

# AAAS Fellows



AAAS Fellows are elected annually by the AAAS Council for meritorious efforts to advance science or its applications. Fellows have made significant contributions in areas such as research, teaching, technology, services to professional societies, and the communication of science to the public. The following members, presented by Section affiliation, were elected Fellows in fall 2012. AAAS congratulates them and thanks them for their services to science and technology.

## AGRICULTURE, FOOD & RENEWABLE RESOURCES

James R. Alfano  
Nilsa A. Bosque-Pérez  
Richard M. Bostock  
Edward S. Buckler  
Yves Carrière  
Mary Erin Delany  
Kellye A. Eversole  
Mark Lawrence Failla  
John James Finer  
Avtar Krishan Handa  
Maria J. Harrison  
James W. Jones  
Karen E. Koch  
Weiping Liu  
Cathie Martin  
William B. McGill  
Ravi Naidu  
Kerry O'Donnell  
Melvin J. Oliver  
N. LeRoy Poff  
Sanjaya Rajaram  
Matthew Brian Thomas  
Michael Karl Udvardi  
Jonathan D. Walton  
Guoyao Wu  
Kun Yan Zhu

## ANTHROPOLOGY

Arlen Frank Chase  
Mark V. Flinn  
Mary Anne Katzenberg  
Joanna E. Lambert  
Patricia Lambert  
Lisa J. Lucero  
Lorena Madrigal  
Herbert D.G. Maschner  
Elizabeth Jean Reitz

Katerina Semendeferi  
Jan F. Simek  
Peter Stuart Ungar

## ASTRONOMY

Lynn R. Cominsky  
Eli Dwek  
Bruce G. Elmegreen  
Neal J. Evans II  
Neil Gehrels  
Sun Kwok  
Angela V. Olinto  
Richard William Pogge  
Nathan A. Schwadron  
Keivan Guadalupe Stassun  
Michiel van der Klis  
G. Mark Voit  
Arthur M. Wolfe

## ATMOSPHERIC AND HYDROSPHERIC SCIENCES

Thomas Stephen Bianchi  
Anny Cazenave  
Harindra Joseph Sermal  
Fernando  
Susan Joy Hassol  
Brian John Hoskins  
Robert A. Houze, Jr.  
Andrew John Weaver

## BIOLOGICAL SCIENCES

Soman Ninan Abraham  
Anurag Agrawal  
Paul G. Ahlquist  
Susan C. Alberts  
Stephen Alexander  
Edith Bach Allen  
Christopher I. Amos

Gynheung An  
Norman Arnheim  
Alexander V. Badyaev  
Diane L. Barber  
James C.A. Bardwell  
Susan Schloemer Bell  
Shelley L. Berger  
Albert H. Beth  
James D. Bever  
John M. Blair  
Bruce Blumberg  
Susan Bonner-Weir  
Bruce A. Bowerman  
Susan H. Brawley  
Charles Brenner  
Michael R. Brent  
Edmund D. Brodie III  
Yves V. Brun  
Thomas P. Brutnell  
Breck Edward Byers  
Rafael Daniel Camerini-Otero  
Jane M. Carlton  
Nicholas C. Carpita  
Daniel D. Carson  
Charles Williams Carter, Jr.  
Patrick J. Casey  
Susan E. Celniker  
Roger Chalkley  
Jianzhu Chen  
Zhijian 'James' Chen  
Chi-Hing Christina Cheng  
Xiaodong Cheng  
Sallie Watson Chisholm  
Ken W.Y. Cho  
Vitaly Citovsky  
Nancy Hall Colburn  
Luca Comai  
Roger D. Cone

Lynn Cooley  
Thomas L. Daniel  
Priya Davidar  
Roger J. Davis  
Trisha Nell Davis  
Troy Day  
Dennis R. Dean  
Donald Harry Dean  
Gregory E. Demas  
Xing Wang Deng  
Sharon Y.R. Dent  
Robert J. Deschenes  
Lakshmi A. Devi  
Daryll B. DeWald  
Biao Ding  
Andrew Dobson  
Jerry B. Dodgson  
Kathleen Donohue  
Lisa Alayne Donovan  
Monica Driscoll  
Crislyn D'Souza-Schorey  
Robert Joseph Duronio  
Walter Francis Eanes  
Joseph R. Ecker  
Bruce A. Edgar  
Brian Joseph Enquist  
William Fredric Fagan  
Jeffrey L. Feder  
Xin-Hua Feng  
Bruce A. Freeman  
William C. (Clay) Fuqua  
David M. Gardiner  
James Roy Garey  
Rachelle Gaudet  
Jonathan Gershenzon  
Harold Lisle Gibbs  
George W. Gilchrist  
Lev R. Ginzburg  
Patricia M. Glibert

Gary R. Graves  
Beverley R. Green  
Arno L. Greenleaf  
Elizabeth A. Grimm  
Deborah L. Gumucio  
Barry Halliwell  
Jeffrey Wade Harper  
Reid N. Harris  
Ulrike A. Heberlein  
Steven Henikoff  
Chien Ho  
Mark W. Hochstrasser  
Kay E. Holekamp  
David Houle  
Xin-Yun Huang  
Peter J. Hudson  
Michael Ibba  
Mark A. Israel  
Georg Jander  
Alan M. Jones  
Lynn Burgess Jorde  
Leemor Joshua-Tor  
Valerian E. Kagan  
Patrick J. Keeling  
Douglas Bruce Kell  
Darlene R. Ketten  
Aaron A. King  
Daniel F. Klessig  
Rob Knight  
Anthony A. Kossiakoff  
Elena M. Kramer  
Michael Steven Krangel  
Kenneth N. Kreuzer  
Robert M. Krug  
Julia Kubanek  
Ratnesh Lal  
Charles Lee  
Wen-Hwa Lee  
Jianming Li

Joyce E. Longcore  
Gary M. Lovett  
Susan T. Lovett  
Sheng Luan  
Hartmut Luecke  
Kunxin Luo  
Svetlana Lutsenko  
Nancy R. Manley  
Ann G. Matthyse  
Earl D. McCoy  
Anthony David McGuire  
Hassane S. Mchaourab  
Blake C. Meyers  
Jeffery F. Miller  
Richard A. Miller  
Harry Lee Thompson  
Mobley  
Allen J. Moore  
John V. Moran  
Donald L. Mykles  
Mitzi Nagarkatti  
Donald Owen Natvig  
Jeanne M. Nerbonne  
Marcia E. Newcomer  
Stuart J. Newfeld  
Joseph P. Noel  
Santa Jeremy Ono  
Elaine A. Ostrander  
Duoja (DJ) Pan  
Thomas A. Peterson  
George N. Phillips, Jr.  
Eric M. Phizicky  
Eran Pichersky  
Jennifer A. Pietenpol  
William Plunkett  
Richard S. Pollenz  
Alvaro Puga  
Jun Qin  
Shahin Raffi  
Francesco Ramirez  
D. C. Rao  
Mrinalini Chatta Rao  
Carlene Allen Raper  
Andrew Fraser Read  
Michael Aaron Resnick  
Nour-Eddine Rhaleb  
Markus Walter Ribbe  
Laura Jeanne Robles  
Mark Gregory Robson  
Raymond L. Rodriguez  
G. David Roodman  
Locke Rowe  
Rosa M. Ruiz-Vázquez  
Ann Kiku Sakai  
Gary S. Saylor  
Thomas Friedrich Schilling  
Wolfgang Schmidt  
Danny J. Schnell  
Jeffrey S. Schorey  
Maria Schumacher

Lance C. Seefeldt  
Elba E. Serrano  
Yun-Bo Shi  
Laurel Owen Sillerud  
Jane Silverthorne  
Michael Kirtland Skinner  
Barry Paul Sleckman  
L. Dennis Smith  
Nahum Sonenberg  
Stacia A. Sower  
Raymond John St. Leger  
John A. Stamatoyannopoulos  
Rolf Sternglanz  
Peter Stiling  
Fengzhu Sun  
Xiao-Hong Sun  
Yi Sun  
Joel L. Sussman  
William P. Tansey  
Ronald K. Taylor  
Keiko U. Torii  
Richard Henry Treisman  
Ronald W. Trewyn  
Raphael H. Valdivia  
Eberhard O. Voit  
Diane K. Wagener  
Geoffrey O. Wasteneys  
Ruth Welti  
Bruce J. West  
Theodore C. White  
Bridget S. Wilson  
George B. Witman  
Christopher V.E. Wright  
Robin Lynn Wright  
Hao Wu  
Anthony J. Wynshaw-Boris  
Rui-Ming Xu  
Wei Yang  
Elton T. Young  
Hongtao Yu  
Shuqun Zhang  
Yi Zhang  
Keji Zhao  
Ming-Ming Zhou  
S. Lawrence Zipursky

#### CHEMISTRY

Mahdi M. Abu-Omar  
Millard H. Alexander  
Heather Cecile Allen  
Bruce S. Ault  
Zhenan Bao  
Phil S. Baran  
Ilan Benjamin  
Eric Block  
Andrew S. Borovik  
R. David Britt  
Stephanie L. Brock  
Barbara M. Brodsky

Michael F. Brown  
Allison A. Campbell  
Richard M. Caprioli  
Eugene Y. - X. Chen  
Lin X. Chen  
Sue B. Clark  
Alvin L. Crumbliss  
Ken Czerwinski  
Huw M.L. Davies  
Vincent Jo Davisson  
Norman J. Dovichi  
Prabir K. Dutta  
Andrew D. Ellington  
C. Michael Elliott  
Jeffrey D. Esko  
Pingyun Feng  
Robert A. Flowers II  
Michel R. Gagné  
Feng Gai  
Nicholas E. Geacintov  
Franz M. Geiger  
Jacquelyn Gervay-Hague  
Jason E. Gestwicki  
David Peter Giedroc  
David S. Ginger, Jr.  
Theodore Goodson III  
Howard Lewis Hall  
D. Michael Heinekey  
Herbert Henderson Hill, Jr.  
So Hirata  
Ralf-Ingo Kaiser  
Mercouri G. Kanatzidis  
Kattesh V. Katti  
Sarah L. Keller  
Marisa C. Kozlowski  
N. Rama Krishna  
Anna I. Krylov  
Krishna Kumar  
Sarah Cosgrove Larsen  
Charles Y-C Lee  
Chao-Jun Li  
Jing Li  
R. Daniel Little  
Jie Liu  
Janis Louie  
Leonard Richard  
MacGillivray  
Richard Kenneth Marcus  
Jennifer S. Martinez  
Jimmy W. Mays  
Ursula Mazur  
Kenneth L. Nash  
Mary P. Neu  
Shuming Nie  
Susan V. Olesik  
Dennis G. Peters  
Arthur J. Ragauskas  
Douglas Ray  
Hanna Reisler  
Tomislav Rovic

John M. Schwab  
Sean Campbell Smith  
Mohan Srinivasarao  
Arthur G. Suits  
Basil I. Swanson  
Kenneth J. Takeuchi  
Mark Edward Thompson  
František Tureček  
Charles G. Wade  
Jin Wang  
Peng George Wang  
Qian Wang  
Arieh Warshel  
Kevin M. Weeks  
Gregory Alan Weiss  
Christopher J. Welch  
Carter T. White  
Olaf Wiest  
Evan R. Williams  
Angela K. Wilson  
John P. Wolfe  
Stanislaus S. Wong  
William Hamilton Woodruff  
Jin-Quan Yu

#### DENTISTRY & ORAL HEALTH SCIENCES

Pamela K. Den Besten  
David H. Kohn  
Jacques E. Nör  
No-Hee Park

#### EDUCATION

A. Malcolm Campbell  
Arthur J. Lidsky  
Karen D. Liller  
Elizabeth Ann Nalley  
George D. Nelson  
Dennis Lee Schatz  
Ethel D. Stanley  
Martin Storksdieck  
Marshall D. Sundberg  
Gabriela C. Weaver  
Mark Allen Weiss

#### ENGINEERING

Ilhan A. Aksay  
Paschalis Alexandridis  
Luís A. Nunes Amaral  
Michael D. Amiridis  
Dionissios (Dennis) N. Assanis  
Kyriacos A. Athanasiou  
Amit Bandyopadhyay  
Kent D. Choquette  
Louis C. Chow  
Panagiotis D. Christofides  
Alan W. Cramb  
Jennifer Sinclair Curtis  
John G. Ekerdt  
David P. Fyhrie

Mohamed Gad-el-Hak  
Andrés José García  
Emmanuel E. Gdoutos  
Peyman Givi  
Robert Goldstein  
Mark A. Handschy  
Mark F. Horstemeyer  
Jacob N. Israelachvili  
Yogesh Jaluria  
Suhada Jayasuriya  
Brian A. Korgel  
Thomas F. Kuech  
Soundar Kumara  
Chung K. (Ed) Law  
Alberto Leon-Garcia  
Daniel A. Lidar  
Zongli Lin  
Azad M. Madni  
Andreas Mandelís  
Samir Mitragotri  
Andreas F. Molisch  
H. Keith Moo-Young  
Ranga Narayanan  
Arye Nehorai  
James C. Newman, Jr.  
Ellen Ochoa  
Tatsuki Ohji  
Athanassios Z. Panagiotopoulos  
Doug D. Perovic  
Zhihua Qu  
Rodney S. Ruoff  
Maria M. Santore  
Christine E. Schmidt  
John M. Torkelson  
Rama Venkatasubramanian  
Darsh T. Wasan  
Ralph E. White  
David B. Williams  
Rama Krishna Yedavalli  
Yuntian T. Zhu

#### GENERAL INTEREST IN SCIENCE & ENGINEERING

Andy Boyles  
Cornelia Dean  
Peter Faletra  
Mandana Sassanfar  
Patricia L. Ward  
Stephen Jay Warshaw

#### GEOLOGY & GEOGRAPHY

Douglas West Burbank  
Eugene Walter Domack  
Steven George Driese  
R. Lawrence Edwards  
Gregory M. Erickson  
Marilyn Louise Fogel  
Thomas Hillman Jordan

Louise H. Kellogg  
David L. Kohlstedt  
David W. Lea  
Isabel Patricia Montañez  
Daniel P. Schrag  
Jeffrey Peck Severinghaus  
Donald I. Siegel  
Howard J. Spero  
Sally Walker  
Thomas Robert Watters  
Cathy Lynn Whitlock  
Karl S. Zimmerer

#### **HISTORY & PHILOSOPHY OF SCIENCE**

Michael R. Dietrich  
Paul E. Griffiths  
Frederick Grinnell  
Margaret W. Rossiter

#### **INDUSTRIAL SCIENCE & TECHNOLOGY**

William S. Marras  
Michael Nastasi  
John M. Newsam

#### **INFORMATION COMPUTING & COMMUNICATION**

Miklós Ajtai  
Prabir Bhattacharya  
Azzedine Boukerche  
Justine Cassell  
Amr El Abbadi  
Joan Feigenbaum  
Paul F. Fischer  
Lawrence O'Higgins Hall  
Raj Jain  
Lydia E. Kavradi  
Benjamin Jack Kuipers  
Michael J. Kurtz  
Prasant Mohapatra  
Manish Parashar  
Nagarajan Ranganathan  
Thomas C. Rindfleisch  
Eunice E. Santos  
Ali H. Sayed  
Karen R. Sollins  
Arun K. Somani  
Aravind Srinivasan  
Ashok N. Srivastava  
George O. Strawn  
Roberto Tamassia  
Carol Tenopir  
Kevin Lowell Thompson  
Victor Vianu  
Xindong Wu  
Qiang Yang

#### **LINGUISTICS & LANGUAGE SCIENCE**

Sandra Chung

#### **MATHEMATICS**

Susanne C. Brenner  
Robert Calderbank  
L. Pamela Cook-Ioannidis  
Susan Friedlander  
Carolyn Gordon  
Deborah Frank Lockhart  
Susan Montgomery

#### **MEDICAL SCIENCES**

Edward A. Berger  
Lars Berglund  
Hal Edward Broxmeyer  
Genhong Cheng  
Linzhao Cheng  
Robert James Coffey, Jr.  
Marco Colombini  
Alan D. D'Andrea  
Eric Delpire  
Sarah S. Donaldson  
Ronald N. Germain  
M. Eric Gershwin  
Maura Lianne Gillison  
Clifford Vincent Harding III  
David G. Harrison  
Hedvig Hricak  
Holly A. Ingraham  
Raghu Kalluri  
Hagop M. Kantarjian  
Stuart M. Levitz  
A. Thomas Look  
Kun Ping Lu  
Ormond A. MacDougald  
Richard Mayeux  
Kohei Miyazono  
Jan A. Nolte  
John Joseph O'Shea, Jr.  
David Pellman  
Reed E. Pyeritz  
Dan Mark Roden  
Lawrence E. Samelson  
Rozanne M. Sandri-Goldin  
Mark S. Schlissel  
Mary Sharon Stack  
Lishan Su  
Kenneth S.K. Tung  
Jeffery Marvin Vance  
Sten H. Vermund  
J. Lindsay Whitton

#### **PHARMACEUTICAL SCIENCES**

Michael Aschner  
Paula C. Bickford  
Mark Cushman  
Paul F. Hollenberg  
Marilyn Emily Morris  
John Michael Pezzuto  
Rao S. Rapaka  
David E. Smith  
Anil Kumar Sood  
Charles M. Thompson  
Carston R. Wagner  
Lynn Wecker

Hollis Tremaine Cline  
Jonathan D. Cohen  
Neal J. Cohen  
Peter Jeffrey Conn  
Pietro De Camilli  
Yadin Dudai  
Robert Haas Edwards  
Ronald B. Emeson  
Howard Joshua Federoff  
Joseph Robert Fetcho  
Ron D. Frostig  
Alison Mary Goate  
James L. Goodson  
Judy Illes  
Julie A. Kauer  
David Kleinfeld  
Hiroaki Matsunami  
David A. McCormick  
Cynthia F. Moss  
Elisabeth Adams Murray  
Phillip G. Popovich  
Alcino J. Silva  
Nelson Spruston  
Xiao-Jing Wang  
Alan Geoffrey Watts

#### **PHYSICS**

Andrew Robert Baden  
Dimitri N. Basov  
Michael J. Bedzyk  
Nigel D. Browning  
Patricia R. Burchat  
Antonio Helio Castro-Neto  
Paul M. Champion  
Pengcheng Dai  
Stefan Gottfried Frauendorf  
Michael S. Fuhrer  
Peter M. Garnavich  
Paul M. Goldbart  
Benjamin Grinstein  
Kenneth Heller  
Theodore A. Jacobson  
Rongying Jin  
James Kakalios  
Christopher J. Keane

Ashutosh Kotwal  
Wim Leemans  
Shawn-Yu Lin  
Andrea J. Liu  
Mikhail D. Lukin  
Aneesh Manohar  
Christopher R. Monroe  
Douglas Natelson  
George S. Nolas  
David D. Nolte  
Eric B. Norman  
Mark A. Novotny  
Anthony Joseph Peurrung  
Philip W. Phillips  
Joseph G. Polchinski  
Richard Henry Price  
Federico Rosei  
Randal C. Ruchti  
Nitin Samarth  
Kenneth J. Schafer  
Surajit Sen  
Ian Shipsey  
Melvyn J. Shochet  
Alexei P. Sokolov  
Gene D. Sprouse  
Samuel Ting  
Renata M.M. Wentzcovitch  
Ali Yazdani  
Sherry J. Yennello  
Anton Zeilinger  
Xiaowei Zhuang

#### **PSYCHOLOGY**

Nelson Cowan  
Celia B. Fisher  
Margaret Gatz  
Peter Adrian Hancock  
Todd F. Heatherton  
Julia R. Heiman  
Ned H. Kalin  
Todd D. Little  
Steven J. Luck  
Laurence T. Maloney  
Alex Martin  
John J. McArdle  
Joseph Lee Rodgers III  
John M. Roll  
Steven K. Shevell  
Eliot R. Smith  
Anthony D. Wagner  
Timothy D. Wilson  
Howard N. Zelaznik

#### **SOCIAL, ECONOMIC & POLITICAL SCIENCES**

Howard E. Aldrich  
Nicole Woolsey Biggart  
Herbert Gintis  
Randy Hodson  
Edward Paul Lazear

Deirdre McCloskey  
Melvin L. Oliver  
Zhenchao Qian  
Alvin E. Roth  
John Skvoretz  
Richard Michael Suzman

#### **SOCIETAL IMPACTS OF SCIENCE & ENGINEERING**

Michael M. Crow  
Kathy L. Hudson  
Jacob E. Levin  
Jane C. S. Long  
Dietram A. Scheufele

#### **STATISTICS**

Arlene S. Ash  
Katherine Bennett Ensor  
Marc G. Genton  
Barry I. Graubard  
Karen Kafadar  
KyungMann Kim  
Ira M. Longini, Jr.  
David Madigan  
Nitis Mukhopadhyay  
Haikady N. Nagaraja  
Allan R. Sampson  
Nell Sedransk  
Ajit C. Tamhane  
Marina Vannucci  
Naisyin Wang  
Ronald L. Wasserstein  
Russell D. Wolfinger  
Weng Kee Wong