



Spring, 2002

To E. Bruce Lee

In Honor of

His 70th Birthday

From His Apprentice Diggers



Elena Fernandez-Berdaguer

University of Minnesota Years

1975-1981

Thesis

Optimal Control of retarded systems

Advisor

E. Bruce Lee

Memories

*Prof. Lee in his closet-like office instantly
finding a paper from unlabeled piles*

Post U of M Years

1982-1984 and 1986-1988

Virginia Tech

*1985-1986 and from 1989 until today at
CONICET (main research Institute in Arg.)
also at the University of Buenos Aires*

Current research

Inverse Problems

Accomplishment

*Now sometimes I can understand
the physics of a problem:
Last year I co-directed a thesis with a
person from industry, the results were used!*



Life in Pictures



At school, in Buenos Aires



Minneapolis: my party with two natives.



Recently, during vacations



John Chiasson

University of Minnesota Years

1979-1984

Thesis

*Control and Regulation of
Generalized Linear Systems*

Advisor

E. Bruce Lee

Memory

*Finally finding out what the
"E" in "E. B. Lee" stands for!*

Post U of M Years

*Purdue University, University of Pittsburgh
ABB and University of Tennessee*

Current research

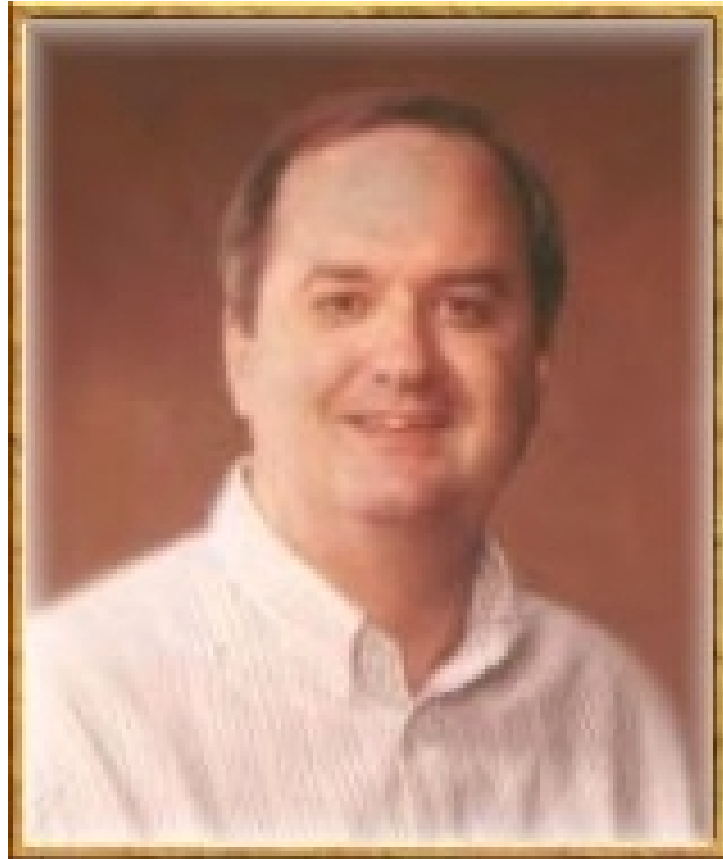
*Nonlinear Control of
Electromechanical Systems*

Accomplishment

*Survived (won) a Lawsuit
Gave a Plenary Lecture in France*



John Chiasson



*University of Tennessee
1999*



Cheng-Chih (Chester) Chu

University of Minnesota Years

1980 - 1985

Ph.D. Thesis

*H_∞ Optimization
Robust Multivariable Control*

Advisor

E. Bruce Lee

Memories

*Professor Lee's big station wagon and
Ice cream at Dinkytown*

Post U of M Years

*1985 – 1987 Scientific Systems Inc.
1987 – present Jet Propulsion Laboratory*

Current research

*Space Rendezvous, Formation Flying,
Target Tracking*



Life in Pictures



1985 - Graduation



1981 - Outside of EE Dept.



2002



Tryphon Georgiou

*University of Florida,
Center for mathematical systems theory
years 1979-83*

*First seminar by Bruce that I attended
on optimal control of delay systems,
in Gainesville, circa 1983.*

*University of Minnesota
years 1985-6 as a visiting faculty
years 1989-today as a regular faculty*

*Special skill:
identify the sound of Bruce's foot steps when he
walks down the corridor every morning at about 9am
to get tea from the faculty lounge
I usually keep my door open and practice recognizing
his footsteps to get a chance to say good morning
before Bruce shows up in the open door*



*US - Japan conference, Gainesville 1983
Picture: courtesy of Yutaka Yamamoto*



Guoxiang Gu

Years in U of M 1983-1988

PhD Dissertation An H_∞ Approach to the Control of Multivariable Systems with Time-Delays

Advisor E. Bruce Lee

Co-Advisor P. Pramod Khargonekar

Post U of M Years

1988-1990 Wright State University

1990-2002 Louisiana State University

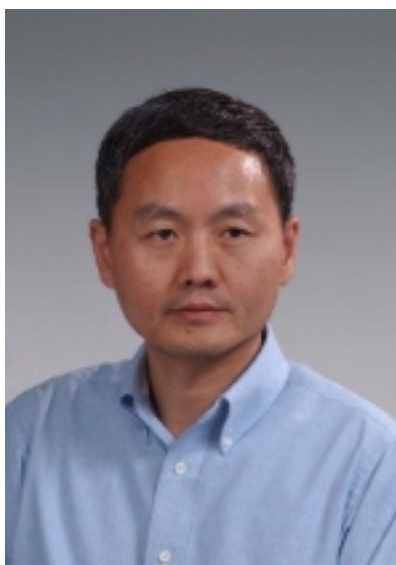
Current Research Modeling and Control of Uncertain Systems, Robust Adaptive Control, Communication Oriented DSP

Memories The small room in Shepherd Lab., the ice-cream party in Dinkytown



Life in Pictures

*Upon arrival to
Minnesota with
Professor Lee
1983.*

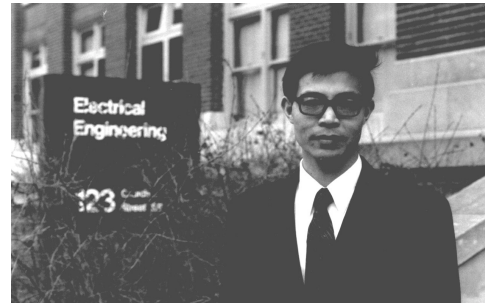


*On my sabbatical leave
in Hong Kong 2002*



*With my family
in Baton Rouge
Christmas 2000*

Wu-Sheng Lu



1983

- *Your 1981-84 student, who has been with Univ. of Victoria, Canada, since 1987.*
- *Some of the things that were started, in one way or another, at U of M under your guidance ...*
 - ◆ *Wrote a book (with my Victoria colleague Andreas Antoniou) on “Two-Dimensional Digital Filters”, Marcel Dekker, 1991.*
 - ◆ *Elevated to the Fellow grade in IEEE (1999) for the work on multidimensional systems and digital filters.*
 - ◆ *In a finishing stage of second book (with Andreas Antoniou) on “Optimization: Methods, Algorithms, and Applications”, Kluwer Academic, 2002.*

Memories

*With
brother John
at Univ. of
Victoria,
1994.*



*A 1982 picture
taken in the
Space Science
Center.*



*With
wife Catherine and
son Michael, at the
Seto Ohashi Bridge,
Japan, 2002.*



Jiecai Luo

University of Minnesota Years

1995-1999

Dissertation

*Optimal Control for Control Actions with
Mixed Impulse Functions and Bounded
Piecewise Continuous Functions*

Advisor

E. Bruce Lee

Post U of M Years

*1999-2001 St Cloud State University
2001- Current Southern University and
A & M College*

Current research

Air Traffic Control



Hitay Özbay

University of Minnesota Years

1987-1989

Thesis

*H-infinity Control of Distributed Systems:
A Skew Toeplitz Approach*

Advisor

Allen Tannenbaum

Memories

Ice cream socials in Dinkytown (see photo next page)

Post U of M Years

1989-1990 University of Rhode Island

1991-2002 Ohio State University

Current research

*Robust Control Applications in
Communication Networks and
Aerodynamic Flow Control*

Accomplishment

Teaching and advising many good students (lucky me)

Leisure time

No such thing until my boy starts school!



Life in Pictures



1981 in Istanbul, Turkey



1988 in Minneapolis, MN



*Hitay
Kemin
Mario*



*With my son, Olsan,
in Columbus, OH
December 2000*



António Pascoal

University of Minnesota Years

1981-1987

PhD Dissertation

*Nonlinear Time-Varying Feedback
Controllers for Linear Time-Invariant Plants*

Advisor

P. Khargonekar

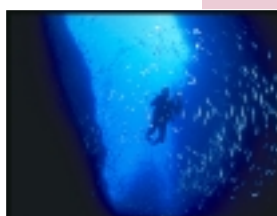
Post U of M Years

*1987-1988 Integrated Systems, Santa Clara,
California*

*1988-2002 Institute for Systems and Robotics,
Instituto Superior Técnico, Lisbon, Portugal*

Current research

*Dynamical Systems Theory
Navigation and Control of Marine Robots*





Life in Pictures



*My current "babies" :
autonomous
surface and underwater
Robots - 2000*

*With P. Kokotovic and
I. Kaminer in Croatia,
2001*



Son Ricardo

*Me and my wife
Stephanie*



Wojtek Przytula

University of Minnesota Years

1980-1984

PhD Dissertation

*Design of VLSI Algorithms and Architectures
for Digital Image and Signal Processing*

Advisor

E. Bruce Lee

Post U of M Years

1984-1985 Wellesley College|MIT

1985 - present HRL Laboratories

Malibu, California

Current research

Decision Support Tools

Graphical Probabilistic Models



*HRL Labs
in Malibu*



Life in Pictures



World's first systolic computer based on 256 custom microprocessors which I designed and build at HRL



Having rather small family (no wives and children) I can afford to divide my free time in California between scuba diving, mountaineering and sailing





Ravi Rajamani

University of Minnesota Years

1986-1990

Thesis

*Robust Control of Linear Systems Using
Time-Varying Controllers*

Advisor

Pramod Kharigonekar

Memories

*Wonderful group of Control Systems faculty and students –
essential support structure to weather cold Minnesota winters!*

Post U of M Years

*1990-2000: GE Corporate Research & Development,
Schenectady, NY*

*From 2000: United Technologies Research Center,
E. Hartford, CT*

Current work (not research!)

Supply Chain Management – Believe it or not!

Accomplishment

See Eva Wu's entry!

Leisure time

Again, see Eva Wu's entry!



Pictorial Memories

With Yanlin and Marta and her upside-down (or, right-side-up!) map (1990)



The Dinkytown ice cream ritual (1990)



With Antonio in Hawaii (1990 CDC)



N. Eva Wu

University of Minnesota Years

1982-1987

Thesis

*A Factorization Approach to Control
Synthesis of Distributed Linear Systems*

Advisor

E. Bruce Lee

Memories

Friday afternoon ice cream socials in Dinkytown

Post U of M Years

1987-2002 Binghamton University

Current research

Fault-tolerant control

Accomplishment

A survivor

Leisure time

What do you mean?



Life in Pictures



1957 in Chengdu, China

1982 in Minneapolis, MN



2001 in Binghamton, NY

Stanislaw H. Żak

- University of Minnesota *years 1980-1983*
- Visiting Assistant Professor working with Bruce on Time-delay Systems
- Now a Professor at Purdue still in touch with Bruce and relying on his friendship and generosity



After a seminar during
academic year 1980-1981

The Best Man at my Wedding,
December 28, 1985



Stan with his family in
December 2001



Kemin Zhou



Years in U of M 1984-1988

PhD Dissertation Robust Control of
Uncertain Systems and H_∞ Optimization

Advisor Pramod P. Khargonekar

Post U of M Years

1988-1990 California Institute of Technology

1990-2002 Louisiana State University

Current Research Robust Control, Fault
Tolerant Control, System Approximation
and Control Applications

Accomplishment Published two books:

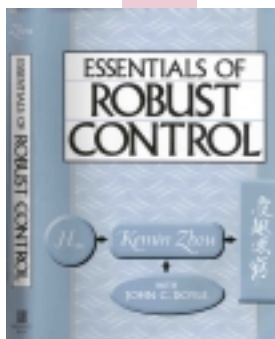
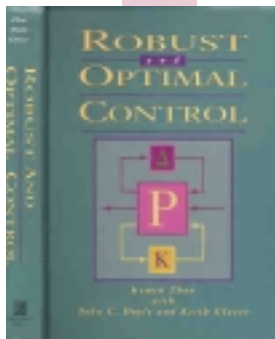
Robust and Optimal Control (1995) with Chinese
translation (2002) and Japanese
translation (1997)

Essentials of Robust Control (1998)

Introduction to Neoclassical Feedback Control (200?)

Memories

Your kindness, generosity, and of course
the ice-cream party in Dinkytown



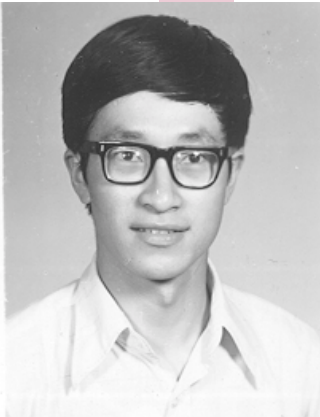


Life in Pictures

*Ice-Cream party
In Dinkytown*



Me in 1983



*Beautiful lakes
In Minnesota
1987 with Yanlin*



*With my son and
daughter 1998*