Stony Brook Symposium ***on***

"Chemical Synthesis in Life Sciences"

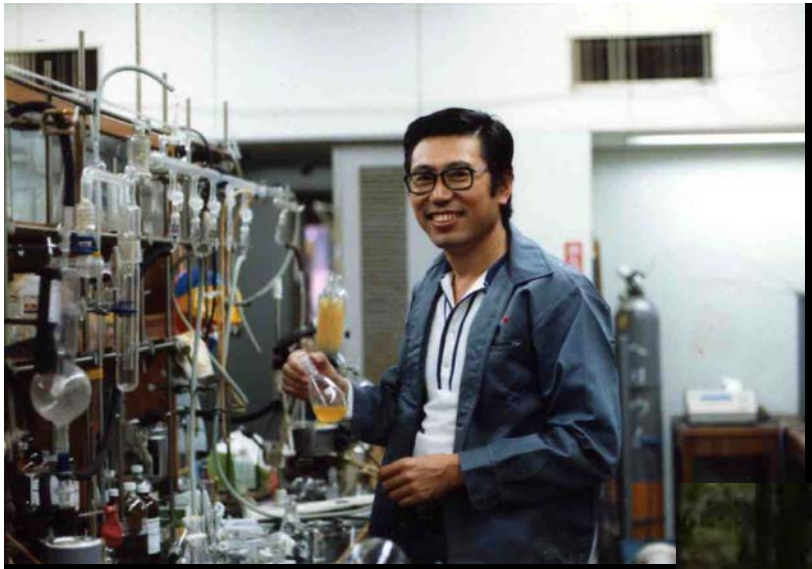
June 5-6, 2015, Charles B. Wang Center, Stony Brook University

Celebrating the Achievements of Professor Iwao Ojima On the Occasion of His 70th Birthday

Memorable Moments in the Three Decades of Life at Stony Brook

Iwao Ojima

Stony Brook Symposium Banquet
June 5, 2015



Sagami Institute of Chemical Research

相模中央化学研究所

1973~1983

1983

SUNY at
Stony Brook

1984

1988 First Ph.D.s

Hyok-Boong Kwon **Xiaogang Qiu (George Chiu)**

Haugh-Jyun (Candy) Chen

C&EN
CHEMICAL & ENGINEERING NEWS


Jacobsen


Newcomb


Ojima


Roush

The quality of **IWAO OJIMA**'s diverse research accomplishments is as excellent as his international and national reputation. Born in Yokohama, Japan, and educated at the University of Tokyo (B.S. 1968, Ph.D. 1973), Ojima is currently Leading Professor of Chemistry at the State University of New York, Stony Brook.

One area of research delved into by the award winner is β-lactams; he was one of the first to recognize and systematically develop the chemistry of these compounds in that he was instrumental in using β-lactams as building blocks for other compounds, particularly peptides and peptide mimetics. Through his work, he was able to develop an impressive and clever asymmetric route to the side chain of taxol, a chemotherapeutic agent familiar these days because of its potential for treating breast and ovarian cancer.

In the area of stereoselective hydrogenation and hydrogenolysis, Ojima is considered to be among the few experts. He applied homogenous catalytic hydrogenation to the enantioselective synthesis of a number of natural and non-natural amino acids, even extending the hydrogenation method to the synthesis of oligopeptides.

first as a research fellow and later as a senior research fellow and group leader of the organometallic research group. In 1978 and 1983, respectively, he was also an adjunct lecturer at Tokyo Institute of Technology and Tokyo University of Agriculture & Technology.

Among other honors, Ojima received the 25th Progress Award of the Chemical Society of Japan for Excellent Young Investigators in 1976. For four years, he was a member of the Advisory Committee of the National Institute of Health's Medicinal Chemistry Study Section, which evaluates research grants.

Ojima is the author or coauthor of about 200 published papers and reviews and holds over 130 patents and patent applications. A widely sought speaker at national and international conferences, he also regularly presents papers at American Chemical Society national meetings. His memberships include ACS, the American Association for the Advancement of Science, and the Chemical Society of Japan.

ACS 1994 National Award Winners

Arthur C. Cope Scholar Awards:

Maurice S. Brookhart, University of North Carolina, Chapel Hill

Paul Dowd, University of Pittsburgh

Christopher S. Foote, University of California, Los Angeles

Eric N. Jacobsen, Harvard University

Martin E. Newcomb, Wayne State University, Detroit

Iwao Ojima, State University of New York, Stony Brook

William R. Roush, Indiana University, Bloomington

Gary B. Schuster, University of Illinois, Urbana-Champaign

Edward C. Taylor, Princeton University

Gregory L. Verdine, Harvard University

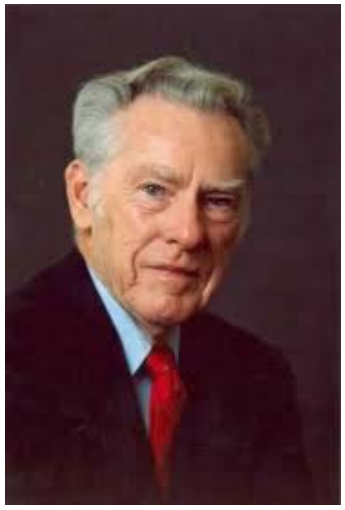
Departmental Celebration Dinner for Ojima's A. C. Cope Scholar Award Announcement

Three Village Inn

1993

Albert Meyers

Ernest Eliel



Harry Mosher

Cynthia Burrows

A. C. Cope and Cope Scholar Award Reception
Washington, D.C. 1994

CHEMICAL & Engineering News
THE NEWSMAGAZINE OF THE CHEMICAL WORLD ONLINE

AWARDS
January 22, 2001
Volume 79, Number 4
CENEAR 79 4 pp.99-103
ISSN 0009-2347

2001 ACS NATIONAL AWARD WINNERS

2001

E. B. Hershberg Award for Important Discoveries in Medicinally Active Substances

Sponsored by Schering-Plough Corp.

Explorers have always faced enormous risks to attain a lifelong ambition. Some explorers risk life and limb going deep under the oceans or deep into space, or by facing human-averse climates and altitudes to reach a spot on Earth rarely if ever seen before. **IWAO OJIMA,** however, is a different breed of explorer. His tools for exploration are nuclear magnetic resonance, infrared, UV, mass, and fluorescence spectrometers; liquid chromatographs; amino acid sequencers; microscopes; and computer workstations.

OJIMA has made huge strides in the world of medicinal chemistry through the use of new organic methods.

Ojima, Distinguished Professor and chairman of the department of chemistry at the State University of New York, Stony Brook, has dedicated his life to discovering the microscopic world. According to one of his colleagues, "That Ojima has been able to put down such a large footprint arises from a most unusual mix of abilities that includes organic synthesis, keen insights into good pharmaceutical problems, and the ability to induce people in diverse disciplines to work together toward a common goal."

Ojima's research includes four areas of intense interest to the pharmaceutical industry: fluorine-containing amino acids,

peptides, and enzyme inhibitors; the development of antithrombic agents; the development of novel β-lactams; and contributions to the development of second- and third-generation taxoids. In the first area, Ojima has been at the forefront in the incorporation of fluoro-amino acids into peptides. His research led to a series of trifluoromethyl-containing enzyme inhibitors and brain peptides.

ACS Award Ceremony
San Diego 2001

ACS Award Ceremony and Banquet with Ojima Lab. Alumni
San Diego, 2001


2001 ACS San Diego
E. B. Hershberg Award Celebration

2013

C&EN
CHEMICAL & ENGINEERING NEWS

Volume 91 Issue 3 | pp. 35-36 | Awards
Issue Date: January 21, 2013

ACS Award For Creative Work In Fluorine Chemistry

By Stephen K. Ritter

Department: ACS News
Keywords: awards, ACS, Iwao Ojima, fluorine chemistry, amino acid, bioactive molecule

Sponsored by Honeywell

Fluorine's versatility as a substituent in bioactive compounds is legend—strategic placement of fluorine improves the bioavailability, metabolic stability, and efficacy of many drugs. One chemist to thank for that is State University of New York, Stony Brook, professor **Iwao Ojima**.

"Ojima is a pioneer in bridging the gap between fluorine chemistry and medicinal chemistry and establishing an essential interdisciplinary field," comments medicinal fluorine chemist Robert Filler, an emeritus professor at Illinois Institute of Technology. "A hallmark of Ojima's contributions is his deft and creative use of fluorine as a key marker to open new vistas in medicinal research."

Ojima
Credit: Courtesy of Iwao Ojima

Ojima has a long list of chemical firsts to his credit. "In the early 1980s, his seminal application of transition-metal catalysis for functionalizing readily available fluorinated alkenes and arenes led to the synthesis of fluorinated amino acids and heterocycles," notes John T. Welch, a fluorine chemist at the State University of New York, Albany. These methods were timely inventions that spurred interest in incorporating the fluorinated compounds into biologically active peptides and proteins, Welch says.

For example, Ojima invented a process to synthesize 5-trifluoromethyluracil via palladium-catalyzed reactions. The process was commercialized to produce the antiviral drug trifluridine, which is used to treat herpesvirus, in particular in eye infections. He also developed fluorinated versions of captopril, an angiotensin-converting enzyme inhibitor used to treat high blood pressure, as well as fluorinated enkephalins, which are analgesic brain peptides.

Another first was the synthesis of fluorinated taxoids, which are derivatives of the cancer drug Taxol. His group used these compounds as molecular probes to identify bioactive conformations of Taxol and taxoids via 19F nuclear magnetic resonance spectroscopy. The fluorinated taxoids have been used as "warheads" in tumor-targeting drug delivery systems.

ACS Award Ceremony and Banquet

New Orleans

2013

ACS Award Symposium Dinner and celebration luncheon with Ojima Lab alumni, San Diego, 2013

American Chemical Society
Division of Medicinal Chemistry
Hall of Fame

Iwao Ojima, Ph.D.

2006

Professor Iwao Ojima received his B.S. (1968), M.S. (1970), and Ph.D. (1973) degrees from the University of Tokyo, Japan. He joined the Sagami Institute of Chemical Research and held a position as Senior Research Fellow until 1983. He joined the faculty at the Department of Chemistry, State University of New York at Stony Brook first as Associate Professor (1983), was promoted to Professor (1984), Leading Professor (1991), and then to Distinguished Professor (1995). He served as the Department Chairman from1997 to 2003. He serves as the founding Director for the Institute of Chemical Biology & Drug Discovery (ICB&DD) at Stony Brook from 2003. He has been a Visiting Professor at the Université Claude Bernard Lyon I, Lyon, France (1989), The University of Tokyo, Tokyo, Japan (1996), The Scripps Research Institute, La Jolla, CA (1997), and Université de Paris XI, BIOCIS, Châtenay-Malabry, France (1997).

His research interests include drug design and discovery (anticancer agents, antibacterial agents, enzyme inhibitors), medicinal chemistry and chemical biology, catalytic asymmetric synthesis, organic synthesis by means of organometallic reagents and catalysts, peptidomimetics, ß-lactam chemistry, and organofluorine chemistry (fluoroamino acids and peptides, medicinal applications).

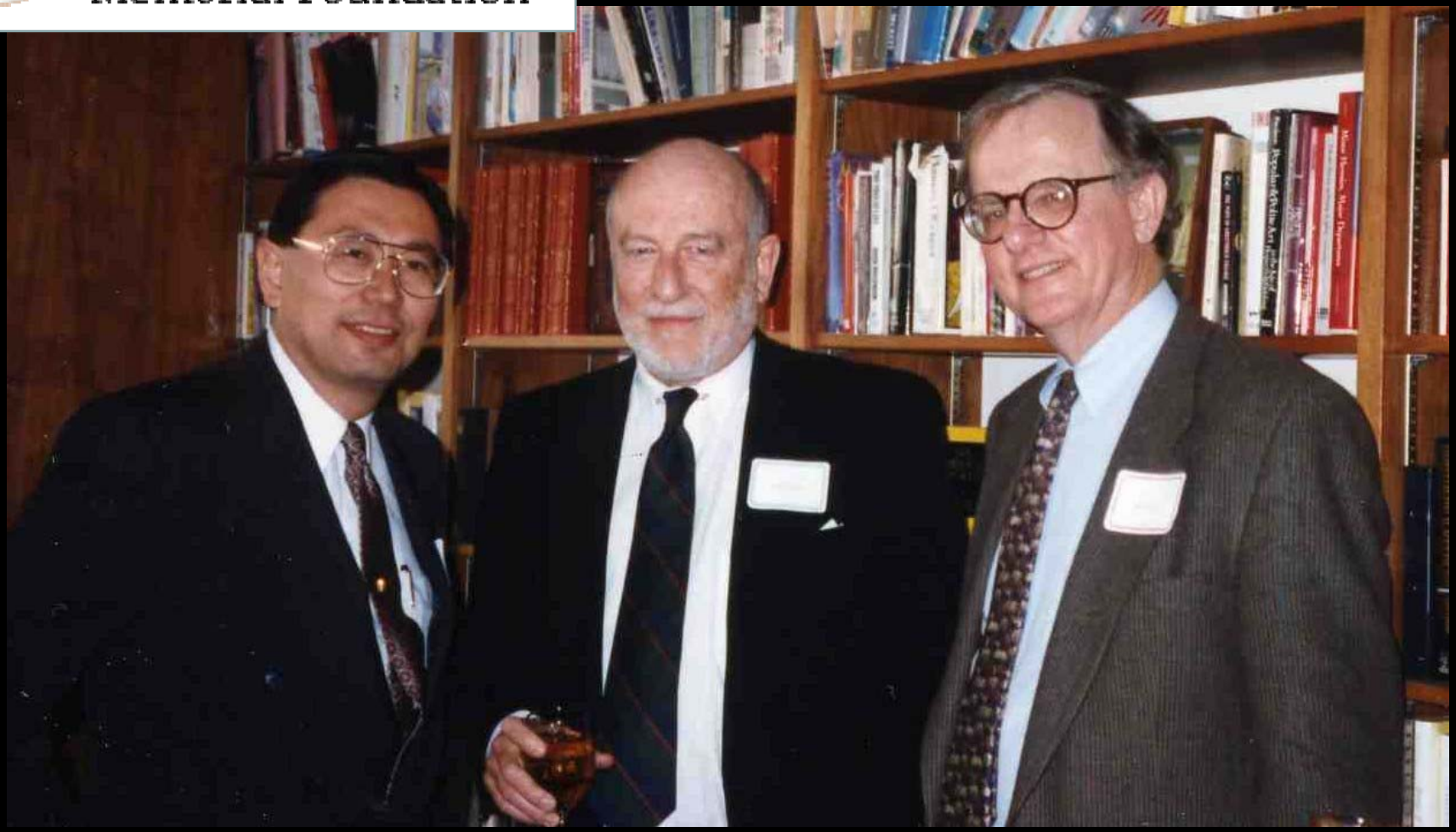
He has published more than 350 papers and reviews in leading journals and more than l50 patents and patent applications, edited 6 books (SciFinder lists >640 publications to his credits), and he has given more than 80 Plenary and Invited Lectures in international conferences and symposia by August 2007.

The 51st Chemical Society of Japan Award (日本化学会賞) for distinguished achievements, The Chemical Society of Japan

Yokohama, Japan, 1999

CSJ Award Celebration Reception
(one of three group photos)
Yokohama, Japan, 1999

John Simon Guggenheim Memorial Foundation



John S. Guggenheim Fellow
New York, NY, 1995

AAAS Fellow, Philadelphia, 1998

The New York Academy of Sciences
Building communities, advancing science since 1817

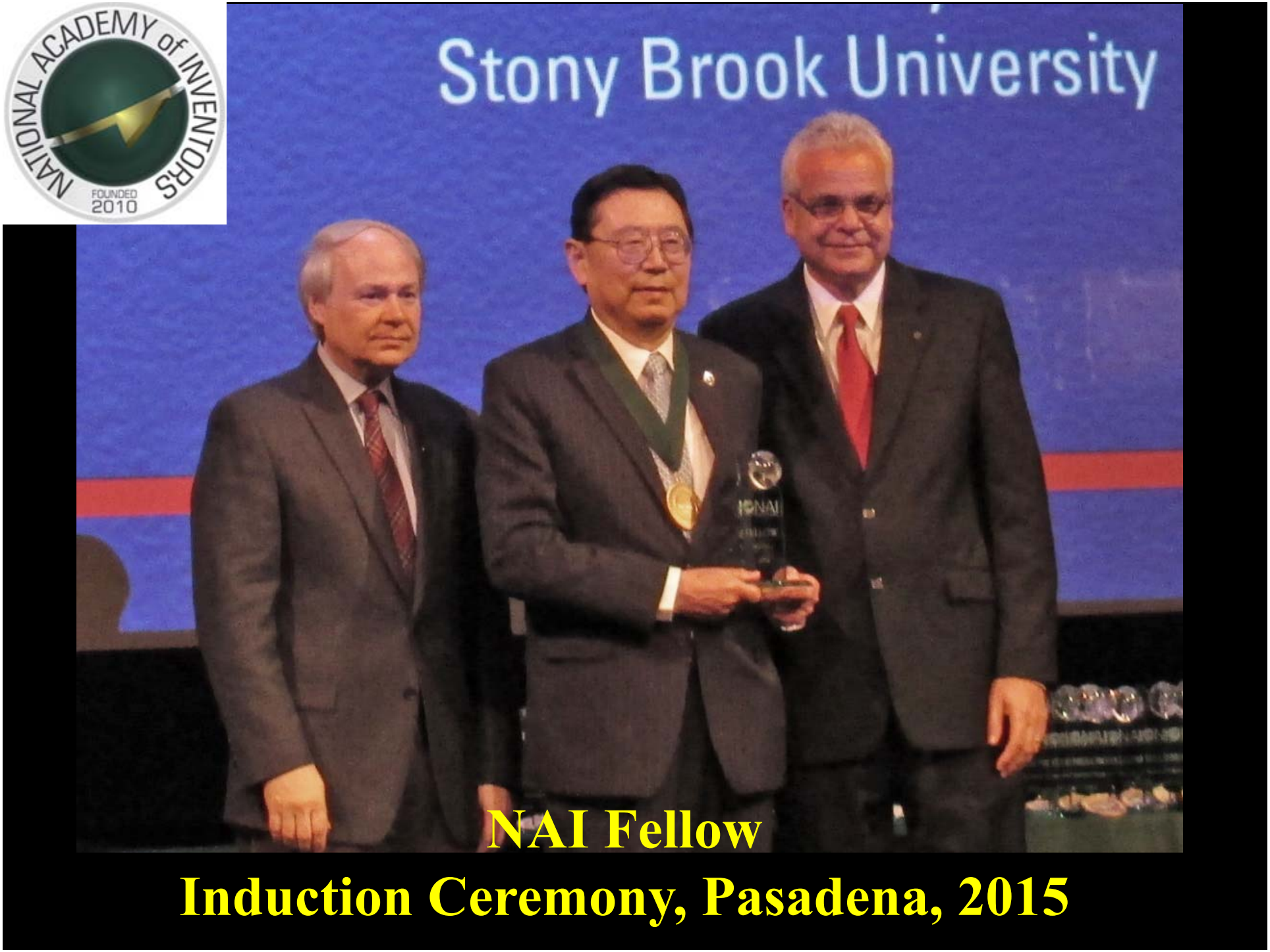
Fellow, New York Academy of Sciences
New York, NY 2000

ACS Fellow

Boston, 2010

Eric Kaler

Fellow, National Academy of Inventors
Induction Ceremony, Pasadena, 2015



NAI Fellow

Induction Ceremony, Pasadena, 2015


NAI
National Academy of Inventors
WELCOME
to the
Fellows Luncheon
and
Induction Ceremony
Shuji Nakamura


Philip Low


Endeavour
Garrett Reisman


Hwu Davies
Michael Jung

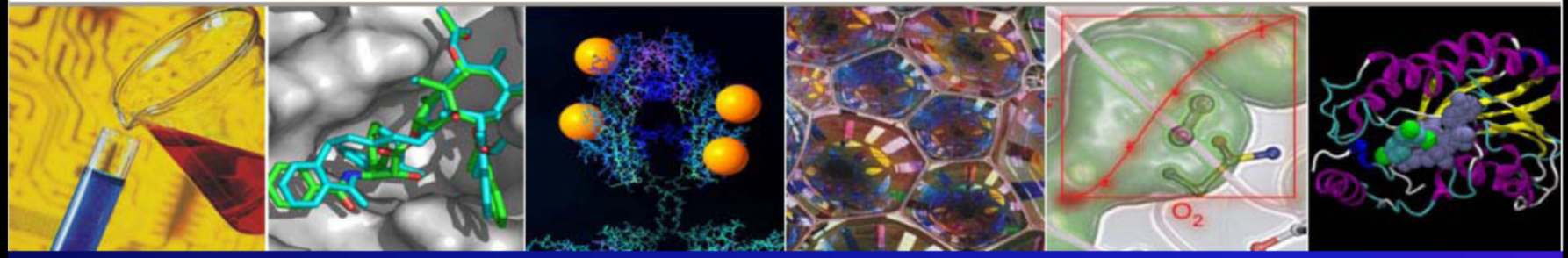
Chair, Department of Chemistry
1997-2003

2000

STONY BROOK UNIVERSITY SEARCH

Institute of Chemical Biology & Drug Discovery (ICB&DD)

HOME ABOUT US CORE FACILITIES DIRECTORY RESEARCH JOB OPPORTUNITIES



Chemistry
Biochemistry and Cell Biology
Pharmacological Sciences
Physiology and Biophysics
Molecular Genetics and Microbiology
Applied Mathematics and Statistics
Pathology
Medicine
Oral Biology and Pathology
Biomedical Engineering

Brookhaven National Laboratory
Laufer Center for Physical and Quantitative Biology

Established in 2004

http://www.stonybrook.edu/icbdd

ICB&DD
INSTITUTE OF CHEMICAL BIOLOGY & DRUG DISCOVERY
AT STONY BROOK UNIVERSITY

Founding Director 2003~

President Award for Outstanding Doctoral Student

1995 Chung-Ming (Daniel) Sun

2003 Deric Geng

High School Science Competition Winners

Elizabeth Pollina, National Finalist
Intel Science Competition, 1995-1996

Janalle Schlossberberger
Amanda Marinoff
Siemens Science Competition, 2007
Grand Prize - $100,000

High School Science Competition Winners

Preya Shah
8th Prize, National Finalist
Intel Science Competition
2008-2009

Preya Shah
Rei-I Chin
Samantha McKenna
Shalini Pammals
Intel International Science and
National FinalistEngineering
(ISEF Competition) 2009

Nevin Daniel
2nd Prize
Siemens Science
Competition, 2010

Raghav Tripathi
6th Prize
Siemens Science
Competition, 2012

Meeting with Village Kings
Diversity Conservation and Drug Discovery Project
Madagascar, 2003

IUBMB, Capetown, South Africa, 2001

Fabulous Post-Conference Tour Group

Tiananmen Square, Beijing, China, August 4, 2005

Department of Chemistry, Stony Brook University Presents:

Stony Brook Symposium on
New Horizons in Organic Chemistry

September 29-30, 2005
Charles B. Wang Center

Celebrating the Achievements of

Dr. Iwao Ojima

Distinguished Professor of Chemistry
Director, the Institute of Chemical Biology & Drug Discovery

On the Occasion of His 60th Birthday

Opening Lecture:
Dr. Ryoji Noyori (President, RIKEN, Japan)
Nobel Laureate in Chemistry, 2001

Distinguished Speakers:

Gunda Georg (University of Kansas)
Alain Commercon (Aventis-Schering-Plough)
David Kingsbury (Virginia Polytechnic)
Ezio Bombardelli (Indena SpA, Italy)
Ralph J. Bernacki (Roswell Park Memorial Institute)
John Piwinski (Schering-Plough Research Institute, NJ)
Eiichi Negishi (Purdue University)
Masahiro Murakami (Kyoto University, Japan)
Hisashi Yamamoto (University of Chicago)
Michael P. Doyle (University of Maryland)
Gary Molander (University of Pennsylvania)
Eiichi Nakamura (University of Tokyo, Japan)
Koji Nakanishi (Columbia University)
Peter J. Tonge (Stony Brook University)
Thomas W. Bell (University of Nevada)
Scott M. Sieburth (Temple University)
Nicole S. Sampson (Stony Brook University)
Steven Rokita (University of Maryland)
Cynthia J. Burrows (University of Utah)
Glenn D. Prestwich (University of Utah)

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STONY BROOK
STATE UNIVERSITY OF NEW YORK

ICB&DD
INSTITUTE OF CHEMICAL BIOLOGY & DRUG DISCOVERY
AT STONY BROOK UNIVERSITY

60th Birthday
2005


OMCOS
Santa Barbara, CA, 1995


Crete, Greece, 2003


Dora Fracciolla Kass
1968-2000


Maria Tzamarioudaki
1967-1998

Jacqueline Kampf

Sectretary – Project Staff Assistant

1987-1997

Patricia Marinaccio

Project Staff Assistant

1997-present

Kimberly Johnson-Hillock

Assistant to the Director ICB&DD

2004-2007

Roxanne Brockner

Assistant to the Director ICB&DD

2007-present

Yoko Ojima