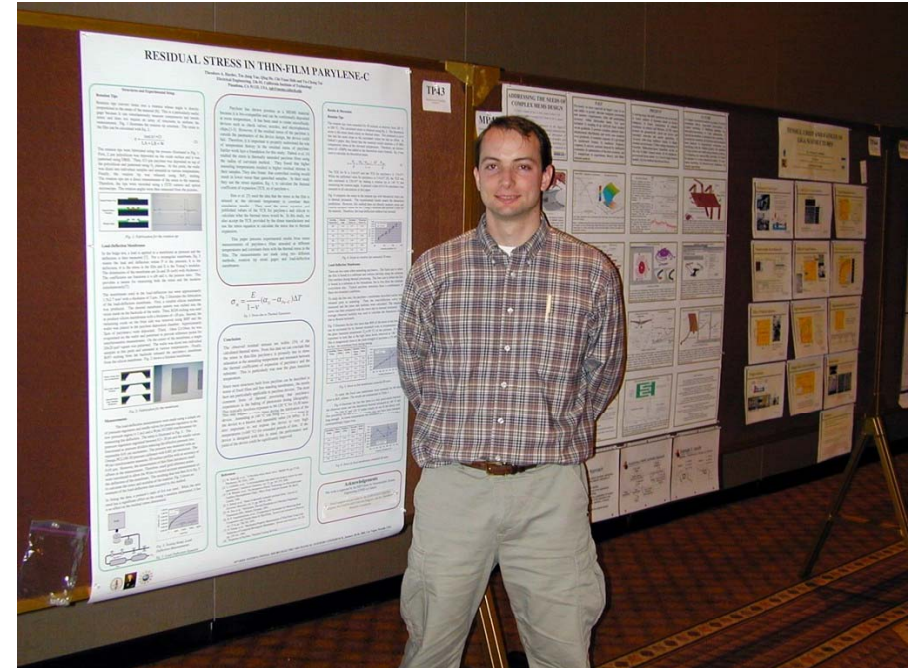
**Thomas E.
Everhart**

**Tom Everhart & the scanning electron
microscope**

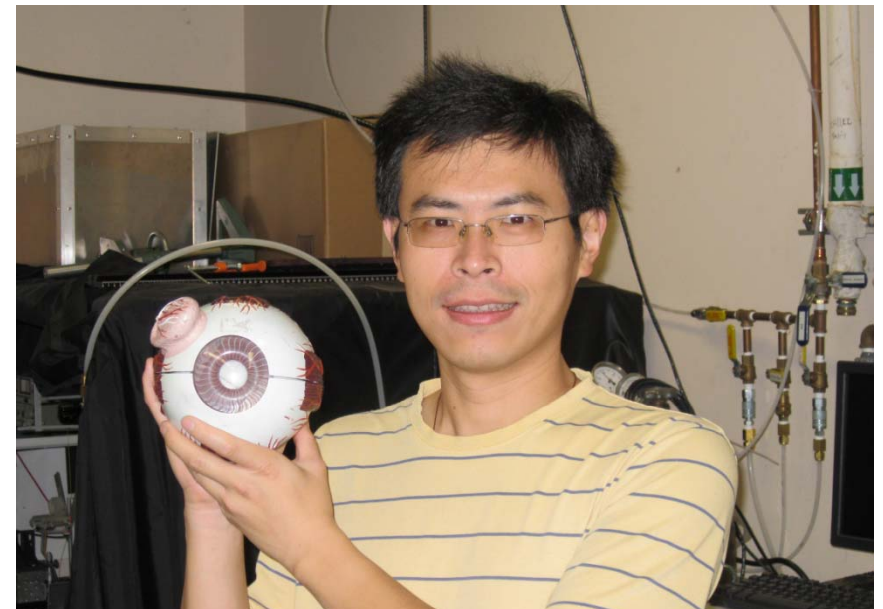
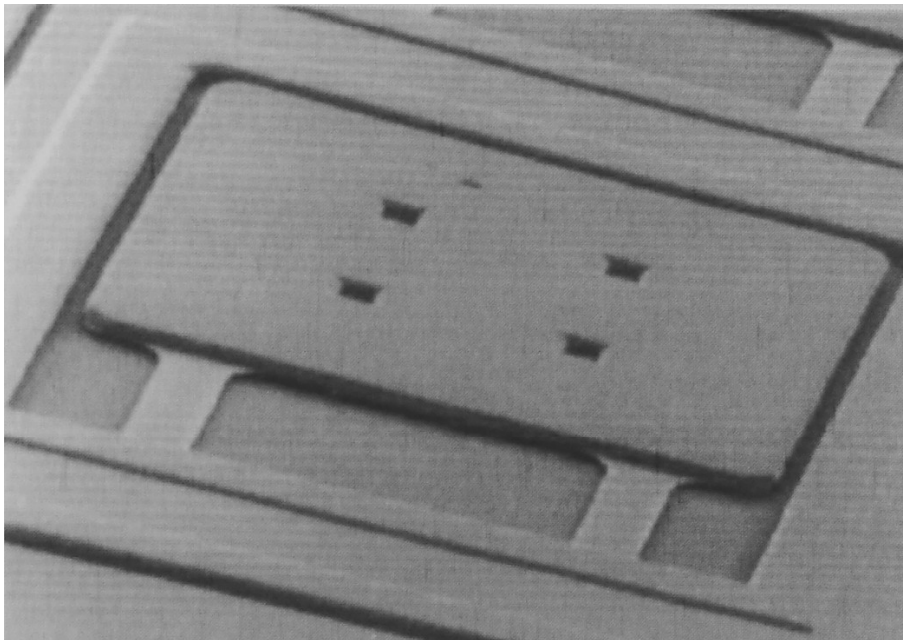




Yu-Chong Tai



MEMS 2002



**Andrea
Goldsmith**





**Amnon
Yariv**

**Linda
Dozsa**



1932

Rutledge Research Group Meeting



Takahiro Taniguchi



Rutledge group trip to the Caltech Submillimeter Observatory, Mauna Kea, Hawaii





Staff members Hui and Christine Garske



Tai's research group



Charles



A special thanks to the Faculty,
Staff, Students, Alumni,
EAS Communications Dept.,
The Big-T, Caltech Graphic Arts
Dept., the Caltech Archives,
and others who have contributed
photos and information
included In this collection.

Moore Laboratory