CALIFORNIA INSTITUTE of TECHNOLOGY

One Hundred and Eighth
Annual Commencement

Friday Morning at Ten O’Clock
June Fourteenth, Two Thousand Two
In his diary entry of September 1, 1891, Pasadena philanthropist Amos Throop wrote, "Planted potatoes, cleaned a water pipe, husked the corn . . . In afternoon, saw Mr. Wooster and rented his block for five years . . . and hope I have made no mistake." Were he here today, Throop could rest assured in his decision. For the building of which he wrote, the Wooster Block, was rented for the purpose of establishing Throop University—the forerunner of Caltech.

In November of that year, Throop University opened its doors to 31 students and a six-member faculty. Could anyone have imagined then that the school would become a world center for science and engineering research and education? Perhaps . . . for in the first year, the board of trustees began to reconsider the mission of the school. In 1892, they decided to emphasize industrial training, and in 1893, reflecting this new focus, renamed the school Throop Polytechnic Institute.

Throop might have remained just a good local school had it not been for the arrival in Pasadena of George Ellery Hale. A faculty member at the University of Chicago and a noted astronomer, Hale settled here in 1903. From that time until his death in 1938, he made significant contributions to Pasadena and Southern California: he established the Mount Wilson Observatory, raised funds for Palomar Observatory and its 200-inch telescope, participated in the creation of the Huntington Library and Art Gallery, helped design the Civic
Center in downtown Pasadena, and—perhaps his single greatest achievement—
set the course for the development of Throop into the California Institute of
Technology, a school he envisioned as a scientific institution of the highest rank.

In 1913, Hale convinced Arthur Amos Noyes, professor of chemistry
and former president of the Massachusetts Institute of Technology, to join him
in Pasadena. With the arrival in 1917 of Robert Andrews Millikan, professor of
physics at the University of Chicago, Hale had assembled the founders of the
new institution. The world center of scientific and engineering research and
education he had imagined soon took shape under a new name, the California
Institute of Technology, administered by Millikan and enriched with the scientific
talents of Noyes and his faculty colleagues.

Caltech today has a 124-acre campus and operates seven off-campus
astronomical, seismological, and marine biological facilities, and administers
NASA's Jet Propulsion Laboratory as well. At present, the Institute has an
enrollment of some 2,000 students, more than half of whom are in graduate
studies; about 280 professorial faculty members, including four Nobel laureates
and three Crafoord laureates; and more than 200 research faculty members.
Today, Caltech will award 248 students the B.S. degree; 125 students the M.S.
degree; and 140 doctoral candidates the Ph.D. degree, for a total of 513
graduates—quite a leap from the one man and one woman who constituted the
first collegiate graduating class of Throop Polytechnic Institute.

Please note:
Video footage of commencement may be viewed on the Caltech Web site at
http://www.caltech.edu/commencement/02/. Broadcast is scheduled to begin after 3:00 p.m.
ONE FEBRUARY DAY LAST YEAR, Alan Alda paid a visit to the Caltech campus. He talked to a few people, peeked into physics lecture halls and Ramo Auditorium, spent a few moments in the office of a famous professor (now deceased), had lunch at the Athenaeum, and a few weeks later became a Nobel laureate in physics. . . . Well, sort of. Though he never actually laid claim to the extraordinary insights and the depth and breadth of knowledge possessed by the late Richard Feynman, whom he went on to portray in Peter Parnell's *QED* at the Mark Taper Forum in Los Angeles last year (and, this year, in a successful run at Lincoln Center's Vivian Beaumont Theater), he was able to draw on his own unique genius to convincingly embody the legendary scientist, bringing coherence to the kind of brilliance that resides not solely in knowledge, but in character as well.

Alda has made something of a specialty of projects pertaining to science. His interest in science began in his youth, when he used to “do what I thought were scientific experiments. I mixed things found around the kitchen. Mainly what happened was I spilled everything all over the bedroom.” He invented a couple of gadgets, including a “five-way can opener,” a venture that failed, oddly, to start him on his path to glory. Fame came instead through acting. As Hawkeye Pierce, one of the doctors in the long-running and hugely popular Korean War comedy series *M*A*S*H*, he won the Emmy Award five times. For his role in the movie *Crimes and Misdemeanors*, he won the D.W.
Griffith Award and the New York Film Critics Award and was nominated for a British Academy Award as Best Supporting Actor. He has been honored by the Television Academy as a top performer, writer, and director. In all, he has received 30 Emmy nominations. In addition, he has won three Director’s Guild of America Awards, six Golden Globe Awards from the Hollywood Foreign Press Association, and seven People’s Choice Awards.

His role for the past nine seasons as host of the award-winning television show *Scientific American Frontiers* is appropriate for a man who has read almost every issue of *Scientific American* since his mid-20s. On the PBS show, he gets to interview researchers and to follow scientists all over the world as they gather data in the field. Whenever and wherever there is something new to be learned, Alda is obviously delighted to be there learning about it—and, judging from his frequent exuberant responses and impish grins, he is positively gleeful about sharing his enthusiasm with the lucky TV viewers who have come along on the adventure.

Perhaps it is not surprising that a man with two radically different sides to his nature should try to dissolve the distinctions between science and the arts. “When I began meeting scientists,” Alda has said, “I realized that scientists were actually no less creative than artists. And I began to think that artists were no less rigorous than scientists. The more scientists I meet, the more I think that they don’t work that differently. The rigor is expressed in a different way.”

Possessing an enduring enchantment with science, and convinced of the importance of communicating science to the public, Alan Alda is indeed Caltech’s kind of actor.
These tribal rites have a very long history. They go back to the ceremony of initiation for new university teachers in medieval Europe. It was then customary for students, after an appropriate apprenticeship to learning and the presentation of a thesis as their masterpiece, to be admitted to the Guild of Masters of Arts and granted the license to teach. In the ancient University of Bologna this right was granted by authority of the Pope and in the name of the Holy Trinity. We do not this day claim such high authority.

As in any other guild, whether craft or merchant, the master's status was crucial. In theory at least, it separated the men from the boys, the competent from the incompetent. On the way to his master's degree, a student might collect a bachelor's degree in recognition of the fact that he was half-trained, or partially equipped. The doctor's degree was somewhat different. Originally indistinguishable from the master's the doctor's gradually emerged by a process of escalation into a super magisterial role—first of all in the higher faculties of theology, law, and medicine. It will come as no surprise that the lawyers had a particular and early yen for this special distinction.

These graduations and distinctions are reflected in the quaint and colorful niceties of academic dress.

Of particular interest is the cap or mortarboard. In the form of the biretta it was the peculiar sign of the master. Its use has now spread far beyond
that highly select group to school girls and choir boys and even to the nursery school. *Sic transit* . . .

The gown, of course, is the basic livery of the scholar, with its clear marks of rank and status—the pointed sleeves of the bachelor, the oblong sleeves of the master, the full sleeves and velvet trimmings of the doctor. The doctors, too, may depart from basic black and break out into many colors—Harvard crimson or Yale blue or the scarlet splash of Oxford.

Color is the very essence of the hood: color in the main body to identify the university; color perhaps in the binding to proclaim the subject of the degree—orange for engineering, gold for science, the baser copper for economics, white for arts and letters, green for medicine, purple for law, scarlet for theology, and so on. Size is a further variable, as the hoods tend to lengthen from the three feet of the bachelor to the four of the doctor. So the birds are known by their plumage.

With this color and symbolism, which is mediaeval though mutated, we stage our brief moment of pageantry, paying homage to that ancient community of scholars in whose shadow we stand, and acknowledging our debt to the university as one of the great institutional constructs of the Middle Ages. While looking back, however, we also celebrate the achievements of this present generation of students and look forward to the future of these our younger colleagues, whom we now welcome to our midst.

*David C. Elliot*

*Professor of History, Emeritus*
ACADEMIC PROCESSION

Chief Marshal
Kim C. Border, Ph.D.

Marshals
Fred C. Anson, Ph.D.
Barbara Green, Ph.D.
D. Roderick Kiewiet, Ph.D.
Christoph Koch, Ph.D.
Diana L. Kormos-Buchwald, Ph.D.
Jean-Paul Revel, Ph.D.

Faculty Officers
Marianne Bronner-Fraser, Ph.D.
Melany L. Hunt, Ph.D.

MARCHING ORDER
Candidates for the Degree of Bachelor of Science
Candidates for the Degree of Master of Science
Candidates for the Degree of Doctor of Philosophy
Faculty Officers
The Faculty
The Chairs of the Divisions
The Deans
The Provost
The Trustees
The Commencement Speaker
The President
The Chairman of the Board of Trustees
PROGRAM

Organ Prelude
Leslie J. Deutsch, Ph.D.

Processional
The Caltech Convocations Brass and Percussion Ensemble
William Bing, M.M., Conductor

Presiding
Benjamin M. Rosen
Chairman of the Board of Trustees
California Institute of Technology

Commencement Speaker
"Finding Feynman"
Alan Alda
Television, Screen, and Stage Actor

Choral Selection
The Caltech Glee Clubs
Desiree La Verdu, M.M., Conductor

"Hallelujah," from Messiah
George Frideric Handel

Conferring of Degrees
David Baltimore, Ph.D.
President
California Institute of Technology

Presentation of Candidates for Degrees

For the Degree of Bachelor of Science
Jean-Paul Revel, Ph.D.
Dean of Students

For the Degree of Master of Science
Gary A. Lorden, Ph.D.
Acting Vice President for Student Affairs

For the Degree of Doctor of Philosophy
D. Roderick Kiewiet, Ph.D.
Dean of Graduate Studies

Biology
Elliot M. Meyerowitz, Ph.D.
Division Chair

Chemistry and Chemical Engineering
David A. Tirrell, Ph.D.
Division Chair
Engineering and Applied Science  Richard M. Murray, Ph.D.  
Division Chair

Geological and Planetary Sciences  Edward M. Stolper, Ph.D.  
Division Chair

The Humanities and Social Sciences  John O. Ledyard, Ph.D.  
Division Chair

Physics, Mathematics and Astronomy  Thomas A. Tombrello, Ph.D.  
Division Chair

ANNOUNCEMENT OF AWARDS AND CONCLUDING REMARKS

ALMA MATER

“Caltech Alma Mater”  
By Manton Barnes, BS ’21 EE  
(The audience may join in; lyrics are found on page 46.)

RECESSIONAL  

Organ Postlude  
Dr. Deutsch

You are invited to attend a reception on the Athenaeum West Lawn following the program.
CANDIDATES FOR DEGREES

Bachelor Of Science

Jonathan William Adams  Ladera, California  Physics
Nathaniel Leiteris Anagnostou  Phoenix, Arizona  Engineering and Applied Science
Joseph Paul Andreu  Las Vegas, Nevada  Engineering and Applied Science
Bob Shahram Moez Ardalan*  Redondo Beach, California  Business Economics and Management and Chemistry
Marcos Arribas-Layton  Guadalajara, Spain  Chemistry
Matthew Sammis Ashman  Baton Rouge, Louisiana  Engineering and Applied Science
Nathaniel Pickens Austin  Newbury Park, California  Engineering and Applied Science (Mechanical Engineering)
Kenneth Patrick Ayers  Hemet, California  Engineering and Applied Science
Benjamin Christopher Backes  Downers Grove, Illinois  Engineering and Applied Science
Tom Wetteland Baehr-Jones*  New York, New York  Physics
Douglas Cameron Baker  Hoffman Estates, Illinois  Mathematics
Vijayanthi Balaraman*  Nairobi, Kenya  Electrical Engineering
Matthew Robert Ballard*  Lansing, Michigan  Mathematics
Ayeh Bandeh-Ahmadi  Davis, California  Physics and Economics
Zhaosheng (Josh) Bao*  San Gabriel, California  Engineering and Applied Science
Christopher Ryan Bartok  La Crescenta, California  Engineering and Applied Science
Brock Raymond Beauchamp*  San Dimas, California  Electrical and Computer Engineering
Teodora Nikolaeva Beloreshka  Vratsa, Bulgaria  Applied and Computational Mathematics
David Edward Benson  Pasadena, California  Mathematics
David Wesley Bernat  Southampton, Pennsylvania  Physics
Rodney Bradford Blakestad*  Highlands Ranch, Colorado  Physics
Garrett Douglas Blankenburg  Carmichael, California  Electrical Engineering
Brian Robert Blood  Lewistown, Montana  Geobiology
Thomas Ivan Borchert  Golden Valley, Minnesota  Engineering and Applied Science
Dustin Boswell*  Canyon Country, California  Electrical and Computer Engineering
Agedi Nicholson Boto*  Baltimore, Maryland  Chemical Engineering
Richard Mendel Bowman  Sylmar, California  Engineering and Applied Science
Todd Z. Bowra*  Woodinville, Washington  Electrical Engineering
Nathan Scott Brown*  Wilmington, North Carolina  Astronomy
Elisa Marie Bueno  Torrance, California  Engineering and Applied Science (Mechanical Engineering)

Students whose names are followed by an asterisk are being graduated with honor in accordance with a vote of the faculty.
Bachelor of Science continued

David Gray Bustos  Bettendorf, Iowa  Engineering and Applied Science
Sascha Beth Calkins  Lake Oswego, Oregon  Engineering and Applied Science (Mechanical Engineering)
Fernando Alonso Campos  San Antonio, Texas  Biology
Joel E. Carranza*  Ocean Springs, Mississippi  Engineering and Applied Science
Elisa KaYee Chan*  Toronto, Ontario, Canada  Biology
Sunny Tak Cheung Chan  Oakland, California  Biology
Michael Cheng*  Succasunna, New Jersey  Physics
Alisa Mei-Jin Ching*  Honolulu, Hawaii  Chemical Engineering
Wendy M. Ching*  Honolulu, Hawaii  Biology
Richard Chiu*  Rosemead, California  Chemistry
Andrew James Coe*  Edmond, Oklahoma  Mathematics
Nalini Anne Colaco*  Santa Cruz, California  Biology
Walter James Collins II  Santee, California  Engineering and Applied Science (Mechanical Engineering)
Kristen Lee Cook*  Boca Raton, Florida  Geology
Sarah Anne Cooke  Honolulu, Hawaii  Geology
Mauricio Cordero  Clifton, New Jersey  Electrical Engineering
Ingrid Anda Cotoros*  Vaslui, Romania  Physics
Timothy Andrews Crosby*  Amherst, Massachusetts  Physics and Literature
Theresa Marie Daniels  Bedford, Massachusetts  Geobiology
Karen Marie Daugherty*  Simi Valley, California  Biology
Aaron David Davies  Houston, Texas  Physics
Vikram R. Dendi*  Achampet, India  Engineering and Applied Science
Joshua Aaron DenHartog  Otley, Iowa  Engineering and Applied Science (Mechanical Engineering)
Rachel Jean Dexter  Fairfax Station, Virginia  Chemistry
Miroslav Dudik*  Trebisov, Slovakia  Engineering and Applied Science
Deborah Elaine Eason*  Dallas, Texas  Geology
Frederik Hewitt Eaton*  Sacramento, California  Mathematics and Engineering and Applied Science
Serena Merteen Eley  Springfield, Virginia  Physics
Christopher Jon Elion  East Greenwich, Rhode Island  Applied and Computational Mathematics
Timothy James Elling  San Leandro, California  Engineering and Applied Science
Brian Hoi-Yuen Eng  Encinitas, California  Physics
Dirk Robert Englund*  Thousand Oaks, California  Physics
Alejandro Erives  Arleta, California  Engineering and Applied Science
John Aldon Estes  Laveen, Arizona  Physics
Joseph Daniel Fassler  Fortuna, California  Chemistry

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Bachelor of Science continued

Cheryl Ann Forest  Peachtree City, Georgia  Biology
Leah Rebekah Fox*  Salt Lake City, Utah  Engineering and Applied Science
Philip Fung*  Brooklyn, New York  Electrical and Computer Engineering
Laurie Elizabeth Gagne  Santee, California  Chemical Engineering
Nicholas Mark Gerovac  Tulsa, Oklahoma  Applied Physics
Yuri Michael Goldfeld*  Moscow, Russia  Engineering and Applied Science
Cesar Gilberto Gonzalez Fernandez  Lima, Peru  Electrical and Computer Engineering
Emilio Castaño Graff  Sugar Land, Texas  Engineering and Applied Science (Aeronautics)
Dinkar Gupta*  Lucknow, India  Electrical and Computer Engineering
David Samuel Guskin  Aptos, California  Physics
Ryan Nicholas Gutenkunst*  Pueblo, Colorado  Physics
Siina Ilona Haapanen*  Nurmo, Finland  Engineering and Applied Science
Jeanette Chiles Hagan  Greensboro, North Carolina  Geology
Giao Bich Hang  Covina, California  Biology and Literature
Nadia Haq  Dhaka, Bangladesh  Chemistry
Brian Sauer Hardy*  Wallingford, Pennsylvania  Engineering and Applied Science
  (Mechanical Engineering)
John Kenyo Harris  Clovis, New Mexico  Engineering and Applied Science
Abraham Isaiah Harte*  San Anselmo, California  Physics
Garrett Collins Heffner*  Grosse Pointe Farms, Michigan  Biology
Jessica Paige Heller  Katonah, New York  Engineering and Applied Science
Kevin Peter Hickerson  Claremont, California  Physics
Aaron Mark Hicks  Carson, California  Economics
Kenneth Francis Higa  Los Angeles, California  Chemical Engineering
Justin Si-Qi Ho  Silver Spring, Maryland  Chemistry
Cuong Gia Hoang*  Ventura, California  Engineering and Applied Science
Michael J. Hochberg  Baton Rouge, Louisiana  Physics
David Christian Hockaday  Nashville, Tennessee  Physics
Loren Kimberly Hoffman*  Richmond, Virginia  Physics
Elizabeth Jennifer Hong*  Bridgewater, New Jersey  Biology
Bevan Emma Huang*  Little Rock, Arkansas  Mathematics
Sarah Lynette Hunyadi  Kalamazoo, Michigan  Planetary Science
Wook Hwang*  Marietta, Georgia  Physics
Yaniv Eitan Inbar  Haifa, Israel  Engineering and Applied Science
Kinsey E. Ingraham  Grapevine, Texas  Engineering and Applied Science (Mechanical Engineering)
Benjamin Gregory Kalenik  Manhattan Beach, California  Engineering and Applied Science
  (Mechanical Engineering)
Hyunah Kang  Seoul, Korea  Engineering and Applied Science (Mechanical Engineering)
Bachelor of Science continued

Beverly Malika Karhson  Houston, Texas  Engineering and Applied Science (Mechanical Engineering)
Richard Albert Karnesky  Richland, Washington  Engineering and Applied Science
Danail Kazachki  Sofia, Bulgaria  Mathematics
Amy Elizabeth Kelly  Paoli, Pennsylvania  Chemistry and Geochemistry
Amit Prakash Kenjale  Troy, Michigan  Engineering and Applied Science
Jean Eun Kim*  Sylmar, California  Economics
Nicholas Adrian Knouf  Clackamas, Oregon  Engineering and Applied Science
Katharina Kohler  Buehl, Germany  Astronomy
Barbara Karmen Kraatz  Orange Grove, Texas  Biology
Benjamin James Kulick*  San Luis Obispo, California  Physics
Abraham Kuo  New York, New York  Chemistry
Solomon J. Kutnicki  Elmwood Park, New Jersey  Electrical Engineering
Phuong-Nghi (Karen) Lam  Angouleme, France  Chemical Engineering
James Michael Lamanna*  Chagrin Falls, Ohio  Engineering and Applied Science
Douglas Robert Lanman*  Bartlesville, Oklahoma  Applied Physics
Benjamin Guocian Lee*  Toronto, Ontario, Canada  Applied Physics
Sang Ah Lee*  Princeton Junction, New Jersey  Astronomy
Guillermo Andres Letona  Silver Spring, Maryland  Economics
Jin Li*  Shanghai, China  Applied and Computational Mathematics
Daniel John Liebling  Houston, Texas  Engineering and Applied Science
Benjie Nguyen Limketkai*  Arcata, California  Electrical Engineering
Ralph Y. Lin  New Brighton, Minnesota  Engineering and Applied Science
Fu Liu*  Shanghai, China  Mathematics and Engineering and Applied Science
Michael Julius Liu*  Moorpark, California  Engineering and Applied Science
Yuan Liu*  Tianjin, China  Physics
Gabriel Lomeli  Grayson, California  Engineering and Applied Science
Thea Lu  Hendersonville, Tennessee  Biology
Don M. Ly*  League City, Texas  Engineering and Applied Science
Ryan David Mack  Palm Desert, California  Engineering and Applied Science
Sarah Jane Mahoney  La Crescenta, California  Biology
Samuel Makonnen*  Addis Ababa, Ethiopia  Engineering and Applied Science
Jia Mao*  Cerritos, California  Engineering and Applied Science
Christophe Arthur Annaise Maquestiaux*  Bierbeek, Belgium  Physics
Alvaro Giovanni Masias  Livingston, New Jersey  Engineering and Applied Science
Michael Theodore Massey  Ottawa, Illinois  Physics
Wesley Charles McCullough*  Seattle, Washington  Engineering and Applied Science
Sean Thomas McHugh*  San Antonio, Texas  Chemical Engineering
Zachary James Medin*  New Brighton, Minnesota  Physics
Peter Benjamin Meilstrup  Santa Fe, New Mexico  Engineering and Applied Science
Bachelor of Science continued

Florian Tobias Merkle* Bethesda, Maryland Biology
Robert John Metcalf* Santa Rosa, California Engineering and Applied Science
  (Mechanical Engineering)
Jordan Hood Miller San Francisco, California Engineering and Applied Science
Eric Paul Morganson Novato, California Physics
Auna Louise Moser* Cardiff, California Geology
Patrick Gary Mullen Townsend, Massachusetts Engineering and Applied Science
Aldo Navarro Los Angeles, California Engineering and Applied Science (Aeronautics)
Suhas Raghava Nayak* Sydney, Australia Chemistry and Mathematics
Albert Tuong-Quang Nguyen* Manhattan Beach, California Biology
Julie Erin Norville* Lubbock, Texas Electrical Engineering
Clayton Ryan Otey* Santa Barbara, California Physics
Mark Lee Oyama Honolulu, Hawaii Mathematics
Brian Allan Palmer Warren, Ohio Chemistry
Gerald William Palmrose Portland, Oregon Chemical Engineering
Daina Maria Paulikas* Downers Grove, Illinois Physics
Scott William Taylor Payne Newberry Springs, California Engineering and Applied Science
  (Mechanical Engineering)
Curtis Warren Pehl Fresno, California Geology
William Robert Peterson Houston, Texas Engineering and Applied Science
Bradley Alan Phillips* Hoffman Estates, Illinois Electrical and Computer Engineering
Gabriel Ashley Post* Shakopee, Minnesota Engineering and Applied Science (Mechanical
  Engineering)
Piyush Prakash* Lusaka, Zambia Electrical and Computer Engineering
Madeleine Emily Price* San Diego, California Biology
Sara Janine Quan Bradbury, California Chemistry
David Andrew Rahmlow Bethlehem, Connecticut Physics
Jingxiang Rao Beijing, China Physics and Engineering and Applied Science
Timothy David Raub* Arlington Heights, Illinois Geology
Lavanya Reddy Chandigarh, India Engineering and Applied Science
Neal Shuichi Reeves San Pedro, California Applied and Computational Mathematics
Bradley Charles Reynolds Glendora, California Electrical and Computer Engineering
Walter Carlos Richter* Mission Hills, California Engineering and Applied Science
Richard Aaron Robison* Sierra Madre, California Biology
Erik Ali Rodriguez* El Paso, Texas Chemistry
Jamal Tildon Rorie Charlotte, North Carolina Physics
Michael Anthony Russo* Dover, New Hampshire Astronomy
Christopher Michael Rutherfzig Castro Valley, California Physics
Robb Brooks Rutledge* Pasadena, California Biology
Yuliya Yefimovna Ruvinskaya Los Angeles, California Engineering and Applied Science
Bachelor of Science continued

Gray Austin Rybka Scottsdale, Arizona Physics
Eric Anthony Sagen Jupiter, Florida Electrical Engineering
Maria Faith Satterwhite Lubbock, Texas Science, Ethics, and Society/History and Philosophy of Science
Joseph Malcolm Schaeffer Charlotte, North Carolina Engineering and Applied Science
Todd Eugene Schuman Dallas, Texas Engineering and Applied Science (Mechanical Engineering)
Nathaniel Taras Senchy Sacramento, California Engineering and Applied Science
Rebecca Shafee* Dhaka, Bangladesh Physics
Kevin Lawson Shand Floral Park, New York Applied and Computational Mathematics
Derek Michael Shannon Minot, North Dakota Geobiology
Michael Abraham Shulman* North Hollywood, California Mathematics
Aaron Wyatt Simons Dallas, Texas Mathematics
Meghan Breslin Smith Pebble Beach, California Engineering and Applied Science
Angela Kathleen Snow Hudson, Massachusetts Engineering and Applied Science
Thomas Marshall Snyder* Amherst, New York Chemistry and Economics
Ali Afshin Soleimani Olathe, Kansas Physics
Lilach Somberg Colorado Springs, Colorado Chemistry
Lakshminarayan (Ram) Srinivasan* Ellicott City, Maryland Electrical and Computer Engineering
Richard Samuel Leopold Stein Newport Beach, California Chemistry
Daniel Lynn Stick West Chester, Pennsylvania Physics
Rebecca Erin Stob Grand Rapids, Michigan Economics
Victoria Carolyn Savedge Sturgeon Charleston, West Virginia Engineering and Applied Science (Mechanical Engineering)
Jeff Sullivan Dedham, Massachusetts Engineering and Applied Science and History
Anongpat Suttangkakul* Lampang, Thailand Biology
Molly Ellen Swanson* Hopkins, Minnesota Physics
Robert Phillip Swinney Buckner, Kentucky Astronomy
Ching Leung Sze* Hong Kong, Sar, China Engineering and Applied Science
Nicolay M. Tanushev* Northridge, California Applied and Computational Mathematics
Martin Krassimirov Tchernookov* Sofia, Bulgaria Physics
William Alexander Therien Diamond Bar, California Engineering and Applied Science
Elizabeth Gibbs Thomas Winston-Salem, North Carolina Mathematics
Adam Read Thomason Thousand Oaks, California Engineering and Applied Science
Samuel Edwin Thompson San Antonio, Texas Engineering and Applied Science
Stephen William Thrasher* Wilson, North Carolina Engineering and Applied Science (Mechanical Engineering)
Bryan Erik Fraser Tiedemann San Ramon, California Chemical Engineering
Melissa Jane Todd Toms River, New Jersey Engineering and Applied Science
Bachelor of Science continued

Jason Tran  Mission Viejo, California  Engineering and Applied Science
Jennifer Patricia Tung*  Mercer Island, Washington  Biology
James Phillip Turpin  Olympia, Washington  Physics
Paul Gerhard Updike*  Mesa, Arizona  Engineering and Applied Science
James A. Vargo  Tualatin, Oregon  Mathematics
Morgan Kolya Venable*  San Francisco, California  Engineering and Applied Science
Amy Thi Vu*  Garden Grove, California  Chemistry
Jennifer Patricia Tung*  Mercer Island, Washington  Biology
Travis Paxton Waddington*  Dallas, Texas  Mathematics
James Phillip Turpin  Olympia, Washington  Physics

Jennifer Patricia Tung*  Mercer Island, Washington  Biology
Paul Gerhard Updike*  Mesa, Arizona  Engineering and Applied Science
James A. Vargo  Tualatin, Oregon  Mathematics
Morgan Kolya Venable*  San Francisco, California  Engineering and Applied Science
Amy Thi Vu*  Garden Grove, California  Chemistry
Dana Julie Vukajlovich  San Diego, California  Geochemistry
Travis Paxton Waddington*  Dallas, Texas  Mathematics
Chenyang Wang*  Tianjin, China  Physics and Engineering and Applied Science
Emily Wang  Van Nuys, California  Biology
Rui Wang  Mesa, Arizona  Chemistry and Literature
Sidney Wang*  Westlake, Ohio  Chemistry
Xiaobo Connie Wang*  Irvine, California  Chemistry
Ellen Yi-Pen Wei  Poway, California  Engineering and Applied Science
Benjamin Allen Welander  Monmouth, Oregon  Engineering and Applied Science
(Aeronautics)
Gabriel Worthy Wenz*  Sand Lake, Michigan  Electrical Engineering
Bridget Lynn West  DeKalb, Illinois  Engineering and Applied Science
Ryan McKenzie White*  San Carlos, California  Electrical Engineering
John David Williams  Naperville, Illinois  Physics
Samuel David Williams  San Rafael, California  Engineering and Applied Science
Merrett Tinlok Wong  San Francisco, California  Chemical Engineering
Andrew Gregory Wright  Maynard, Massachusetts  Mathematics
Tiago Stephan Wright*  Barretos, Sao Paulo, Brasil  Electrical and Computer Engineering
Gilead Wurman  Palo Alto, California  Geophysics
Randall Adam Yates  Auberry, California  Electrical Engineering
Samuel Alan Yeager  Memphis, Tennessee  Engineering and Applied Science (Mechanical Engineering)
Muhammed Ali Yildirim*  Diyarbakir, Turkey  Electrical Engineering and Physics
Jessica Lynn Yohe  Meadville, Pennsylvania  Biology
William Chad Young*  Boring, Oregon  Physics
Yu Frank Yu  Beijing, China  Engineering and Applied Science
David Manuel Zaragoza  Pico Rivera, California  Engineering and Applied Science
Jacob John Zasada*  Ellerslie, Georgia  Economics
Pei Zhang*  Beijing, China  Electrical Engineering
Zhen Hao Zhou*  Shanghai, China  Engineering and Applied Science
Master of Science

Andrei Rudolfovich Beresnyak (Physics) B.S., Moscow Institute of Physics and Technology 1995; M.S., 1997.
Craig Warrington Cameron (Electrical Engineering) B.E., University of Melbourne 2001.
 Ileana Cristina Carpen (Chemical Engineering) B.S., Stanford University 1999.
Timothy Hahndeut Chung (Mechanical Engineering) B.S., Cornell University 2001.
Amir Faraji Dana (Electrical Engineering) B.S., Sharif University of Technology 2001.
Matthew Paul Dorsten (Physics) B.S. (Physics and Mathematics), Ohio State University 2000.
Joseph Anthony Duimstra (Chemistry) B.S., University of California, Berkeley 1997.
Kjerstin Irja Easton (Electrical Engineering) B.S., California Institute of Technology 2000.
Megan Elizabeth Eckart (Physics) A.B. (Physics and Astrophysics), University of California, Berkeley 2000.
Mohamed Youssef El-Naggar (Mechanical Engineering) B.S., Lehigh University 2001.
Jonathan Christopher Erickson (Aeronautics) B.S., Harvey Mudd College 2001.
David Wayne Farnham (Physics) B.S., California Institute of Technology 1998.
Lucia Fernandez Ballester (Chemical Engineering) B.S., Universidad de Alicante 2000.
Emmanouil-Panagiotis Fitrikis (Electrical Engineering) B.S., University of Athens 2000.
Master of Science continued

Raquel Flores (Electrical Engineering) B.S., New Mexico State University 2001.
Ilja Heinrich Friedel (Computer Science) Diplom Informatiker, Universität Kaiserslautern 2000.
Xiang Guan (Electrical Engineering) B.E., Tsinghua University 1996.
Yong Hao (Mechanical Engineering) B.E., University of Science and Technology of China 2001.
Loretta Yvonne Hidalgo (Biology) B.S., Stanford University 1996.
Hung-Te Hsieh (Electrical Engineering) B.S., National Taiwan University 1998.
Hao Jiang (Mechanical Engineering) B.S., Tsinghua University 1998.
Eric Johnsen (Mechanical Engineering) B.S., University of California, Santa Barbara 2001.
Brian Paul Johnson (Chemistry) B.S., Rhodes College 1998.
Elizabeth Anne Vincent Jones (Chemical Engineering) B.A.Sc., University of Waterloo 1999.
Michael David Kempe (Chemical Engineering) B.S., University of Utah 1997.
Gabriel Kreiman (Computation and Neural Systems) B.Sc., University of Buenos Aires 1996.
Seung-Yub Lee (Materials Science) B.S., Yonsei University 1997.
Fei Fei Li (Electrical Engineering) A.B., Princeton University 1999.
John Jianzhong Li (Applied Physics) B.S., University of Science and Technology of China 1984.
Lun Li (Electrical Engineering) B.S., Tsinghua University 1999; M.S., University of California, Berkeley 2001.
Robert Han-Chung Lin (Electrical Engineering) B.S., California Institute of Technology 1997.
Aaron James Link (Chemical Engineering) B.S.E., Princeton University 2000.
Julie Chih-I Liu (Chemical Engineering) B.S.E., Princeton University 2000.
Boonrat Lohwongwatana (Materials Science) B.S., Northwestern University 2000.
Rebekah Mary Main (Chemistry) B.S., Western Washington University 2000.
Michael Gerard Mattock (Social Science) B.A., Northwestern University 1983.
Christopher Andre Mouton (Aeronautics) B.S., University of Texas at Austin 2001.
Jeff L. Noelte (Environmental Science and Engineering) B.S., University of California, Riverside 1990.
Ryan Christopher Ogliore (Physics) B.A., Claremont McKenna College 2000.
Neal Curtis Oldham (Materials Science) B.S., University of Tennessee, Knoxville 1999.
Julie Yongsun Park (Chemistry) A.B., Harvard College 1999; M.Phil., Cambridge University 2000.
Sudipta Bardhan Quallen (Biology) B.S., California Institute of Technology 1998.
Tracey Alayne Rissman (Chemical Engineering) B.S. (Chemical Engineering and Environmental Engineering), Northwestern University 2000.

Robert Cashman Rogan (Materials Science) B.S., Boston College 2002.


Fernando L. Rosario (Chemistry) B.S., University of Puerto Rico 1999.


Soojin Son (Chemical Engineering) S.B., Massachusetts Institute of Technology 2000.

Yinan Song (Mathematics) B.S., Harvey Mudd College 2000.


Tabitha Liana Swan-Wood (Materials Science) B.S., University of California, Riverside 2000.


Min Tao (Applied Mechanics) B.S., Tsinghua University 1999.

Viet Quoc Tran (Electrical Engineering) B.S., California Institute of Technology 2001.

Yavuz Bogac Turkogullari (Civil Engineering) B.S. (Civil Engineering and Industrial Engineering), Bogazici University 2001.

Carla Emily VanBeselaere (Social Science) B.A., University of Western Ontario 1995; M.A., 1996.

Varuntida Varutbangkul (Chemical Engineering) B.S., Stanford University 2000.

Zhengrong Wang (Geochemistry) B.S., University of Science and Technology of China 1996; M.S., 1999.

Rebecca Ann Washenfelder (Environmental Science and Engineering) B.A., Pomona College 1999.

Stephanie Nicole Waterman (Aeronautics) B.A.Sc., Queen’s University 2001.

Lisa Renee Welp (Environmental Science and Engineering) B.S., Indiana University, Bloomington 2000.

Margaret Ellen Wessling (Physics) B.A. (Physics and Mathematics), Amherst College 1999.

Andrea Palmisano Wight (Chemical Engineering) B.S., Tulane University 1997.

Rebecca Mary Wilson (Chemistry) B.S., Tufts University 1999.
Abigail Louise Winthrop (Aeronautics) B.S., Johns Hopkins University 2001.
Donghua Xu (Materials Science) B.E., Jilin University 1998.
Fu-Ling Yang (Mechanical Engineering) B.S., National Taiwan University 2000.
Doctor of Philosophy

DIVISION OF BIOLOGY

Thesis: Building the Molecular Machinery of Memory: Local Protein Synthesis in Hippocampal Neurons.

Thesis: Neural Computations Leading to Space-specific Auditory Responses in the Barn Owl.

Alejandro Bäcker (Biology and Computational and Neural Systems) S.B., Massachusetts Institute of Technology 1995; M.S., California Institute of Technology 1998.
Thesis: Priming, Gain Control and Coding Issues in the Locust Olfactory System.

Thesis: Computational Enzyme Design.

Tianxin (Cynthia) Chen (Biochemistry and Molecular Biophysics) B.S., Tsinghua University 1996.

Wonchae Choe (Biology) B.S., Kyung Hee University 1992; M.S., 1994; M.S., California Institute of Technology 2000.
Thesis: Biochemical and Biological in vivo Functions of Dna2p in Saccharomyces cerevisiae.

Fangyong Du (Biology) B.S., Peking University 1991; M.S., 1994.
Thesis: Allosteric Activation of the Ubiquitin Ligase UBR1 by Short Peptides: Molecular Mechanisms and Physiological Functions.


Sebastian de la Soudière Gerety (Biology) B.S., Tufts University 1992.

Zsuzsa Andrea Hamburger (Biology) B.S., Purdue University 1996.
Thesis: Crystallographic Studies of Invasin, a Bacterial Adhesion Molecule from Yersinia pseudotuberculosis.

Gabriel Kreiman (Biology) B.Sc., University of Buenos Aires 1996.

Thesis: Neural Dynamics Underlying Complex Behavior in a Songbird.

When more than one field of study is listed, the first is the major, and the second and others are minors.
Doctor of Philosophy continued

Tanya Munnecke Moreno (Biology) B.S., University of California, San Diego 1992.  
Thesis: Nociceptin in Neural Development.

David Rosenbluth (Computation and Neural Systems) A.B., Columbia University 1988;  

Thesis: A Detailed Analysis of the DNA Binding Properties and the Affinity  

Pavel Strop (Biochemistry and Molecular Biophysics) B.S., University of Arizona 1997.  
Thesis: Characterization of the Mechanosensitive Channel of Large Conductance.

Stephanie Yeager Vernooy (Biology) B.A., Pomona College 1994; M.S., California Institute of Technology 2000.  
Thesis: Identification of Apoptotic Regulators in Drosophila and their Nonapoptotic  
Roles in Spermatogenesis: Implications for the Existence of a “Caspase Cassette” which Regulates Diverse Biological Processes.

Mariela Zirlinger (Biology) B.S., University of Buenos Aires 1996.  

DIVISION OF CHEMISTRY AND CHEMICAL ENGINEERING

Peter Jonathan Adams (Chemical Engineering and Environmental Science and Engineering)  
B.S., Cornell University 1996; M.S., California Institute of Technology 1998.  


Kimberly Davis Copeland (Chemistry) B.S., Duke University 1996.  
Thesis: The Reactions of Metallointercalator-Peptide Conjugates and DNA.

Thesis: Quantum Monte Carlo: Quest to Get Bigger, Faster, and Cheaper.

Anne Yen-Chen Fu (Chemistry) B.S., University of California, Berkeley 1996.  
Thesis: Microfabricated Fluorescence-Activated Cell Sorters (μFACS) for Screening  
Bacterial Cells.

Thesis: Laboratory Studies of Atmospheric Reactions Using Infrared Cavity  
Ringdown Spectroscopy.
Doctor of Philosophy continued

Doan Nguyen Hackley (Chemistry) B.Sc., Brock University 1997.
  Thesis: Allosteric Inhibition of Zinc Finger Proteins by DNA Binding Polyamides.
Sven Halstenberg (Chemical Engineering) B.S., Stanford University 1995; M.S.,
  California Institute of Technology 1997.
  Thesis: Biologically Engineered Protein-aaift-Poly(Ethylene Glycol) Hydrogels:
  Thesis: Using Photolabile Protecting Groups for the Rapid Triggering of Fast
  Biological Events.
Corinna Renate Hess (Chemistry) B.S., University of Chicago 1996.
  Thesis: Probing the Active Site of Amine Oxidase with Electron Tunneling Wires.
Kevin Richard Hoke (Chemistry) B.A., Rice University 1993.
  Thesis: Electron Tunneling in Blue and Purple Copper Proteins.
  Thesis: Mapping Heme Protein Folding Landscapes.
Zenghe Liu (Chemistry) B.S., University of Science and Technology of China 1985;
  M.S., 1988; M.S., Baylor University 1997.
  Thesis: Vanadium-Schiff Base Complexes as Catalysts for the Four-Electron
  Reduction of Dioxygen.
  Thesis: Force-Detected NMR in a Homogeneous Field: Experiment Design,
  Apparatus, and Observations.
  Thesis: Stability and Conformational Specificity in Protein Design: Models for
  Binary Patterning and Electrostatics.
Megan Elizabeth Núñez (Chemistry) B.A., Smith College 1996.
  Thesis: Oxidation of DNA by Long-range Charge Transport.
Patrick Manuel Piccione (Chemical Engineering) S.B., Massachusetts Institute of
  Technology 1995.
Robert Charles Rossi (Chemistry) B.S., University of Wisconsin-Madison 1993.
Asimina Sierou (Chemical Engineering) Diploma, National Technical University of
  Athens 1996.
  Thesis: Accelerated Stokesian Dynamics: Development and Application to Sheared
  Non-Brownian Suspensions.
A.C. Sobrero (Chemical Engineering) B.S.E., Princeton University 1978.
Ganesh Subramanian (Chemical Engineering and Applied and Computational Mathematics)
  B.S., University of Bombay 1996.
Doctor of Philosophy continued


Gyoong Tae (Chemical Engineering) B.S., Korea Advanced Institute of Science and Technology 1992; M.S., 1994.

Yi Tang (Chemical Engineering and Biology) B.S., Pennsylvania State University 1997.

Adam Robert Urbach (Chemistry) B.S., University of Texas at Austin 1996.

Randy M. Villahermosa (Chemistry) B.A., Occidental College 1996.

Thesis: Sequence Specific Trapping of Topoisomerase I by Camptothecin Polyamide Conjugates.

Antek G. Wong-Foy (Chemistry) B.S., University of Rochester 1994.

Nicholas R. Wurtz (Chemistry) B.A., Grinnell College 1996.
Thesis: Sequence Specific Alkylation of DNA by Polyamide-Chlorambucil Conjugates.

Andrew Peter Yeh (Chemistry) B.A., Cornell University 1996.


DIVISION OF ENGINEERING AND APPLIED SCIENCES


Thesis: Distributed Active Transformer for Integrated Power Amplification.

Peter David Bogdanoff (Materials Science) B.S., Harvey Mudd College 1994; M.S., California Institute of Technology 1997.
Doctor of Philosophy continued

Dong Eui Chang (Control and Dynamical Systems) B.S., Seoul National University 1994; M.S., 1997.
Thesis: Controlled Lagrangian and Hamiltonian Systems.

Thesis: The Strength of Polycrystalline Silicon at the Micro- and Nano-Scales with Applications to MEMS.

Min Chen (Computer Science) B.S., Peking University 1994; M.S., 1997.

Thesis: Photocatalysis under Periodic Illumination.

Thesis: Phase Boundary Propagation in Heterogeneous Media.


Joseph Alexander Fax (Control and Dynamical Systems) B.S.E., Princeton University 1993.
Thesis: Optimal and Cooperative Control of Vehicle Formations.

Hanying Feng (Electrical Engineering) B.E., Tsinghua University 1997; M.S., California Institute of Technology 1998.
Thesis: Rate Loss of Network Source Codes.

Xiaolin Feng (Electrical Engineering) B.E., Tsinghua University; M.S., California Institute of Technology 1996.
Thesis: Methods for the Analysis of Visual Motion.

Philip Malcolm Fine (Environmental Science and Engineering) B.S., University of California, Berkeley 1993; M.S., California Institute of Technology 1997.

Kevin Foltz (Electrical Engineering) B.A., B.S., Rice University 1997; M.S., California Institute of Technology 1998.
Thesis: Periodic Broadcast Scheduling for Data Distribution.

Roman Ginis (Computer Science) B.S., University of Rhode Island 1996.

The thesis: A Measurement of the Cosmic Microwave Background Angular Power Spectrum with DASI.

Donhee Ham (Electrical Engineering) B.S., Seoul National University 1996.


Scott David Kee (Electrical Engineering) B.S., University of Delaware 1998.

Joseph Roland Kiniry (Computer Science) B.S., Florida State University 1992; M.S., University of Massachusetts, Amherst 1995; M.S., California Institute of Technology 1998.
The thesis: Kind Theory.

Cin-Young Lee (Mechanical Engineering) B.S., University of California, Berkeley 1997.

Hong Liao (Environmental Science and Engineering) B.S., Peking University 1986; M.S., 1989; M.S., California Institute of Technology 1996.

Zhiwen Liu (Electrical Engineering) B.S., Peking University 1992; M.S., 1995; M.S., California Institute of Technology 1997.
The thesis: Optical Information Storage and Processing.

The thesis: Mechanical Behavior of a Bulk Metallic Glass and Its Composite over a Wide Range of Strain Rates and Temperatures.

José Mumbrú (Electrical Engineering and Social Science) Engineer (Communications and Electronics), Universitat Politècnica de Catalunya, 1996; M.S., California Institute of Technology 1998.
The thesis: Optoelectronic Circuits using Holographic Elements.

Todd David Murphey (Control and Dynamical Systems) B.S., University of Arizona 1997.
The thesis: Control of Multiple Model Systems.

The thesis: Cohesive Models of Fatigue Crack Growth and Stress-Corrosion Cracking.

The thesis: Generalization Error Estimates and Training Data Valuation.
Doctor of Philosophy continued

Jeff L. Noelte (Environmental Science and Engineering) B.S., University of California, Riverside 1990.
Thesis: Effects of Surface Chemistry on Deposition Kinetics of Colloidal Hematite (α-Fe₂O₃) in Packed Beds of Silica Sand.

Paul Ivan Pénzes (Computer Science) B.S., California Institute of Technology 1996; M.S., 1999.


Thesis: Diffusion-Mediated Regulation Endocrine Networks.

Teerachai Nicholas Pornsinsrirak (Electrical Engineering) B.S., California Institute of Technology 1993; M.S., Stanford University 1995.

Thesis: Dynamics of Phase Transitions in Strings, Beams and Atomic Chains.

Thesis: Direct Energy Bandgap Group IV Alloys and Nanostructures.

Clarence Worth Rowley III (Mechanical Engineering) B.S.E., Princeton University 1995; M.S., California Institute of Technology 1996.


Thesis: Response of Soil Mineral Weathering to Elevated Carbon Dioxide.


Luz Vianey Vela-Arevalo (Control and Dynamical Systems) B.S., Autonomous University of Agüascalientes 1994; M.S., Universidad Autonoma Metropolitana, Iztapalapa 1996.
Thesis: Time-Frequency Analysis Based on Wavelets for Hamiltonian Systems.

Jelena Vučković (Electrical Engineering) B.Sc., Faculty of Electronics NIS 1993; M.S., California Institute of Technology 1997.
Thesis: Photonic Crystal Structures for Efficient Localization or Extraction of Light.
Doctor of Philosophy continued


Yong Xu (Electrical Engineering) B.S., Tsinghua University 1997.
Thesis: Flexible MEMS Skin Technology for Distributed Fluidic Sensing.

Tze-Jung Yao (Electrical Engineering and Biology) B.S., National Taiwan University 1995; M.S., California Institute of Technology 1998.
Thesis: Parylene for MEMS Applications.

Ka-Veng Yuen (Civil Engineering) B.S., National Taiwan University 1997; M.S., Hong Kong University of Science and Technology 1999.
Thesis: Model Selection, Identification and Robust Control for Dynamical Systems.


Thesis: Dynamic UNITY.

DIVISION OF GEOLOGICAL AND PLANETARY SCIENCES

Magali I. Billen (Geophysics) B.S., University of Puget Sound 1995; M.S., California Institute of Technology 1998.

Thesis: Light Scattering in the Clouds on Jupiter.

Chen Ji (Geophysics) B.S., Peking University 1991; M.S., Chinese Academy of Science 1994.

Ronit Kessel (Geochemistry) B.S., Hebrew University 1992; M.Sc., 1995.
Thesis: The Activity of Chromite in Multicomponent Spinels: An Experimental Study with Implications for the Metamorphic History of Equilibrated Ordinary Chondrites.
Doctor of Philosophy continued

Sujoy Mukhopadhyay (Geochemistry) B.Sc., Presidency College 1993; M.Sc., Indian Institute of Technology, Kharagpur 1995.
The Thesis: I. Extraterrestrial $^3$He in the Sedimentary Record. II. Geochemistry of Shield Stage Lava S from Kauai, Hawaii.

Julie Jeannine Nazareth (Geophysics) B.S., University of California, Los Angeles 1993; M.S., California Institute of Technology 1996.
The Thesis: The Structure of the Crust and Distribution of Earthquakes in Southern California.

Nathan Alan Niemi (Geology) B.A., Cornell University 1994; M.S., California Institute of Technology 1996.

Michael E. Oskin (Geology) B.S., University of California, Los Angeles 1995.
The Thesis: Part I. Tectonic Evolution of the Northern Gulf of California, Mexico, Deduced from Conjugate Rifted Margins of the Upper Delfin Basin. Part II. Active Folding and Seismic Hazard in Central Los Angeles, California.


The Thesis: Collisional Processes Involving Icy Bodies in the Solar System.

Anupama Venkataraman (Geophysics) B.Sc., Indian Institute of Technology, Kharagpur 1994; M.Sc., 1996.

DIVISION OF HUMANITIES AND SOCIAL SCIENCES


Steven Callander (Social Science) B.Com., University of New South Wales 1996.
The Thesis: Voting and Electoral Competition.

Marco Casari (Social Science) D.E.S., Università Commerciale “Luigi Bocconi” 1996; M.S., California Institute of Technology 1998.

Sean Gailmard (Social Science) B.S., Indiana University, Bloomington 1996; M.S., 1997.
DIVISION OF PHYSICS, MATHEMATICS AND ASTRONOMY

Kurt L. Adelberger (Astronomy) B.S., Harvey Mudd College 1993.
   Thesis: Star Formation and Structure Formation between Redshifts One and Four.
Matthew John Evans (Physics) B.S., Harvey Mudd College 1996.
   Thesis: Lock Acquisition in Resonant Optical Interferometers.
   Thesis: Regularization of the Amended Potential around a Symmetric Configuration.
   Thesis: Optical Pulse-Phased Observations of Faint Pulsars with a Phase-Binning CCD Camera.
Sophia Kyriazopoulou (Physics) B.S., University of Thessaloniki 1988; M.S., California Institute of Technology 1990.
   Thesis: A Search for Slow Magnetic Monopoles Below the Parker Bound.
Andrew John Landahl (Physics) B.S., Virginia Polytechnic Institute and State University 1996; M.S., California Institute of Technology 2000.
   Thesis: Controlling Quantum Information.
Yoram Lithwick (Physics) B.A.Sc., University of Toronto 1994; M.Sc., 1995.
   Thesis: Topics in MHD Turbulence.
Doctor of Philosophy continued

Robert G. Nolty (Physics) B.S. (Computer Science and Engineering Physics), Texas Tech University 1985; M.S., California Institute of Technology 1990.
Thesis: Semi-contained Interactions of Atmospheric Neutrinos in the MACRO Detector.

Janet Mary Pavelich (Mathematics) B.A., University of Colorado, Boulder 1993; M.S., University of California, Irvine 1996.
Thesis: Commuting Equivalence Relations and Scales on Differentiable Functions.

Thesis: Analysis of Neuronal Dynamics in Behaving Animals.

Byron Jacob Philhouri (Physics) A.B., University of California, Berkeley 1995; M.S., California Institute of Technology 2000.
Thesis: Measurement of the Polarization of the Cosmic Microwave Background.


Hongxing Tang (Physics) B.S., University of Science and Technology of China 1993; M.S., 1995; M.Phil., University of Hong Kong 1997.

Michele Vallisneri (Physics) Laurea, Università degli Studi di Parma 1997.
Thesis: Modeling and Detecting Gravitational Waves from Compact Stellar Objects.

Song Wang (Mathematics) B.S., Peking University 1996.

John Straw Ward (Physics) B.S., Principia College 1993; M.S., California Institute of Technology 1997.

Clinton Thomas White (Mathematics) B.S., University of Tennessee, Knoxville 1996.

Ah-San Wong (Physics) B.S., California State University, Fresno 1992; M.S., California Institute of Technology 1995.

Georgios Zamanakos (Physics and Computer Science) B.S., University of Athens 1994; M.S., California Institute of Technology 1997.
PRIZES AND AWARDS

Prizes and awards are listed only for those students receiving degrees in 2002, and include prizes and awards received by them in previous years.

MILTON AND FRANCIS CLAUSER DOCTORAL PRIZE
Awarded to the Ph.D. candidate whose research is judged to exhibit the greatest degree of originality as evidenced by its potential for opening up new avenues of human thought and endeavor as well as by the ingenuity with which it has been carried out.

Recipient to be announced at commencement.

FREDERIC W. HINRICHS, JR., MEMORIAL AWARD
Awarded to the seniors who, in the opinion of the undergraduate Deans, have made the greatest undergraduate contribution to the welfare of the student body and whose qualities of leadership, character, and responsibility have been outstanding.

2002 Victoria Carolyn Sturgeon, Dana Julie Vukajlovich

MABEL BECKMAN PRIZE
Awarded to an undergraduate woman upon completion of her junior or senior year in recognition of demonstrated academic and personal excellence, contributions to the Institute community, and outstanding qualities of character and leadership.

2002 Nadia Haq, Hyunah Kang
ROSALIND W. ALCOTT MERIT SCHOLARSHIP, CALTECH PRIZE SCHOLARSHIP, CARNATION SCHOLARSHIP, AND JOHN STAUFFER MERIT SCHOLARSHIP

Each year Caltech awards these prizes for academic excellence to undergraduates. They are based solely on merit (selection is made on the basis of grades, faculty recommendations, and demonstrated research productivity) with no consideration given to need or any other nonacademic criteria.

1996  Paul Ivan Penzes

1999  Kartik Arvind Srinivasan

2000  Ingrid Anda Coteros
       Suhas Raghava Nayak
       Timothy David Raub
       Kartik Arvind Srinivasan

2001  Richard Chiu
       Kristen Lee Cook
       Elizabeth Jennifer Hong
       Michael Julius Liu
       Christophe Maquestiaux
       Daina Maria Paulikas
       Rebecca Shafee
       Ching Leung Sze
       Chenyang Wang

2002  Brock Raymond Beauchamp
       Kristen Cook
       Philip Fung
       Michael J. Hochberg
       Elizabeth Jennifer Hong
       Bevan Emma Huang
       Douglas Robert Lanman
       Benjamin Guocian Lee
       Michael Julius Liu
       Christophe Maquestiaux
       Sean Thomas McHugh
       Florian Tobias Merkle
       Suhas Raghava Nayak
       Clayton Ryan Otey
       Daina Maria Paulikas
       Timothy David Raub
       Richard Aaron Robison
       Rebecca Shafee
       Molly Ellen Swanson
       Ching Leung Sze
       Paul Gerhard Updike
       Chenyang Wang
       Mohammed Ali Yildirim
CHARLES D. BABCOCK AWARD
Awarded, by vote of the aeronautics faculty, to a graduate student whose achievements in teaching or other assistance to students have made a significant contribution to the aeronautics department.

1999 Ioannis Chasiotis
2002 Luis González Liñero

WILLIAM F. BALLHAUS PRIZE
Awarded to aeronautics students for outstanding doctoral dissertations.

2002 Shiming Zhuang

ERIC TEMPLE BELL UNDERGRADUATE MATHEMATICS RESEARCH PRIZE
Awarded to one or more juniors or seniors for outstanding original research in mathematics.

2002 Suhas Raghava Nayak

BHANSALI PRIZE IN COMPUTER SCIENCE
Awarded to an undergraduate student for outstanding research in computer science in the current academic year.

2002 Miroslav Dudik

RICHARD G. BREWER PRIZE IN PHYSICS
Awarded to the freshman with the most interesting solutions to the Physics 11 "hurdles," in recognition of demonstrated intellectual promise and creativity at the very beginning of his or her Caltech education.

1999 Frederik Hewitt Eaton

ROLF D. BUHLER MEMORIAL AWARD IN AERONAUTICS
Awarded to an aeronautics student for outstanding academic achievement in the Master's program.

2002 Mathilde Laube Gauchet
FRITZ B. BURNS PRIZE IN GEOLOGY
Awarded to an undergraduate who has demonstrated both academic excellence and great promise of future contributions in the fields represented by the Division of Geological and Planetary Sciences.

2001  Timothy David Raub

THE W. P. CAREY & CO., INC., PRIZE IN MATHEMATICS
Awarded to a student receiving a Doctor of Philosophy degree for an outstanding doctoral dissertation in applied mathematics or pure mathematics.

2002  Bogdan Craciun

BONNIE CASHIN PRIZE FOR IMAGINATIVE THINKING
Awarded each year to the entering freshman who has written the most imaginative essays in the application for freshman admission. The award may be shared if there is more than one deserving student in a particular year.

1997  David Christian Hockaday
1998  Philip Fung

RICHARD BRUCE CHAPMAN MEMORIAL AWARD
Awarded to a graduate student in hydrodynamics who has distinguished himself or herself in research in the Division of Engineering and Applied Science.

2002  Jeffrey D. Eldredge, Clarence Worth Rowley III

DONALD S. CLARK MEMORIAL AWARDS
May be awarded to two juniors in recognition of service to the campus community and academic excellence. Preference is given to students in the Division of Engineering and Applied Science and to those in Chemical Engineering.

2001  Agedi Nicholson Boto, Lakshminarayan Srinivasan
DEANS’ CUP AND DIRECTOR OF RESIDENCE LIFE AND MASTER’S AWARD
Two awards, selected by the Deans, the Director of Residence Life, and the Master of Student Houses, presented to undergraduates whose concern for their fellow students has been demonstrated by persistent efforts to improve the quality of undergraduate life and by effective communication with members of the faculty and administration.

2001 Andrew Gregory Wright, Residence Life and Master’s Award
2002 Timothy Andrews Crosby, Richard Albert Karnesky, and Todd Eugene Schuman, Residence Life and Master’s Award
David Samuel Guskin and Lakshmirarayan Srinivasan, Deans’ Cup

CONSTANTIN G. ECONOMOU MEMORIAL PRIZE
Awarded to a chemical engineering graduate student distinguished by outstanding research accomplishments and exemplary attitude while fulfilling candidacy requirements for the Ph.D. degree.

1999 Yi Tang
2001 Ileana Cristina Carpen

EVERHART DISTINGUISHED GRADUATE STUDENT LECTURER AWARD
Awarded to a graduate student who has demonstrated exemplary presentation ability and graduate research.

2001 Gabriel Kreiman, Sujoy Mukhopadhyay
2002 Joshua Bloom

DORIS EVERHART SERVICE AWARD
Awarded annually to an undergraduate who has actively supported and willingly worked for organizations that enrich not only student life, but also the campus and/or community as a whole, and who has, in addition, exhibited care and concern for the welfare of students on a personal basis. The award was established in 1999 by Martin and Sally Ridge in honor of Doris Everhart.

2002 Elisa Ka Yee Chan
LAWRENCE L. AND AUDREY W. FERGUSON PRIZE
Awarded to the graduating Ph.D. candidate in biology who has produced the outstanding Ph.D. thesis for the past year.

2002 Gabriel Kreiman

RICHARD P. FEYNMAN PRIZE IN THEORETICAL PHYSICS
Awarded to a senior on the basis of excellence in theoretical physics.

2002 Aaron Wyatt Simons

HAREN LEE FISHER MEMORIAL AWARD IN JUNIOR PHYSICS
Awarded to a junior physics major who demonstrates the greatest promise of future contributions in physics.

2001 Clayton Ryan Otey

HENRY FORD II SCHOLAR AWARD
Awarded either to the engineering student with the best academic record at the end of the third year of undergraduate study, or to the engineering student with the best first-year record in the graduate program.

2001 Lakshminarayan Srinivasan

JACK E. FROEHLICH MEMORIAL AWARD
Awarded to a junior in the upper five percent of his or her class who shows outstanding promise for a creative professional career.

2001 Elizabeth Jennifer Hong, Thomas Marshall Snyder

GRADUATE DEANS' AWARD FOR OUTSTANDING COMMUNITY SERVICE
Awarded to a Ph.D. candidate who, throughout his or her graduate years at the Institute, has made great contributions to graduate life and whose qualities of leadership and responsibility have been outstanding.

2002 Alejandro Bäcker, Teerachai Nicholas Pornsinsrirak
GEORGE W. GREEN MEMORIAL PRIZE
Awarded to the undergraduate student who, in the opinion of the division chairs, has shown outstanding ability and achievement in creative scholarship.

2002 Timothy David Raub

ARIE J. HAAGEN-SMIT MEMORIAL AWARD
Awarded to a sophomore or junior in biology or chemistry who has shown academic promise and who has made recognized contributions to Caltech.

2000 Elizabeth Jennifer Hong
2001 Richard Aaron Robison

SCOTT RUSSELL JOHNSON GRADUATE DISSERTATION PRIZE IN MATHEMATICS
Awarded for the best graduate dissertation in mathematics.

2001 Mehmet Banak Erdoğan, Song Wang

SCOTT RUSSELL JOHNSON UNDERGRADUATE MATHEMATICS PRIZE
Awarded for the best graduating mathematics major. Special consideration is given to independent research done as a senior thesis or SURF project.

2002 Fu Liu, Sahas Raghava Nayak

D. S. KOTHARI PRIZE IN PHYSICS
Awarded to a graduating senior in physics who has produced an outstanding research project during the year.

2002 Dirk Robert Englund

MARGIE LAURITSEN LEIGHTON PRIZE
Awarded to one or two undergraduate women who are majoring in physics, astrophysics, or astronomy, and who have demonstrated academic excellence.

2000 Daina Maria Paulikas
DOROTHY B. AND HARRISON C. LINGLE SCHOLARSHIP
Awarded to an incoming freshman in recognition of interest in a career in science or engineering, outstanding academic record, demonstrated fairness-mindedness, and unquestioned integrity.

1998  Andrew James Coe

THE HERBERT NEWBY McCoy Award
Awarded to chemistry doctoral students for outstanding contributions to the science of chemistry.

2002  Tehshik Peer Yoon

MARY A. EARL McKinney Prize in Literature
Awarded to undergraduate students for excellence in writing in three categories: poetry, prose fiction, and nonfiction essays.

1997  Robert Han-Chung Lin
2000  David Christian Hockaday
2001  Giao Bich Hang, Michael Anthony Russo
MERIT AND PRESIDENT'S SCHOLARS
Awarded to selected freshmen whose record of personal and academic accomplishment is judged outstanding among incoming freshmen.

1997  Kevin Lawson Shand  
       Ali Afshin Soleimani  
       James Phillip Turpin  
       Travis Paxton Waddington

1998  Zhaosheng (Josh) Bao  
       Agedi Nicholson Boto  
       Richard Mendel Bowman  
       Joel Elihu Carranza  
       Andrew James Coe  
       Kristen Lee Cook  
       Serena Merten Eley  
       Dirk Robert Englund  
       Emilio Castano Graff  
       Garrett Collins Heffner  
       Loren Kimberly Hoffman  
       Elizabeth Jennifer Hong  
       Bevan Emma Huang  
       Beverly Malika Karlson  
       Nicholas Adrian Knouf  
       Barbara Karmen Kraatz  
       Guillermo Andres Letona  
       Florian Tobias Merkle  
       Daina Maria Paulikas  
       Curtis Warren Pehl  
       David Andrew Rahmlow  
       Timothy David Raub  
       Robb Brooks Rutledge  
       Derek Michael Shannon  
       Michael Abraham Shulman  
       Aaron Wyatt Simons  
       Thomas Marshall Snyder  
       Lakshminarayan Srinivasan  
       Rebecca Erin Stob  
       Adam Read Thomason  
       Morgan Kolya Venable  
       Emily Wang  
       Bridget Lynn West  
       Jacob John Zasada

MILLIKAN SCHOLARSHIP
Awarded to selected freshmen whose record of personal and academic accomplishment is judged outstanding among the remarkable group of incoming freshmen.

1993  Robert Han-Chung Lin
ROBERT L. NOLAND LEADERSHIP SCHOLARSHIP
Awarded to undergraduate students who exhibit qualities of outstanding leadership, which are most often expressed as personal actions that have helped other people and that have inspired others to fulfill their capabilities.

1997  Maria Faith Satterwhite

2002  Ayeh Bandeh-Ahmadi
        Joseph Daniel Fassler
        Dinkar Gupta
        Richard Aaron Robison

HOWARD REYNOLDS MEMORIAL PRIZE IN GEOLOGY
Awarded to a sophomore or junior who demonstrates the potential to excel in the field of geology and who actively contributes to the quality of student life at Caltech.

2000  Timothy David Raub

HERBERT J. RYSER MEMORIAL SCHOLARSHIPS
Awarded to undergraduate students for academic excellence, preferably in mathematics.

2001  Fu Liu, Michael Abraham Shulman

ERNEST E. SECHLER MEMORIAL AWARD IN AERONAUTICS
Awarded to an aeronautics student who has made the most significant contribution to the teaching and research efforts of GALCIT (Graduate Aeronautical Laboratories of the California Institute of Technology). Preference is given to students working in structural mechanics.

2002  David Deloyd Anderson
DON SHEPARD AWARD
Awarded to students who would find it difficult, without additional financial help, to engage in extracurricular and cultural activities. The recipients are selected on the basis of their capacity to take advantage of and to profit from these activities rather than on the basis of their scholastic standing.

1999 Benjamin James Kulick
Dustin Boswell

2000 Richard Chiu

2001 Elisa Marie Bueno
Elisa Ka'Yee Chan
Timothy Andrews Crosby
David Samuel Guskin
Justin Si-Qi Ho

SIGMA XI AWARD
Awarded to a senior selected for an outstanding piece of original scientific research.

2002 Elizabeth Jennifer Hong

HALLETT SMITH PRIZE
Established in 1997 to commemorate Professor Smith’s long career as one of the 20th century’s most distinguished Renaissance scholars. The cash prize is given annually by the literature faculty to the undergraduate student who writes the finest essay on Shakespeare.

2000 Robert Phillip Swinney

PAUL STUDENSKI MEMORIAL FUND PRIZE
A travel grant awarded to a Caltech undergraduate who would benefit from a period away from the academic community in order to obtain a better understanding of self and his or her plans for the future.

2001 Nathaniel Pickens Austin
ALAN R. SWEEZY PRIZE IN ECONOMICS
Awarded to a senior who has shown unusual interest in and talent for economics.

2002 Jin Li

FRANK TERUGGI MEMORIAL AWARD
Awarded to an undergraduate student who honors the spirit of Frank Teruggi’s life through participation “in the areas of Latin American Studies, radical politics, creative radio programming, and other activities aimed at improving the living conditions of the less fortunate.”

1999 David ManueI Zaragoza

CHARLES WILTS PRIZE
Awarded to a graduate student for outstanding independent research in electrical engineering leading to a Ph.D.

2002 Donhee Ham

FREDRICK J. ZEIGLER MEMORIAL AWARD
Awarded to an outstanding sophomore or junior in pure or applied mathematics, for excellence in scholarship as demonstrated in class activities or in the preparation of an original paper or essay in any subject area.

2000 Michael Abraham Shulman
Caltech Alma Mater

by Manton Barnes, BS '21 EE

In Southern California with grace and splendor bound,
Where the lofty mountain peaks look out to lands beyond,
Proudly stands our Alma Mater, glorious to see;
We raise our voices proudly, hailing, hailing Thee!
Echoes ringing while we’re singing over land and sea;
The halls of fame resound thy name, noble CIT!
SERVICES FOR COMMENCEMENT GUESTS

- PUBLIC TELEPHONES are available in Baxter Hall and Beckman Auditorium.
- RESTROOMS are available in Baxter Hall, Beckman Labs, Dabney Hall, Parsons-Gates Hall of Administration, and Beckman Auditorium.
- Information about the nearest location for FIRST AID SERVICES is available at the Information Center.
- LOST AND FOUND items may be reported and/or claimed at the Information Center.
- Complimentary COFFEE and PUNCH (beginning at 8:30 a.m.)
- Informal cap and gown photographs 8:30 a.m.–9:30 a.m.
- CALTECH BOOKSTORE sells souvenirs, film, and other items. ATHENAEUM luncheon tickets on sale 8 a.m.–10 a.m.

SPECIAL SERVICES FOR PERSONS WITH DISABILITIES

- ASSISTIVE LISTENING DEVICES are available at the Information Center. A driver’s license or state-issued ID card is required.
- LARGE-TYPE PROGRAMS (abridged) are available at the Information Center.
- AMERICAN SIGN LANGUAGE (ASL) interpreters are stationed at the west front of the Ceremony seating area.
- PEOPLE WHO USE WHEELCHAIRS, and their guests, will find a special section near the east front of the Ceremony seating area.
- RESTROOMS ACCESSIBLE TO PEOPLE WHO USE WHEELCHAIRS are located on the first floor of Dabney Hall and in the Parsons-Gates Hall of Administration.
- AMPLIFIED TELEPHONE is available in Beckman Auditorium.