



CALIFORNIA INSTITUTE *of* TECHNOLOGY

*One Hundred Twelfth Annual Commencement
June 9, 2006*



Cover: Caltech's commencement ceremony,
by Joseph Stoddard.

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CALIFORNIA INSTITUTE
of TECHNOLOGY

One Hundred Twelfth
Annual Commencement

Friday Morning at Ten O'Clock
June Ninth, Two Thousand Six

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 2,100 students, more than half of whom are in graduate studies; about 280 professorial faculty members, including five Nobel laureates and three Crafoord laureates; and more than 100 research faculty members. Today Caltech will award 247 students the B.S. degree; 120 students the M.S. degree; and 177 doctoral candidates the Ph.D. degree, for a total of 544 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 website at <http://www.caltech.edu/commencement>. Broadcast is scheduled to begin by the end of the day.

THESE TRIBAL RITES have a very long history. They go back to the ceremony of initiation for new university teachers in mediaeval 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

DAVID BALTIMORE has stood post as Caltech's seventh president for nearly nine years. During his tenure, a fund-raising initiative for the biological sciences came to a close, marked by the construction and dedication of the Broad Center for the Biological Sciences, and the Institute launched the current \$1.4 billion campaign, which has included receipt of the largest gift to higher education, \$600 million from Gordon and Betty Moore and the Gordon and Betty Moore Foundation. In addition to working toward increasing diversity at Caltech, Dr. Baltimore appointed the first full-time vice president for student affairs and initiated a \$3 million fund to improve the quality of undergraduate life.

Born in New York in 1938, Dr. Baltimore first became interested in biology when, as a high school student, he attended a summer program where he "discovered that the frontier of knowledge was actually very close and very accessible." In 1960, he earned his bachelor's degree in chemistry from Swarthmore College and four years later earned his Ph.D. in biology from the Rockefeller University. Postdoctoral positions at MIT and the Albert Einstein College of Medicine followed, as did a three-year stint at the Salk Institute in La Jolla. He then returned to MIT as an associate professor in 1968 and was named full professor in 1972.

Dr. Baltimore's early investigations focused on questions about the relationships between DNA and RNA in a cell's internal functions—specifically, on how cancer-causing RNA viruses manage to infect healthy cells. One result of this research was the first identification of an enzyme that allowed a molecule of RNA from a cancer-causing virus to change into DNA and then splice itself to

the DNA of a host cell. The mystery enzyme was dubbed reverse transcriptase, and its discovery greatly expanded scientists' understanding of cancer, AIDS, and the molecular basis of the immune response. For his landmark research, Dr. Baltimore was awarded the Nobel Prize in 1975.

Along with his laboratory colleagues, Dr. Baltimore has since tackled such questions as how white blood cells decide which antibodies to manufacture and how proteins called transcription factors turn genes on and off while DNA is being assembled in a cell. Throughout his tenure as president of Caltech, he has maintained an intense research program in his lab, which has established a new methodology to help fight cancer and developed a new gene therapy that is highly effective in preventing HIV from infecting individual cells in the immune system.

Dr. Baltimore has also been actively involved with issues concerning administrative and public policy in science and technology. In the mid-1970s, he played an important role in creating a consensus on national science policy regarding recombinant DNA research, which helped to establish research standards that are still followed by the scientific community. In 1982, he became the founding director of MIT's Whitehead Institute for Biomedical Research, and in the early 1990s, he was one of the architects of the \$1 billion Human Genome Project. When in 1986 a national commission chaired by Dr. Baltimore found the government's attempts to deal with AIDS woefully inadequate, he became an early advocate of federal AIDS research. Ten years later, he was appointed to head the National Institutes of Health AIDS Vaccine Research Committee, a position he has continued to hold while president of Caltech. He has also been a strong advocate for stem cell research.

In addition to the Nobel Prize, Dr. Baltimore has been awarded the National Medal of Science and the Warren Alpert Foundation Scientific Prize, among many others. As a researcher, educator, administrator, and public advocate, David Baltimore has left his mark on Caltech and the world. After stepping down as president this month, he will remain on the Caltech faculty, studying HIV and other dangerous pathogens with a \$13.9 million grant from the Bill & Melinda Gates Foundation.

ACADEMIC PROCESSION

Chief Marshal

Cindy Weinstein, Ph.D.

Marshals

Judith L. Campbell, Ph.D.

Barbara C. Green, Ph.D.

John F. Hall, Ph.D.

Melany L. Hunt, Ph.D.

Henry A. Lester, Ph.D.

Paul O. Wennberg, Ph.D.

Faculty Officers

Henry A. Lester, Ph.D.

Judith L. Campbell, Ph.D.

David B. Wales, 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 President

The Chairman of the Board of Trustees

PROGRAM

Organ Prelude	Leslie J. Deutsch, Ph.D.
PROCESSIONAL	The Caltech Convocations Brass and Percussion Ensemble <i>Allen R. Gross, D.M.A., Conductor</i>
PRESIDING	Kent Kresa <i>Chairman of the Board of Trustees California Institute of Technology</i>
COMMENCEMENT SPEAKER “Passing Through the Hourglass”	David Baltimore, Ph.D. <i>President California Institute of Technology</i>
CHORAL SELECTION “There’s Just One” music by George Frideric Handel, lyrics by K. Giapis and D. Caldwell (Lyrics are on page 53.)	The Caltech Glee Clubs <i>Donald G. Caldwell, D.M.A., Conductor</i>
CONFERRING OF DEGREES	David Baltimore, Ph.D. <i>President California Institute of Technology</i>
PRESENTATION OF CANDIDATES FOR DEGREES	
For the Degree of Bachelor of Science	John F. Hall, Ph.D. <i>Dean of Students</i>
For the Degree of Master of Science	Judith L. Campbell, Ph.D. <i>Professor of Chemistry and Biology</i>
For the Degree of Doctor of Philosophy	Paul O. Wennberg, Ph.D. <i>R. Stanton Avery Professor of Atmospheric Chemistry and Environmental Science and Engineering</i>

Biology	Elliot M. Meyerowitz, Ph.D. <i>Division Chair</i>
Chemistry and Chemical Engineering	David A. Tirrell, Ph.D. <i>Division Chair</i>
Engineering and Applied Science	David B. Rutledge, Ph.D. <i>Division Chair</i>
Geological and Planetary Sciences	Kenneth A. Farley, Ph.D. <i>Division Chair</i>
The Humanities and Social Sciences	Jean E. Ensminger, Ph.D. <i>Division Chair</i>
Physics, Mathematics and Astronomy	Thomas A. Tombrello, Ph.D. <i>Division Chair</i>

ANNOUNCEMENT OF AWARDS
AND CONCLUDING REMARKS

President Baltimore

ALMA MATER
“Hail CIT”
by Manton Barnes, BS '21 EE
*(The audience may join in;
lyrics are on page 52.)*

The Caltech Glee Clubs,
The Caltech Convocations Brass
and Percussion Ensemble,
and Organ

RECESSIONAL

The Caltech Convocations Brass
and Percussion Ensemble

Organ Postlude

Dr. Deutsch

CANDIDATES FOR DEGREES

Bachelor of Science

- Sarah Marie Adams *Lenexa, Kansas* Chemical Engineering (Materials)
Rebecca Abigail Adler* *St. Louis, Missouri* Biology and History and Philosophy of Science
Christopher Alika Ah New* *Honolulu, Hawaii* Mechanical Engineering and Business
Economics and Management
Keris Elizabeth Allrich *Austin, Texas* Chemical Engineering (Materials)
Ekua Nuama Anane-Fenin *Cape Coast, Ghana* Electrical Engineering
Chika Arakawa* *Thousand Oaks, California* Biology
Matthew Martin Armentrout *Salt Lake City, Utah* Geology
Subash Atreya* *Kathmandu, Nepal* Electrical Engineering
Joseph Ahmed Attia *Los Angeles, California* Mechanical Engineering
Yat Shan Au* *Hong Kong (PRC)* Physics
Stephen Travis Bannerman* *Austin, Texas* Physics
Timothy Robert Barnes *Fallbrook, California* Biology
Ann Hinckley Bendfeldt* *Sherborn, Massachusetts* Planetary Science
Michael Joseph Betancourt* *Marstons Mills, Massachusetts* Physics
Parag Dipak Bhayani *Homewood, Illinois* Applied and Computational Mathematics
Justin Edward Blanchard* *Naperville, Illinois* Mathematics
Britton Warren Boras *Columbia, Maryland* Chemical Engineering (Biomolecular)
Timothy Allen Boyd *Lubbock, Texas* Electrical and Computer Engineering
Steven Lee Brunton* *Euless, Texas* Mathematics and Control and Dynamical Systems
(Minor)
Jacob Samuels Burnim* *Silver Spring, Maryland* Computer Science and Mathematics
Jordon Wesley Carlson* *Tualatin, Oregon* Physics
Stephanie Ting Chan *Hsinchu, Taiwan (ROC)* Applied and Computational Mathematics
Derek Chang* *Westlake Village, California* Electrical Engineering
Michael Kae-Uei Chang *Duluth, Georgia* Biology and Business Economics and
Management
Grant Chang-Chien *Boca Raton, Florida* Chemical Engineering (Materials)
Ewen Audrey Chao *San Ramon, California* Engineering and Applied Science
(Computation and Neural Systems)
Roy Weigi Chen* *Walnut, California* Physics and Economics
Yang Chen* *Guangzhou, People's Republic of China* Electrical 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

Albert Chu *Atlanta, Georgia* Engineering and Applied Science
Bernard Wen-Bao Chu* *Rowland Heights, California* Chemistry
Grace Chuang* *Bloomfield Hills, Michigan* Biology
Michael Ryan Conry *Los Gatos, California* Applied Physics
Brandi Michelle Cossairt* *Miami, Florida* Chemistry
William Kratz Coulter *White Plains, New York* Electrical Engineering
Angelina Marie Crans* *Castro Valley, California* Biology
Abigail Tinney Crites *San Antonio, Texas* Physics
Hoan Bui Dang* *Hanoi, Vietnam* Physics
Adam Edward D'Angelo* *Redding, Connecticut* Computer Science
Noah Justin Davidsohn *Dix Hills, New York* Applied Physics
Scott Tadashi Davies* *San Diego, California* Applied Physics and Economics
Brian Matthew Day *Westport, Connecticut* Chemical Engineering (Materials)
Mithun Diwakar* *Troy, Michigan* Biology
Timothy Allen Dong *Alhambra, California* Chemistry
Erik George Hagemeyer Dreyer* *Anchorage, Alaska* Business Economics and Management
Christina Ann Dwyer* *Bowie, Maryland* Geology
Rebekah Lynne Eason *Dallas, Texas* Mechanical Engineering
Anamaria Effler *Arad, Romania* Physics
Andrey Andreev Evtimov* *Sofia, Bulgaria* Business Economics and Management
Elena Fabrikant* *Fremont, California* Biology and Mathematics
Silas Josef Faltus* *Golden, British Columbia, Canada* Engineering and Applied Science
Ryan Michael Farmer* *Issaquah, Washington* Computer Science and Business Economics and Management
Laura Jenny Fishman *Brooklyn, New York* Mechanical Engineering
Peter William Foley *Denver, Colorado* Engineering and Applied Science and Social Science
Tully Ballou Foote *Carlisle, Massachusetts* Mechanical Engineering
Meng-meng Fu* *Pasadena, California* Biology
Steven Song Gao* *Syosset, New York* Mechanical Engineering and Business Economics and Management
Ethan Campbell Geil* *Melbourne, Florida* Physics
Christopher Brian George* *Fayetteville, North Carolina* Chemistry
Jeremy Hugh Gillula* *Vienna, Virginia* Computer Science and Control and Dynamical Systems (Minor)
Joseph Edgar Gonzalez* *Richmond, Virginia* Computer Science
Katherine Gabriela Gora* *Leesburg, Virginia* Biology
Yelizaveta Aleksandrovna Gorstko* *Rostov-on-Don, Russia* Mathematics
Ashley Marie Grant *Arroyo Grande, California* Chemistry and Business Economics and Management

Bachelor of Science continued

- Andrew Wesley Green *Pagosa Springs, Colorado* Astrophysics
- Theresa Marie Grieco* *Vernon Hills, Illinois* Biology
- Anthony Matthew Gross* *Marblehead, Massachusetts* Physics and Business Economics and Management
- Melody Ellen Grubbs* *Corona, California* Engineering and Applied Science (Materials)
- Chunhui Gu* *Shanghai, People's Republic of China* Electrical Engineering and Control and Dynamical Systems (Minor)
- Joshua Gutman *Santa Monica, California* Computer Science
- George Isaac Hagstrom* *Albuquerque, New Mexico* Physics
- Nicholas Wm Halpern-Manners* *Northfield, Minnesota* Chemistry
- Brian Kyle Hanley *Bethesda, Maryland* Mechanical Engineering
- Douglas Byron Hanley *Buffalo, New York* Economics
- David James Hardee* *Brentwood, California* Chemistry
- Vanessa Mary Heckman *Henderson, Nevada* Engineering and Applied Science
- Hatem Hamdy Helal* *Ludington, Michigan* Applied Physics
- Fiona King Yi Heung* *Hong Kong (PRC)* Applied Physics
- Lea Hildebrandt* *Los Angeles, California* Chemical Engineering (Environmental)
- Christopher Peter Hiszpanski* *Valencia, California* Electrical Engineering
- Maria Kwan Ling Ho *Los Angeles, California* Biology
- Andrew Jarvis Hobbs II *Raleigh, North Carolina* Computer Science
- John William Howard* *Pittsburgh, Pennsylvania* Mechanical Engineering and Business Economics and Management
- Jennifer Ying Hsiao* *San Luis Obispo, California* Physics
- Chen An Andrew Huang* *Arcadia, California* Electrical Engineering
- Po-Yin Samuel Huang* *Taipei, Taiwan (ROC)* Biology
- Toby Hamilton Evan Huang *Louisville, Kentucky* Applied and Computational Mathematics and Business Economics and Management
- Patrick Anthony Hummel* *Las Vegas, Nevada* Applied and Computational Mathematics and Economics
- Bing Huo *Troy, Michigan* Mechanical Engineering
- Eugenia S. Iofinova* *Moscow, Russia* Mathematics
- Day Ivy* *Inglewood, California* Applied and Computational Mathematics and Economics
- Qinzi Ji* *Boulder, Colorado* Biology
- Franklin Steevens Jirón *Riverside, California* Engineering and Applied Science
- Joseph Jared Johnson *Bethlehem, Pennsylvania* Computer Science
- Harlan Mark Kadish* *Atlanta, Georgia* Mathematics
- David Alexander Kahn *Pepper Pike, Ohio* Biology
- Felicia Rachel Katz* *Eugene, Oregon* Biology

Bachelor of Science continued

- Eric David Kelsic* *Longmont, Colorado* Physics
Dmitriy Kernasovskiy* *Moscow, Russia* Economics
Priya Kollipara* *Youngstown, Ohio* Astrophysics
Dorota Zuzanna Korta* *Pleasant Hill, California* Biology
Daniel Jacob Koslover* *Tustin, California* Biology
Vanessa Ann Krause *Midland, Texas* Physics
Natalie Alice Kruk *Park Ridge, Illinois* Engineering and Applied Science
Eric Chi-Ming Kwei* *Houston, Texas* Chemical Engineering (Biomolecular)
Andrew Nicholas Kwok* *San Jose, California* Mechanical Engineering
Ivan Sergio La Frinere-Sandoval *San Diego, California* Mechanical Engineering and
Business Economics and Management
Callum Russell Lamb *Bishop, California* Physics
Jonathan Steven Landy* *Indianapolis, Indiana* Physics
Esther Sunghée Lee* *Auburn, Washington* Biology and English
Jeremy Michael Leibs* *San Mateo, California* Engineering and Applied Science
(Computation and Neural Systems) and Control and Dynamical Systems (Minor)
Yingxuan Caroline Li* *Chengdu, People's Republic of China* Electrical Engineering and
Business Economics and Management
Milo Miaoyu Lin* *Los Alamos, New Mexico* Physics
Benjamin Lipshitz* *West Lafayette, Indiana* Physics
Jesse Lee Liptrap *Pacific Palisades, California* Mathematics
Laurentiu-Andrei Lita *San Jose, California* Chemical Engineering (Biomolecular)
Qing Liu *Austin, Texas* Electrical Engineering
Zhihao Liu* *Naperville, Illinois* Computer Science
Jun Lu* *Guangzhou, People's Republic of China* Economics and Biology
Kevin Kee-Wing Lui* *Sacramento, California* Physics and Philosophy
Stefan Robert Luka *Sherman Oaks, California* Engineering and Applied Science
Julia S. Ma *Ellicott City, Maryland* Electrical Engineering
Katharine Laura Fraser Magary *San Francisco, California* Geology
Angela Caroline Magee *Tigard, Oregon* Engineering and Applied Science (Aeronautics)
Rachel Elizabeth Maire* *Silver Spring, Maryland* Engineering and Applied Science
(Materials Science)
James Ji-Chao Mao* *Sarasota, Florida* Electrical Engineering
Tyson Francis Mao *Hillsborough, California* Astrophysics
Smaranda Constanta Marinescu *Slatina, Romania* Chemistry and Biology
James Robert Martin* *Dallas, Texas* Chemistry and Control and Dynamical Systems
(Minor)
Kylara Margaret Martin *Round Rock, Texas* Geophysics
Charles Taylor McBrearty* *Hockessin, Delaware* Mathematics

Bachelor of Science continued

Alexander Patrick McCauley* *Charlotte, North Carolina* Physics and Mathematics
Bart Hunter M^cGuyer* *Houston, Texas* Physics
John Wang McNamara *Palm Harbor, Florida* Engineering and Applied Science
(Aeronautics) and English
Scott Anthony Medling *Laguna Hills, California* Physics
Alejandro Daniel Meruelo* *Scarborough, New York* Physics
Neil L. Kelly Miller *Van Nuys, California* Mathematics
Gabriel A. Molina *Maywood, California* Mechanical Engineering
Shelby Anne Montague* *Valdosta, Georgia* Biology
Colleen Lindsay Moody *Thousand Oaks, California* Biology
Christopher D. Moore *Madison, Wisconsin* Electrical and Computer Engineering
Robert Aldo Morell *Chadds Ford, Pennsylvania* Computer Science
Eva Rose Murdock *Veazie, Maine* Biology
Paul Najime Nagami* *Los Angeles, California* Biology
Vijay Paul Nayar *El Paso, Texas* Electrical and Computer Engineering
Tiong Cheng Neo* *Singapore* Chemistry
Marcus Qing Tai Ng *Moreno Valley, California* Physics
Matthew Qing Liang Ng *Moreno Valley, California* Mechanical Engineering
Timothy Chieu Nguyen* *San Jose, California* Mathematics
Daniel Charles O'Hanlon *Pittsburgh, Pennsylvania* Chemistry
Mary Helena Ollenburger *Elkhart, Indiana* Mechanical Engineering
Gustavo Willy Olm *Rio de Janeiro, Brazil* Economics and Engineering and Applied
Science
Ben Andrew Olsen* *Centennial, Colorado* Physics
Eben Matthew Olson* *Cataumet, Massachusetts* Applied Physics
Lillian Jennifer Pan* *Saratoga, California* Chemical Engineering (Environmental)
Amish Ashok Patel* *Granada Hills, California* Engineering and Applied Science
(Aeronautics) and Control and Dynamical Systems (Minor)
Tejas Jayanti Patel *Villa Park, California* Physics
Ruxandra Georgiana Paun* *Bucharest, Romania* Computer Science
Vera Lynn Pavel* *Livermore, California* Mechanical Engineering
Martin Yoshi Peek *Sunnyvale, California* Chemical Engineering (Biomolecular)
Benjamin Jerome Pelletier *Saline, Michigan* Electrical Engineering
Kevin Albert Peng* *Rancho Palos Verdes, California* Electrical Engineering
Yun-Chieh Peng* *Taiwan (ROC)* Physics
Robert Martin Personen *Westlake, Ohio* Applied and Computational Mathematics
Mark E. Polinkovsky* *Syracuse, New York* Physics
Kimberly Julia Popendorf *North Logan, Utah* Geobiology
Ransom Harold Poythress *Glenside, Pennsylvania* Biology
Laura Crosby Pruitt* *Two Harbors, Minnesota* Geology

Bachelor of Science continued

Andrew Orrin Pullin* *Pasadena, California* Mechanical Engineering
Simon Que* *San Jose, California* Electrical Engineering
Ann Marie Rajala* *Colts Neck, New Jersey* Astrophysics
Brandon Mark Rawlings* *Dublin, Georgia* Chemical Engineering (Materials)
Adam Daniel Reeves* *Mechanicsburg, Pennsylvania* Biology
Dean Anthony Reich* *Moorpark, California* Applied Physics and Economics
Naboon Riddhiraksa *Lamphun, Thailand* Biology
Tharathorn (Joy) Rimchala* *Chanthaburi, Thailand* Biology and Engineering and Applied
Science
Gunnar Gibbens Ristroph* *Pinehurst, Texas* Mechanical Engineering and Control and
Dynamical Systems (Minor)
Patricio Romano-Pringles* *Madrid, Spain* Mechanical Engineering
Meru Jyoti Sadhu *Bothell, Washington* Biology
Jason Ryan Schadewald *New Egypt, New Jersey* Mathematics
Adam Patrick Sears *Houston, Texas* Physics
Lisa Adelaide Seeman* *Los Altos, California* Electrical Engineering
Hannah Syeda Shafaat* *Langley, Washington* Chemistry
Raman Anand Shah* *Houston, Texas* Chemistry
Mayra Sheikh *Winnetka, California* Chemistry
Alexander Richard Sheive *Waterville, Maine* Mathematics
Ching-Ping Janet Shen* *Brookfield, Connecticut* Mechanical Engineering and Business
Economics and Management
Aleksander Shvartser *Los Angeles, California* Electrical Engineering
Chin Yeung Siu* *Hong Kong (ROC)* Chemistry and Economics
Petar Sladic *Spring Valley, California* Computer Science
Javier Soliz *Kingsville, Texas* Engineering and Applied Science
Brian John Somok *Southbury, Connecticut* Business Economics and Management
Daniel Mark Soudek *Houston, Texas* Computer Science
Akil Srinivasan* *The Woodlands, Texas* Electrical Engineering
Arthi Grace Srinivasan *Vienna, Virginia* Electrical Engineering
Benjamin Samuel Koslowsky Stein *Westport, Connecticut* Computer Science
Leo C. Stein* *Pittsford, New York* Physics
Jessica Jan Stockburger *Fort Collins, Colorado* Biology
Daniel Julian Stolarski* *Dallas, Texas* Physics
Ping Su* *San Gabriel, California* Electrical Engineering and Business Economics and
Management
Martin Suchara* *Prague, Czech Republic* Computer Science
David Mark Sullivan *Madison, Mississippi* Mathematics

Bachelor of Science continued

Alexander James Sutherland* *Boston, Massachusetts* Mathematics and Economics
Amber Nicole Swenson* *Simi Valley, California* Astrophysics
Kuanshuan Helen Tai* *Fremont, California* Applied and Computational Mathematics and
Business Economics and Management
Matyas Tamas* *Moraga, California* Physics
Emma Lynn Thomas* *Freestone, California* Biology
Nyssa Emiko Thompson *Honolulu, Hawaii* Mathematics
Timothy Frederick Tirrell* *Kentfield, California* Chemistry
Lisa Nguyen Tran *San Gabriel, California* Chemistry
Kevin David Trotter *San Salvador, El Salvador* Computer Science and Business Economics
and Management
Michael Edward Turk *Rockford, Michigan* Physics
Vivian U *Walnut, California* Astrophysics
Dvina Emilia Valainis* *San Jose, California* Chemical Engineering (Biomolecular)
Michael Christopher Villet* *Piedmont, California* Chemical Engineering (Materials)
Matthew Hsing-Hung Walker *Pittsford, New York* Physics
Ruiqi Rachel Wang* *Singapore* Chemistry
Stuart Timothy Ward *Klamath Falls, Oregon* Electrical Engineering
Alden Marie Waters *Punta Gorda, Florida* Mathematics
Phillip Ryan Welch* *Bakersfield, California* Mechanical Engineering
Bingni Wen* *Gaithersburg, Maryland* Biology
Bradley Joseph Westover* *Lawrenceville, Georgia* Physics
Christopher Louis Wetzel *Los Angeles, California* Applied and Computational
Mathematics and Economics
Regina L. Wilpizeski *Dunellen, New Jersey* Geobiology
Trevor Miles Wilson* *Portland, Oregon* Mathematics
Meredith Elsa Wiseman* *Palo Alto, California* Chemical Engineering (Materials)
Zhizhang Xia* *Torrance, California* Electrical Engineering
Xin Xin *Lawrence, Kansas* Chemical Engineering (Materials)
Jiajing Xu* *Shanghai, People's Republic of China* Electrical Engineering
Wensi Xu* *Arcadia, California* Biology and Business Economics and Management
Xiao Xu* *Shanghai, People's Republic of China* Physics
Miling Yan* *Claremont, California* Engineering and Applied Science
Eugene Yanayt* *Leominster, Massachusetts* Computer Science
Jay Lee Yang* *Burke, Virginia* Chemistry
Mi Mickey Yang *Pleasanton, California* Biology
Hao Ye* *Gaithersburg, Maryland* Computer Science
Zhu Irene Ying *Deerfield, Illinois* Biology
Rachel Paula Yohay *Merrick, New York* Physics

Bachelor of Science continued

Juhwan Yoo* *Novi, Michigan* Electrical Engineering

Jason Byron Yosinski* *Colorado Springs, Colorado* Mechanical Engineering and Control
and Dynamical Systems (Minor)

Maximilian Ted Zavodny *San Marcos, California* Physics

Amos Mo Zhang *South Pasadena, California* Electrical Engineering

Michael Ke Zhang* *Hunan, People's Republic of China* Physics

Shuhao Zhang* *Arcadia, California* Biology

Xiaoke Zheng *Ningbo, People's Republic of China* Business Economics and Management

Xiaoliang Zhu* *Milwaukee, Wisconsin* Electrical Engineering

Phillip Gregory Zukin* *Encino, California* Physics

Corinna Clio Markenscoff Zygourakis* *Houston, Texas* Biology and English

Master of Science

- Gretchen Keppel Aleks (*Environmental Science and Engineering*) S.B., Massachusetts Institute of Technology 2004.
- Michael R. Alton (*Social Science*) B.A., The University of Chicago 2004.
- Keita Ando (*Mechanical Engineering*) B.E., Keio University 2005.
- Raymond Humphrey Archer (*Chemical Engineering*) B.Eng., B.Com., University of Canterbury 2003.
- Christoph Brunner (*Social Science*) Diplôme, Institut d'Etudes Politiques de Paris 2000; Lizentiat, Universität St. Gallen 2003.
- Agostino Capponi (*Computer Science*) B.S., University of Rome "La Sapienza" 2001.
- John Reeves Carpenter, III (*Chemical Engineering*) B.S., North Carolina State University 2002.
- Taiala Bandeira Carvalho (*Applied and Computational Mathematics*) B.S., University of Minnesota 2004.
- James McPherson Chakan (*Physics*) B.A. (*Physics*) and B.A. (*Astronomy and Astrophysics*), Harvard College 1999.
- Yu-Teng Chang (*Electrical Engineering*) B.S., National Taiwan University 2002.
- Min Chen (*Geophysics*) B.S., University of Science and Technology of China 2001.
- Michael M. Choi (*Chemical Engineering*) B.S., Brigham Young University 2004.
- William C. Chueh (*Materials Science*) B.S., California Institute of Technology 2005.
- Daniel R. Cleary (*Biology*) B.S., Montana Tech – The University of Montana 2004.
- Andrea Lee Clements (*Environmental Science and Engineering*) B.A., Cornell College 2001; B.S., Washington University in St. Louis 2002.
- Ubaldo M. Cordova-Figueroa (*Chemical Engineering*) B.S., University of Puerto Rico, Mayagüez 2003.
- Ernest G. Cruz (*Chemistry*) B.S., California State University, Los Angeles 2001.
- Tao Cui (*Electrical Engineering*) B.E., Xi'an Jiaotong University 2003; M.S., University of Alberta 2005.
- Kenneth Alexander Diest (*Materials Science*) B.S., Cornell University 2002.
- Theodoros Dikaliotis (*Electrical Engineering*) B.S., National Technical University of Athens 2004.
- T. Gregory Drummond (*Chemistry*) B.S., State University of West Georgia 1997.
- Gang Duan (*Electrical Engineering*) B.S., Beijing University 1999; M.S., 2002; M.S. (*Materials Science*), California Institute of Technology 2004.
- Ahmed Ettaf ElBanna (*Applied Mechanics*) B.Sc., Cairo University 2003; M.Sc., 2005.
- Stephen Vincent Fiacco (*Biochemistry and Molecular Biophysics*) B.S., University of California, Santa Barbara 2003.
- Arthur Gerard Fitzmaurice III (*Environmental Science and Engineering*) S.B. (*Chemical Engineering*) and S.B. (*Environmental Engineering Science*), Massachusetts Institute of Technology 2003; S.M., 2004.

Master of Science continued

- Eric Brian Flynn (*Civil Engineering*) B.S., Harvey Mudd College 2005.
- Yu Fu (*Electrical Engineering*) B.S., Cornell University 2005.
- Jason M. Gamba (*Chemical Engineering*) B.S., Rensselaer Polytechnic Institute 2004.
- Sean Damien Gates (*Mechanical Engineering*) B.S., University of California, San Diego 2004.
- Howard Haoquan Ge (*Electrical Engineering*) B.S., Rutgers, The State University of New Jersey 2000; M.S. (*Mechanical Engineering*), California Institute of Technology 2001.
- Marcial Gonzalez (*Aeronautics*) Mechanical Engineer, Universidad de Buenos Aires 2002.
- Weifu Guo (*Geochemistry*) B.S., University of Science and Technology of China 2002.
- Christian Alexander Gutierrez (*Electrical Engineering*) B.S., (*Electrical Engineering*) and B.S. (*Business Economics and Management*), California Institute of Technology 2005.
- Si-ping Han (*Materials Science*) B.S., California Institute of Technology 2003.
- Jeffrey Hanna (*Mechanical Engineering*) B.S., Colorado School of Mines 2002; M.S., 2004.
- Lars-Erik Hannelius (*Physics*) M.S., University of Helsinki 2000.
- Jonathan Harel (*Electrical Engineering*) B.S., California Institute of Technology 2003.
- Michael David Henry (*Applied Physics*) B.S. (*Electrical Engineering*) and B.S. (*Mathematics*), University of Arizona 2003.
- Benjamin John Hickey (*Geology*) B.Sc., Durham University 2003; M.Sc., Oxford University 2005.
- Douglas C. Hofmann (*Materials Science*) A.A., A.S., Santa Rosa Junior College 2001; B.S., University of California, San Diego 2003; M.S., 2004.
- Ray Kui-Jui Huang (*Electrical Engineering*) B.S., Cornell University 2005.
- Patrick Anthony Hummel (*Chemistry*) B.S., California Institute of Technology 2006.
- Shelby Brooke Hutchens (*Chemical Engineering*) B.S., Oklahoma State University 2004.
- Jiaqi Jin (*Electrical Engineering*) B.S., Tsinghua University 2005.
- Won Tae Joe (*Mechanical Engineering*) B.S., University of California, San Diego 2004.
- Ashley Ann Jones (*Environmental Science and Engineering*) B.S., University of South Carolina 2004.
- Shankar Kalyanaraman (*Computer Science*) B.Tech., Indian Institute of Technology, Madras 2001.
- Min Jeong Kang (*Social Science*) B.A., Yonsei University 2002.
- Nachiket Ganesh Kapre (*Computer Science*) B.E., University of Pune 2002; M.S. (*Electrical Engineering*), California Institute of Technology 2005.
- Michael David Kelzenberg (*Electrical Engineering*) B.S. (*Computer Engineering*) and B.S. (*Electrical Engineering*), Iowa State University 2005.
- Liliya Kharevych (*Computer Science*) B.S., University of Maryland 2002.
- Andrey Khorlin (*Computer Science*) B.A., B.S., University of Maryland 2001.
- Taewan Kim (*Electrical Engineering*) B.E., Dongguk University 2003.

Master of Science continued

- Anthony George Kirilusha (*Computer Science*) B.A., B.S., University of Richmond 2001.
- Gregory Thomas Knoke (*Planetary Science*) B.S., Iowa State University 2004.
- Lewis Thomas Kotredes (*Astrophysics*) B.S., Worcester Polytechnic Institute 2002.
- Serkan Kucuksenel (*Social Science*) B.A., B.S., Koç University 2002; M.A., Sabanci Universitesi 2004.
- Solomon Jacob Kutnicki (*Electrical Engineering*) B.S., California Institute of Technology 2002.
- Sebastien Rene Lasfargues (*Electrical Engineering*) Gradué en Ingénierie, Institut National Polytechnique de Toulouse 2005.
- Jonathan James Lee (*Electrical Engineering*) B.S., California Institute of Technology 2004.
- Xiaobai Li (*Mechanical Engineering*) B.E., University of Science and Technology of China 2001; M.E., 2004.
- Sera Linardi (*Social Science*) B.Sc., Stanford University 1999.
- Morgan Hunt Llewellyn (*Social Science*) B.A., Hope College 2002.
- Leonard Joseph Lucas (*Mechanical Engineering*) B.S., Carnegie Mellon University 2004.
- Jonathan Eli Mace (*Chemistry*) B.S., Florida State University 2003.
- James Ross Maloney (*Physics*) B.S., University of Florida 2002.
- Jessica Mao (*Chemistry*) B.S., State University of New York at Stony Brook 2000.
- Devdutt Vinayak Marathe (*Electrical Engineering*) B.Tech., Indian Institute of Technology, Madras 2005.
- Joshua Scott Marcus (*Biochemistry and Molecular Biophysics*) B.S., University of Florida 2001.
- Guido Tullio Andrea Maretto (*Social Science*) Laurea, Università Commerciale Luigi Bocconi 2003.
- Eric Louis Margelefsky (*Chemical Engineering*) B.S., Cornell University 2004.
- Margarita M. Marinova (*Planetary Science*) S.B., Massachusetts Institute of Technology 2003.
- Colin Wood McCaughey (*Electrical Engineering*) B.E., Stevens Institute of Technology 2005.
- John Charles M^cKeen (*Chemical Engineering*) B.S. (*Chemical Engineering*) and B.S. (*Electrical Engineering*), University of Minnesota 2003; M.S., 2004.
- Mitchell Calvin Meeusen (*Social Science*) B.S., The University of Michigan 2000; M.S., 2003.
- Nikil Mehta (*Computer Science*) Sc.B., Brown University 2003.
- Alan Daniel Miller (*Social Science*) B.A., University of California, Berkeley 1998; J.D., Northwestern University 2001.
- Setu Mohta (*Electrical Engineering*) B.S., Cornell University 2005.
- Michael William Morton (*Chemistry*) B.S., The University of Utah 1998.
- Noah Myung (*Social Science*) B.S., University of California, Los Angeles 2003.

Master of Science continued

- Adam Keith Norman (*Aeronautics*) B.S., The University of New Mexico 2005.
- Kaveh Pahlevan (*Planetary Science*) B.S., University of Maryland 2004.
- Luigi Emanuele Perotti (*Mechanical Engineering*) Laurea, Politecnico di Milano 2004.
- John Pongsajapan (*Computer Science*) B.S. (*Computer Science*) and B.S. (*Mathematics*),
University of California, Los Angeles 2003.
- Laura Crosby Pruitt (*Geophysics*) B.S., Caltech 2006.
- JoHanna Nicole Przybylowski (*Aeronautics*) S.B., Massachusetts Institute of Technology
2005.
- Justin James Purewal (*Materials Science*) B.S., California Institute of Technology 2005.
- Darin Alan Ragozzine (*Planetary Science*) B.A., Harvard College 2004.
- Carrie Elizabeth Ross (*Materials Science*) B.S., University of Florida 2003.
- Jae C. Sammy (*Electrical Engineering*) B.S., University of Florida 2004.
- Sormeh Shadbakht (*Electrical Engineering*) B.S., Sharif University of Technology 2004.
- Michael Joseph Shearn II (*Applied Physics*) B.S. (*Mathematics*) and B.S. (*Physics*), B.S.E.E.,
Southern Methodist University 2004.
- Young Shik Shin (*Bioengineering*) B.S., Seoul National University 2002; M.S., 2004.
- Michael Lee Silva (*Aeronautics*) B.S., University of California, San Diego 2005.
- Joshua Michael Spurgeon (*Chemical Engineering*) B.S., University of South Carolina
2004.
- Brian Lawrence Standley (*Applied Physics*) B.S.E.E., University of Idaho 2004.
- Regina Mariko Sullivan (*Aeronautics*) S.B., Massachusetts Institute of Technology 2005.
- Xiankai Sun (*Applied Physics*) B.S., University of Science and Technology of China 2004.
- Phanish Suryanarayana (*Aeronautics*) B.Tech., Indian Institute of Technology, Madras
2005.
- Carl Harlan Tape (*Geophysics*) B.A., Carleton College 2001; M.Sc., University of
Oxford 2004.
- Darci Danielle Taylor (*Materials Science*) B.S., Westminster College 2004.
- Lu Tian (*Computer Science*) B.S., University of Saskatchewan 2003.
- Pranjal Trivedi (*Astrophysics*) B.Sc., University of Delhi 1998; B.A., M.Sc., University of
Cambridge 2000.
- Kendra Antionette Turk (*Geobiology*) B.A., B.S., University of California, Santa Cruz
1999.
- Ryan Matthew Turner (*Chemical Engineering*) B.S., Clarkson University 2004.
- Ali Vakili (*Electrical Engineering*) B.S., Sharif University of Technology 2004.
- Gabriela Natalia Venturini (*Aeronautics*) Chemical Engineer, Universidad de Buenos
Aires 2004.
- Nicolas Gero von Gersdorff (*Civil Engineering*) B.S., Harvey Mudd College 2005.
- Jonathan Newton Wall (*Electrical Engineering*) B.A., Occidental College 2003; B.S.,
California Institute of Technology 2003.

Master of Science continued

- Fei Wang (*Electrical Engineering*) B.S.E., Princeton University 2004.
- Yu-Jiu Wang (*Electrical Engineering*) B.S., National Taiwan University 2001.
- Geoffrey M. Ward (*Aeronautics*) B.S., University of Arizona 2005.
- Phillip Ryan Welch (*Mechanical Engineering*) B.S., California Institute of Technology 2006.
- Aaron Wiest (*Materials Science*) A.A., Cerritos College 1999; B.S., California Institute of Technology 2005.
- Sylvie Wintenberger (*Aeronautics*) B.S., École Polytechnique 2004.
- Tichakorn Wongpiromsarn (*Mechanical Engineering*) B.S., Cornell University 2005.
- Marc Dominic Woodka (*Chemical Engineering*) B.S., Rensselaer Polytechnic Institute 2003.
- Weiyu Xu (*Electrical Engineering*) B.E., Beijing University of Posts and Telecommunications 2002; M.S., Tsinghua University 2005.
- Yeow Chuan Yeo (*Electrical Engineering*) Diplôme d'Ingénieur, École Supérieure d'Ingénieurs en Électrotechnique et Électronique 2006.
- Zhaoyu Zhang (*Electrical Engineering*) B.S., University of Science and Technology of China 1998; M.S., 2001.

Doctor of Philosophy

DIVISION OF BIOLOGY

- Jordan Benjamin (*Biology*) B.S., University of California, Santa Cruz 2001.
Thesis: Structural Studies of Human Immunodeficiency Virus Type I by Cryo-Electron Tomography.
- Baris Bingol (*Biology*) B.S., Bilkent University 2000.
Thesis: Ubiquitin-Proteasome System at the Synapse.
- Bede Michael Broome (*Biology*) B.A., Princeton University 1999.
Thesis: Population Coding and Reconstruction of Complex Stimuli in the Locust Olfactory System.
- Ronald McKell Carter (*Biology*) B.S., The University of Utah 1998.
Thesis: Explicit and Implicit Processes in Human Aversive Conditioning.
- Eun Jung Choi (*Biology*) B.S., Seoul National University 1998; M.S., 2000.
Thesis: Development and Applications of Computational Protein Design.
- Gregory A. Cope (*Biochemistry and Molecular Biophysics*) B.S., University of California, Santa Cruz 1998.
Thesis: Regulation of SCF Ubiquitin Ligases by Jab1/Csn5 and the Cop9 Signalosome.
- Johannes Graumann (*Biology*) Diplom, Universität Konstanz 2000.
Thesis: Implementation of Multidimensional Protein Identification Technology and Its Application to the Characterization of Protein Complexes in Bakers Yeast.
- Harry Miguel Green (*Biology*) B.S., University of California, Riverside 1999.
Thesis: Novel Methods for Studying Ras/Erk MAP Kinase Signaling in Developing T Cells.
- Erik Griffin (*Biology*) B.A., Swarthmore College 1996.
Thesis: Mechanisms of Mitochondrial Fusion and Fission.
- Houman David Hemmati (*Biology*) B.S., Stanford University 1996.
Thesis: Neural Stem and Progenitor Cells in Cancer and Development.
- Rajan P. Kulkarni (*Biochemistry and Molecular Biophysics and History and Philosophy of Science*) B.A., B.S., Stanford University 2000.
Thesis: Mechanics of the Cytoskeleton: Examining the Dynamics of Cytoplasmic Transport through Fluorescence Microscopy.
- Christopher J. Lacenera (*Genetics*) B.S., Carnegie Mellon University 1994; M.S., California Institute of Technology 2000.
Thesis: Advances in Single Molecule Nucleic Acid Sequencing.
- Brian Lee (*Biology*) B.S., University of Southern California 1999.
Thesis: Neural Computation of Self-Motion from Optic Flow in Primate Visual Cortex.

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

Carolina Becker Livi (*Developmental Biology*) B.Sc., Universidade Federal do Rio Grande do Sul 1996; M.S., California Institute of Technology 2000.

Thesis: Spblimp1/krox: A Transcriptional Regulator with a Central Role in Endomesoderm Specification in Sea Urchin Embryos.

Jessica Mao (*Biochemistry and Molecular Biophysics*) B.S., State University of New York at Stony Brook 2000; M.S., California Institute of Technology 2006.

Thesis: Applications of Computational Protein Design.

Joshua Scott Marcus (*Biochemistry and Molecular Biophysics*) B.S., University of Florida 2001; M.S., California Institute of Technology 2006.

Thesis: Single Mammalian Cell Gene Expression Analysis Using Microfluidics.

Patricia A. Neil (*Computation and Neural Systems*) B.E., University of Colorado 1998.

Thesis: Development of Audiovisual Integration in Human Infants: The Effects of Spatial and Temporal Congruency and Incongruency on Response Latencies.

Eric Michael Slimko (*Computation and Neural Systems*) B.S.E., The University of Michigan 1994.

Thesis: Selective Silencing of Vertebrate Neurons: Strategies Using Invertebrate Ligand-Gated Ion Channels.

Karli Kiiko Watson (*Biology*) B.A., Swarthmore College 1997.

Thesis: The Von Economo Neurons: From Cells to Behavior.

Daw-An Wu (*Biology*) B.A., University of California, Berkeley 1998.

Thesis: How Perception Adheres Color to Objects and Surfaces: Studies Using Visual Illusions and Transcranial Magnetic Stimulation.

Eric Stafford Zollars (*Biochemistry and Molecular Biophysics*) B.S., University of Maryland 1999.

Thesis: Force Field Development in Protein Design.

DIVISION OF CHEMISTRY AND CHEMICAL ENGINEERING

Eric R. Ashley (*Chemistry*) A.B., Harvard College 2000.

Thesis: The First Total Synthesis of (-)-Lemonomycin and Progress toward the Total Synthesis of (+)-Cyanocycline A.

Joel Francis Austin (*Chemistry*) B.S., Kettering University 2000.

Thesis: The Development of Organocatalytic Reactions Pertaining to Indoles.

Jeffrey Thomas Bagdanoff (*Chemistry*) B.S., University of California, Davis 1998.

Thesis: Development of the Enantioselective Oxidation of Secondary Alcohols and Natural Products Total Synthesis.

Julie Suzanne Biteen (*Chemistry*) A.B., Princeton University 2001; M.S., California Institute of Technology 2003.

Thesis: Plasmon-Enhanced Silicon Nanocrystal Luminescence for Optoelectronic Applications.

Doctor of Philosophy continued

- Amanda Leigh Cashin (*Chemistry*) B.A., University of Colorado 1999.
Thesis: Chemical Scale Investigations of Drug-Receptor Interactions at the Nicotinic Acetylcholine Receptor.
- Donato Marino Ceres (*Chemistry*) Ing. Phys. Dipl., École Polytechnique Fédérale de Lausanne 2000.
Thesis: Electron Transfer at DNA-Modified Electrodes.
- Cynthia H. Collins (*Biochemistry and Molecular Biophysics*) B.Sc., University of Toronto 2000.
Thesis: Directed Evolution of the Transcriptional Activator LUXR.
- Raymond Michael Doss (*Chemistry*) B.S., New York University 2000.
Thesis: Programmable Oligomers for DNA Recognition.
- Joseph Anthony Duimstra (*Chemistry*) B.S., University of California, Berkeley 1997; M.S., California Institute of Technology 2002.
Thesis: Modulation of Magnetic Properties in Magnetic Resonance Imaging Contrast Agents and Molecular Magnetic Materials.
- Jonathan S. Feenstra (*Chemistry*) B.S., Rutgers, The State University of New Jersey 2000.
Thesis: Ultrafast Electron Diffraction: The Development of Methodology for the Direct Determination of Structural Dynamics of Molecular Excited States.
- Juliane L. Fry (*Chemistry*) B.S., The University of Rochester 2000.
Thesis: Spectroscopy and Kinetics of Atmospheric Reservoir Species: HOONO, CH₃C(O)OONO₂, CH₃OOH, and HOCH₂OOH.
- Ronald L. Grimm (*Chemistry*) B.S., Case Western Reserve University 1999.
Thesis: Fundamental Studies of the Mechanisms and Applications of Field-Induced Droplet Ionization Mass Spectrometry and Electrospray Mass Spectrometry.
- Seth Beebe Harkins (*Chemistry*) B.S., The Pennsylvania State University 1999.
Thesis: The Synthesis and Study of Redox-Rich, Amido-Bridged Cu₂N₂ Dicopper Complexes.
- Jonathan Ross Hart (*Chemistry*) B.S., California State Polytechnic University, San Luis Obispo 1999.
Thesis: Synthesis and Applications of Bulky Rhodium(III) Intercalators for the Recognition of DNA Mismatches.
- Robert Hodyss (*Chemistry*) B.S., University of Florida 1999.
Thesis: Methods for the Analysis of Organic Chemistry on Titan.
- Dean Marcu Holunga (*Chemical Engineering*) B.A., Ambassador University 1988; B.S., Rensselaer Polytechnic Institute 1999; M.S., California Institute of Technology 2003.
Thesis: Aerosol Technologies for Fabrication, Collection, and Deposition of Engineered Nanoparticles.

Doctor of Philosophy continued

- Catharine Hoàng-Mai Larsen (*Chemistry*) B.S., University of California, Irvine 2000.
Thesis: Investigating Imidazolidinone Catalysts: Enantioselective Organocatalytic Diels-Alder Reactions, Conjugate Additions to Access Non-Natural α -Amino Acids, and Bimodal Catalyst Activation for the Development of Organo-Cascade Reactions.
- Aaron James Link (*Chemical Engineering*) B.S.E., Princeton University 2000; M.S., California Institute of Technology 2002.
Thesis: Azide-Bearing Amino Acids in Protein Engineering and Proteomic Profiling.
- Julie Chih-I Liu (*Chemical Engineering and Biology*) B.S.E., Princeton University 2000; M.S., California Institute of Technology 2002.
Thesis: Endothelial Cell Response to Artificial Extracellular Matrix Proteins.
- Connie Chih Lu (*Chemistry*) S.B., Massachusetts Institute of Technology 2000.
Thesis: The Chemistry of Tris(phosphino)borate Manganese and Iron Platforms.
- Ian Kyle Mangion (*Chemistry*) A.B., A.M., Harvard College 2001.
Thesis: Development of Organocatalytic Direct Aldol Transformations, Total Syntheses of Brasoside and Littoralisone, and Progress Toward the Total Synthesis of Diazonamide A.
- Jeremy Allen May (*Chemistry*) B.S., The University of Utah 2000.
Thesis: I. Synthesis and Utilization of Diazocompounds for Applications in Solution-Phase and Gas-Phase Chemistry. II. Progress toward the Synthesis of the Commanesin Indole Alkaloids.
- Michelle Margaret Meyer (*Biochemistry and Molecular Biophysics*) B.A., B.S., Rice University 2001.
Thesis: Exploring Protein Sequence Space Using Computationally Directed Recombination.
- David Jason Michalak (*Chemistry*) B.A., Vassar College 1999.
Thesis: Physics and Chemistry of Silicon Surface Passivation.
- Endy Yeo-Jung Min (*Chemistry*) A.B., Stanford University 1997.
Thesis: Kinetic Resolution of Chiral α -Olefins Using Enantiopure Ziegler-Natta Polymerization Catalysts.
- Swaroop Mishra (*Chemical Engineering and Biology*) B.S., Stanford University 1999.
Thesis: Intracellular Considerations in the Development of Non-Viral Nucleic Acid Delivery Systems for Systemic Administration.
- Marissa Lee Mock (*Chemistry*) B.S., M.S., The Pennsylvania State University 1998.
Thesis: Protein Modification through *in vivo* Incorporation of Noncanonical Amino Acids.
- Christie Morrill (*Chemistry*) B.S., Brigham Young University 2000.
Thesis: Application of Transition Metal Catalysis to Small Molecule Synthesis.
- Tingwei Mu (*Chemistry*) B.S., University of Science and Technology of China 2000.
Thesis: A Chemical-Scale Study on the Ligand-Binding Site of a Serotonin-Gated Ion Channel.

Doctor of Philosophy continued

- Eric Joseph Nemanick (*Chemistry*) B.A., Carleton College 1999.
Thesis: Chemical and Electrical Passivation of Single Crystal Silicon Surfaces through Covalently Bound Organic Monolayers.
- Charles Sellers Nickerson (*Chemistry*) B.S. (*Chemistry*), B.S. (*Physics*), North Carolina State University 2001.
Thesis: Engineering the Mechanical Properties of Ocular Tissues.
- Paul John Nowatzki (*Chemical Engineering and Biology*) B.S., University of Minnesota 1999.
Thesis: Characterization of Crosslinked Artificial Protein Films.
- Adam P. Olsen (*Chemical Engineering*) Sc.B., Brown University 1999.
Thesis: Scanning Activity Gravimetric Analysis (SAGA) of Aqueous Polyethylene Oxide.
- Eric A. Pape (*Chemical Engineering*) B.S., University of Missouri–Rolla 1999; M.S., California Institute of Technology 2001.
Thesis: Light Adjustable Macromer-Doped Elastomers: The Thermodynamics, Transport, and Photochemistry of Silicones.
- Tracey Alayne Rissman (*Chemical Engineering and Environmental Science and Engineering*) B.S. (*Chemical Engineering*) and B.S. (*Environmental Engineering*), Northwestern University 2000; M.S., California Institute of Technology 2002.
Thesis: Theory, Field Measurements, and Laboratory Experiments Concerning the Cloud Condensation Nucleus Properties of Organic and/or Insoluble Aerosol Components.
- Santiago de Jesus Solares (*Chemical Engineering*) B.S., University del Valle 1994; Licenciado, 1995; M.S., University of Miami 1996; M.S., California Institute of Technology 2005.
Thesis: Multi-Scale Simulations of Single-Walled Carbon Nanotube Atomic Force Microscopy and Density Functional Theory Characterization of Functionalized and Non-Functionalized Silicon Surfaces.
- Steven Adrian Spronk (*Chemistry*) B.S., Calvin College 1999.
Thesis: Investigations of Ion Channels with Computational Simulations and Biochemical Experiments.
- Uttam Krishan Tambar (*Chemistry*) A.B., Harvard College 2000.
Thesis: Convergent Methods for Synthesizing Rings in the Context of Natural Product Synthesis: I. Development of a Tandem Stille-Oxa-Electrocyclization Reaction, and Progress toward the Total Synthesis of Saudin. II. Development of the Direct Acyl-Alkylation of Arynes, and Its Application toward the Total Synthesis of Amurensinine.
- Christine Marie Thomas (*Chemistry*) B.S., Lafayette College 2001.
Thesis: Novel Reactivity at Iron Centers Supported by Poly(phosphino)borate Ligands.

Doctor of Philosophy continued

Derek W. Thurman (*Chemistry*) B.S., Abilene Christian University 1999.

Thesis: Molecular Aspects of Flow-Induced Crystallization of Polypropylene.

Alexander Vincent Tobias (*Chemical Engineering and Biology*) B.E., McGill University 2000.

Thesis: Directed Evolution of Biosynthetic Pathways to Carotenoids with Unnatural Carbon Backbones.

Raissa M. Trend (*Chemistry*) B.A., University of Wisconsin–Madison 1998; B.S., The University of Chicago 2001.

Thesis: Concerning the Mechanism and Selectivity of Palladium(II)-Catalyzed Aerobic Oxidation Reactions.

Varuntida Varutbangkul (*Chemical Engineering and Environmental Science and Engineering*) B.S., Stanford University 2000; M.S., California Institute of Technology 2002.

Thesis: Ambient and Laboratory Studies of Aerosol Size Distributions and Hygroscopicity.

Andrew Willis Waltman (*Chemistry*) B.S., The University of Michigan 2000.

Thesis: N-Heterocyclic Carbene Ligands for Nickel Ethylene Polymerization Catalysts: Toward the Incorporation of Polar Comonomers.

DIVISION OF ENGINEERING AND APPLIED SCIENCES

Behnam Analui (*Electrical Engineering*) B.S., Sharif University of Technology 1998; M.S., 2000; M.S., California Institute of Technology 2005.

Thesis: Signal Integrity Issues in High-Speed Wireline Links: Analysis and Integrated System Solutions.

Tom Baehr-Jones (*Applied Physics*) B.S., California Institute of Technology 2002; M.S., 2005.

Thesis: Novel Modulation and Detection Mechanisms in Silicon Nanophotonics.

Matthew Gregory Borselli (*Applied Physics*) B.S. (*Physics*) and B.S. (*Mathematics*), University of Arizona 2001; M.S., California Institute of Technology 2003.

Thesis: High-*Q* Microresonators as Lasing Elements for Silicon Photonics.

Edward Allan Branchaud (*Mechanical Engineering*) B.S., Boston University 2000; M.S., California Institute of Technology 2001.

Thesis: A Control System for Positioning Recording Electrodes to Isolate Neurons in Extracellular Recordings.

James Franklin Buckwalter (*Electrical Engineering*) B.S., California Institute of Technology 1999; M.S., University of California, Santa Barbara 2001.

Thesis: Deterministic Jitter in Broadband Communication.

Gestur Björn Christianson (*Computation and Neural Systems*) B.S., McMaster University 1998.

Thesis: Information Processing in the Interaural Time Difference Pathway of the Barn Owl.

Doctor of Philosophy continued

- Lars Brör Cremean (*Mechanical Engineering and Control and Dynamical Systems*) B.S., Cornell University 1999; M.S., California Institute of Technology 2000.
Thesis: System Architectures and Environment Modeling for High-Speed Autonomous Navigation.
- Olivier Delaire (*Materials Science*) Diplôme d'Ingénieur, École Centrale Lyon 1999; M.S., Pennsylvania State University 2000; M.S., California Institute of Technology 2002.
Thesis: The Phonon Entropy of Transition Metals and Alloys: Effects of Impurities and of a Martensitic Phase Transition.
- Laurent Demanet (*Applied and Computational Mathematics*) B.S., Université Catholique de Louvain 2002.
Thesis: Curvelets, Wave Atoms, and Wave Equations.
- David Allan Drummond (*Computation and Neural Systems*) B.S., Princeton University 1995.
Thesis: Misfolding Dominates Protein Evolution.
- Tao Feng (*Applied Physics*) B.E., Tsinghua University 1998; M.S., California Institute of Technology 2000.
Thesis: Silicon Nanocrystal Charging Dynamics and Memory Device Applications.
- Megan Alameda Ferguson (*Environmental Science and Engineering*) B.S. (*Chemistry*) and B.S. (*Geography and Environmental Systems*), University of Maryland 2000; M.S., California Institute of Technology 2001.
Thesis: TiO_2 -photocatalyzed Arsenic(III) Oxidation and Its Applicability to Water Treatment.
- Arian Soroush Forouhar (*Bioengineering*) B.S., University of California, Los Angeles 2001.
Thesis: Dynamic Views of Structure and Function during Heart Morphogenesis.
- David Michael Goulet (*Applied and Computational Mathematics*) B.S., California Institute of Technology 1999; M.S., New York University 2001.
Thesis: Mathematical Models of the Developing *C. elegans* Hermaphrodite Gonad.
- Xiang Guan (*Electrical Engineering*) B.E., Tsinghua University 1996; M.S., California Institute of Technology 2002.
Thesis: Microwave Integrated Phased Array Receivers in Silicon.
- Qing He (*Electrical Engineering and Social Science*) B.E., Tsinghua University 2000; M.S., California Institute of Technology 2001.
Thesis: Integrated Nano Liquid Chromatography System On-a-Chip.
- Michael Hochberg (*Applied Physics*) B.S., California Institute of Technology 2002; M.S., California Institute of Technology 2005.
Thesis: Integrated Ultrafast Nonlinear Optical Devices in Silicon.
- Mandar Mukund Inamdar (*Applied Mechanics*) B.Tech., Indian Institute of Technology, Bombay 2000; M.S., California Institute of Technology 2001.
Thesis: Dissipative Nanomechanics.

Doctor of Philosophy continued

- Sidharth Jaggi (*Electrical Engineering*) B.Tech., Indian Institute of Technology, Bombay 2000; M.S., California Institute of Technology 2001.
Thesis: Design and Analysis of Network Codes.
- Sanggeun Jeon (*Electrical Engineering*) B.S., Seoul National University 1997; M.S., 1999; M.S., California Institute of Technology 2004.
Thesis: Design and Stability Analysis Techniques for Switching-Mode Nonlinear Circuits: Power Amplifiers and Oscillators.
- Dal Mo Kang (*Mechanical Engineering*) B.S., Seoul National University 2000; M.S., California Institute of Technology 2002.
Thesis: Measurements of Combustion Dynamics with Laser-based Diagnostic Techniques.
- Kristopher Lars Kriechbaum (*Mechanical Engineering*) B.S., Carnegie Mellon University 1999; M.S., California Institute of Technology 2001.
Thesis: Tools and Algorithms for Mobile Robot Navigation with Uncertain Localization.
- Stuart Jon Laurence (*Aeronautics*) B.A., B.Sc., University of Auckland 2001; M.S., California Institute of Technology 2002.
Thesis: Proximal Bodies in Hypersonic Flow.
- Ling Li (*Computer Science and Electrical Engineering*) B.Eng., Tsinghua University 1998; M.Eng., 2000; M.S., California Institute of Technology 2002.
Thesis: Data Complexity in Machine Learning and Novel Classification Algorithms.
- Daniel Lieberman (*Aeronautics and Chemistry*) B.Sc., McGill University 2000; M.S., California Institute of Technology 2001.
Thesis: Detonation Interaction with Sharp and Diffuse Interfaces.
- Matthieu Liger (*Electrical Engineering*) Diplôme d'Ingénieur, École Supérieure d'Ingénieurs en Électrotechnique et Électronique 2001; M.S., California Institute of Technology 2001.
Thesis: Uncooled Carbon Microbolometer Imager.
- Wuan Luo (*Applied and Computational Mathematics*) B.S., Peking University 1998; M.S., 2001.
Thesis: Wiener Chaos Expansion and Numerical Solutions of Stochastic Partial Differential Equations.
- Georgios C. Lykotrafitis (*Mechanical Engineering*) B.S., University of Athens 1986; M.S., National Technical University of Athens 2000; M.S., California Institute of Technology 2003.
Thesis: Experimental Study of Dynamic Frictional Sliding Modes along Incoherent Interfaces.
- Brett Michael Maune (*Applied Physics*) B.S., University of Missouri–Rolla 2001; M.S., California Institute of Technology 2002.
Thesis: Fluidic and Polymeric Integration and Functionalization of Optical Microresonators.

Doctor of Philosophy continued

- Bumki Min (*Applied Physics*) B.S., Seoul National University 1999; M.S., 2001; M.S., California Institute of Technology 2003.
Thesis: Ultrahigh-Q Microtoroid On-Chip Resonators for Low Threshold Microlasers.
- Anna Karolina Mitros (*Computation and Neural Systems*) B.A., Rice University 1998.
Thesis: A Compact System for Self-Motion Estimation.
- Michela Muñoz Fernández (*Electrical Engineering*) B.S., Universidad de Alcalá 1998; M.S., International Space University 2000; M.S., California Institute of Technology 2001.
Thesis: Coherent Optical Array Receiver for PPM Signals under Atmospheric Turbulence.
- Terrell D. Neal (*Electrical Engineering and Applied Physics*) B.S.E.E., Georgia Institute of Technology 2000; B.S. (*Mathematics*), Morehouse College 2000; M.S., California Institute of Technology 2001.
Thesis: Surface Plasmon Enhanced Light Emission from Organic Light Emitters.
- Karl Spyros Papadantonakis (*Computer Science*) B.A., Cornell University 2000; M.S., California Institute of Technology 2002.
Thesis: Rigorous Analog Verification of Asynchronous Circuits.
- Alexander Blair Papandrew (*Materials Science*) B.S., Columbia University 2000; M.S., California Institute of Technology 2002.
Thesis: The Effects of High Pressure on the Vibrational and Magnetic Properties of Iron-Based Materials.
- Kevin L. G. Parkin (*Aeronautics and Electrical Engineering*) M.Phys., University of Leicester 1999; M.S., California Institute of Technology 2001.
Thesis: The Microwave Thermal Thruster and Its Application to the Launch Problem.
- Samuel Thomas Pfister (*Mechanical Engineering*) S.B., Harvard College 1999; M.S., California Institute of Technology 2001.
Thesis: Algorithms for Mobile Robot Localization and Mapping, Incorporating Detailed Noise Modeling and Multi-scale Feature Extraction.
- Hossein Rokhsari Azar (*Applied Physics*) B.S., Sharif University of Technology 2001.
Thesis: High-Q Microcavities: Optomechanical Nonlinearities, Measurement Techniques and Applications.
- Amir Sadjadpour (*Applied Mechanics*) B.Sc., University of Tehran 1999; M.Sc., 2001; M.S., California Institute of Technology 2003.
Thesis: A Micromechanics-Inspired Three-Dimensional Constitutive Model for the Thermomechanical Response of Shape-Memory Alloys.
- Shawn Christopher Shadden (*Control and Dynamical Systems*) B.S., The University of Texas at Austin 2001.
Thesis: A Dynamical Systems Approach to Unsteady Systems.

Doctor of Philosophy continued

- Masoud Sharif (*Electrical Engineering*) B.Sc., Sharif University of Technology 1999; M.Sc., 2001.
Thesis: Broadband Wireless Broadcast Channels: Throughput, Performance, and PAPR Reduction.
- Victor Chi-Yuan Shih (*Electrical Engineering*) B.S., National Tsing Hua University 1996; M.S., 1998; M.S., California Institute of Technology 2002.
Thesis: Temperature-Controlled Microchip Liquid Chromatography System.
- Demetri Polychronis Spanos (*Control and Dynamical Systems*) B.A., B.S., Rice University 2002; M.S., California Institute of Technology 2003.
Thesis: Distributed Gradient Systems and Dynamic Coordination.
- Kartik Srinivasan (*Applied Physics*) B.S., California Institute of Technology 2000; M.S., 2002.
Thesis: Semiconductor Optical Microcavities for Chip-Based Cavity QED.
- Theofilos Strinopoulos (*Applied and Computational Mathematics*) B.S., The University of Wisconsin–Madison 1999.
Thesis: Upscaling Immiscible Two-Phase Flows in an Adaptive Frame.
- Tabitha Liana Swan-Wood (*Materials Science*) B.S., University of California, Riverside 2000; M.S., California Institute of Technology 2002.
Thesis: Vibrational Entropy Contributions to the Phase Stability of Iron- and Aluminum-Based Binary Alloys.
- Shervin Taghavi Larigani (Laridjani) (*Electrical Engineering*) Diplôme d’Ingénieur, Université de Paris XI 1999; M.S., California Institute of Technology 2001.
Thesis: Theory, Fabrication and Applications of a Novel Archetype Semi-Ring Fabry-Perot (SRFP) Resonator.
- Ao (Kevin) Tang (*Electrical Engineering and Applied and Computational Mathematics*) B.E., Tsinghua University 1999; M.E., 2001; M.S., California Institute of Technology 2002.
Thesis: Heterogeneous Congestion Control Protocols.
- MinTao (*Applied Mechanics and Materials Science*) B.S., Tsinghua University 1999; M.S., California Institute of Technology 2002.
Thesis: High Temperature Deformation of Vitreloy Bulk Metallic Glasses and Their Composite.
- Cristian Țăpuș (*Computer Science*) B.S., California Institute of Technology 1999; M.S., 2004; M.S., University of Maryland 2001.
Thesis: Distributed Speculations: Providing Fault-tolerance and Improving Performance.
- Mankei Tsang (*Electrical Engineering*) B.Sc., University of California, Los Angeles 2003; M.S., California Institute of Technology 2004.
Thesis: Classical and Quantum Nonlinear Optical Information Processing.

Doctor of Philosophy continued

- Naotsugu Tsuchiya (*Computation and Neural Systems*) B.A., Kyoto University 2000.
Thesis: Attention and Awareness: Visual Psychophysics and Aversive Conditioning in Humans.
- Robert Michael van Dam (*Applied Physics*) B.S., Queen's University 1996; M.S., University of Toronto 1998.
Thesis: Solvent-Resistant Elastomeric Microfluidic Devices and Applications.
- Saurabh Vyawahare (*Applied Physics*) B.Tech., Indian Institute of Technology, Madras 2001; M.S., California Institute of Technology 2003.
Thesis: Manipulating Fluids: Advances in Micro-Fluidics, Opto-Fluidics and Fluidic Self-Assembly.
- Dirk Walther (*Computation and Neural Systems*) Diplom (*Physics*), Universität Leipzig 1997; Diplom (*Computer Science*) 1998; M.Phil., University of Cambridge 1999.
Thesis: Interactions of Visual Attention and Object Recognition: Computational Modeling, Algorithms, and Psychophysics.
- Feiyu Wang (*Electrical Engineering*) B.A., B.S., Lafayette College 2001; M.S., California Institute of Technology 2003.
Thesis: Design and Analysis of High-Efficiency L-Band Power Amplifiers.
- Jiantao Wang (*Control and Dynamical Systems*) B.S., Tsinghua University 1998; M.S., 1999.
Thesis: A Theoretical Study of Internet Congestion Control: Equilibrium and Dynamics.
- Rebecca Ann Washenfelder (*Environmental Science and Engineering*) B.A., Pomona College 1999; M.S., California Institute of Technology 2002.
Thesis: Column Abundances of Carbon Dioxide and Methane Retrieved from Ground-Based Near-Infrared Solar Spectra.
- Lisa Renee Welp (*Environmental Science and Engineering*) B.S., Indiana University 2000; M.S., California Institute of Technology 2002.
Thesis: Links between Carbon and Water Cycles in Northern Ecosystems: Constraints from Stable Isotopes.
- Kjerstin Irja Williams (*Electrical Engineering*) B.S., California Institute of Technology 2000; M.S., 2002.
Thesis: Multi-robot Systems: Modeling Swarm Dynamics and Designing Inspection Planning Algorithms.
- Fu-Ling Yang (*Mechanical Engineering*) B.S., National Taiwan University 2000; M.S., California Institute of Technology 2002.
Thesis: Interaction Law for a Collision between Two Solid Particles in a Viscous Liquid.
- Ya-Tang Yang (*Applied Physics*) B.S., National Taiwan University 1996; M.S., California Institute of Technology 2000.
Thesis: Phase Noise of Nanoelectromechanical Systems.

Doctor of Philosophy continued

- Rongjing Zhang (*Aeronautics and Applied Physics*) B.E., Qinghua University 1997; M.E., Chinese Academy of Sciences 2000.
Thesis: Mechanical Characterization of Thin Films with Application to Ferroelectrics.
- Yizhen Zhang (*Mechanical Engineering*) B.S., Tsinghua University 2000; M.S., California Institute of Technology 2001.
Thesis: Engineering Design Synthesis of Sensor and Control Systems for Intelligent Vehicles.
- Matias Gabriel Zielonka (*Aeronautics and Applied Computation*) B.S., University of Buenos Aires 1998; M.S., California Institute of Technology 2002.
Thesis: Configurational Forces and Variational Mesh Adaption in Solid Dynamics.
- DIVISION OF GEOLOGICAL AND PLANETARY SCIENCES
- Huirong Ai (*Geology*) B.S., Peking University 1996; M.S., 1999; M.S., California Institute of Technology 2001.
Thesis: Shock-induced Damage in Rocks: Application to Impact Cratering.
- Shabari Basu (*Planetary Science and Astronomy*) B.Sc., St. Stephen's College 2001; M.S., California Institute of Technology 2003.
Thesis: Simulations of the Martian Dust Cycle with a General Circulation Model.
- Selene Farrell Eltgroth (*Geochemistry*) B.S., University of California, San Diego 1998; M.S., California Institute of Technology 2003.
Thesis: Unraveling Deep-Ocean Connections to Climate with Deep-Sea Coral Records of Radiocarbon and Cd/Ca.
- Nir Yitzhak Krakauer (*Geochemistry*) B.S.E., The University of Michigan 2001; M.S., California Institute of Technology 2004.
Thesis: Characterizing Carbon-Dioxide Fluxes from Oceans and Terrestrial Ecosystems.
- Mao-Chang Liang (*Planetary Science and Astronomy*) B.S., National Tsing Hua University 1998; M.S., 2000.
Thesis: Chemical and Dynamical Processes in the Atmospheres of I. Ancient and Present-Day Earth, II. Jupiter and Galileo Satellite, III. Extrasolar "Hot Jupiters."
- Junjun Liu (*Planetary Science and Applied and Computational Mathematics*) B.S., Peking University 1997; M.S., 2000; M.S., California Institute of Technology 2004.
Thesis: Interaction of Magnetic Field and Flow in the Outer Shells of Giant Planets.
- Qinya Liu (*Geophysics*) B.S., University of Science and Technology of China 2000.
Thesis: Spectral-element Simulations of 3-D Seismic Wave Propagation and Applications to Source and Structural Inversions.
- J. Bruce H. Shyu (*Geology*) B.S., National Taiwan University 1994; M.S., 1999.
Thesis: A Neotectonic Model of Taiwan, with a Focus on the Longitudinal Valley Suture.

Doctor of Philosophy continued

Deborah Elaine Smith (*Geophysics*) B.S., Harvey Mudd College 1995; M.S., California Institute of Technology 1997.

Thesis: A New Paradigm for Interpreting Stress Inversions from Focal Mechanisms: How 3D Stress Heterogeneity Biases the Inversions toward the Stress Rate.

Eh Tan (*Geophysics*) B.S., National Taiwan University 1997.

Thesis: I. Multi-scale Dynamics of Mantle Plumes, and II. Compressible Thermo-chemical Convection and the Stability of Mantle Superplumes.

Ying Tan (*Geophysics*) B.S., Peking University 1999.

Thesis: Broadband Waveform Modeling Over a Dense Seismic Network.

DIVISION OF THE HUMANITIES AND SOCIAL SCIENCES

Jernej Čopič (*Social Science*) B. Math., University of Ljubljana 1997; M.A., Universitat Autònoma de Barcelona 2000.

Thesis: Robust Bilateral Trade and an Essay on Awareness as an Equilibrium Notion.

Brian W. Rogers (*Social Science*) B.A. (*Economics*) and B.A. (*Mathematics*), The University of Virginia 2001; M.S., California Institute of Technology 2003.

Thesis: Learning and Status in Social Networks.

DIVISION OF PHYSICS, MATHEMATICS AND ASTRONOMY

Anura Yamesh Abeyesinghe (*Physics*) A.B., Dartmouth College 2001; M.S., California Institute of Technology 2005.

Thesis: Unification of Quantum Information Theory.

Jessica Lynn Arlett (*Physics*) B.Sc., Queen's University 1998.

Thesis: Properties of Piezoresistive Silicon Nano-scale Cantilevers with Applications to BioNEMS.

Kevin Bundy (*Astrophysics*) B.A., University of California, Berkeley 2000.

Thesis: The Mass Assembly History of Field Galaxies.

Andrew Rosenberg Chatto (*Physics*) B.S., Yale University 1995.

Thesis: Experiments on the Self-Organized Critical State of ^4He .

Ching-Tzu Chen (*Physics*) B.S., National Taiwan University 1998.

Thesis: Scanning Tunneling Spectroscopy Studies of High-Temperature Cuprate Superconductors.

Chin-wen Chou (*Physics*) B.S., National Taiwan University 1999; M.S. 2000.

Thesis: Towards a Quantum Network with Atomic Ensembles.

Matthew Paul Dorsten (*Physics*) B.S., The Ohio State University 2000; M.S., California Institute of Technology 2002.

Thesis: Topics in Heavy Particle Effective Theories.

Alexei Dvoretiskii (*Physics*) B.S., Novosibirsk State University 1997.

Thesis: Dalitz Plot Analysis of the Decay $B^\pm \rightarrow K^\pm K^\pm K^\mp$.

Doctor of Philosophy continued

- Dawn Karuna Erb (*Astrophysics*) B.S., University of Washington 2000.
Thesis: The Properties of Star-Forming Galaxies at $z \sim 2$: Kinematics, Stellar Populations, and Metallicities.
- Oleg Evnin (*Physics*) B.S., Rostov State University 1998; M.S., 2000.
Thesis: On Quantum Interacting Embedded Geometrical Objects of Various Dimensions.
- Robert Burke Forster (*Physics*) A.B., Harvard College 1995.
Thesis: Population Dynamics in the Presence of Quasispecies Effects and Changing Environments.
- Marat I. Gataullin (*Physics*) B.S., Moscow Institute of Physics and Technology 1996.
Thesis: Studies of Electroweak Interactions and Searches for New Physics Using Photonic Events with Missing Energy at the Large Electron-Positron Collider.
- Matthew Thomas Gealy (*Mathematics*) B.A., M.S., The University of Chicago 2001.
Thesis: On the Tamagawa Number Conjecture for Motives Attached to Modular Forms.
- David J. Gryniewicz (*Mathematics*) B.A., Bates College 2001.
Thesis: Sumsets, Zero-Sums and Extremal Combinatorics.
- Alejandro Jenkins (*Physics*) A.B. (*Physics*) and A.B. (*Mathematics*), Harvard College 2001; M.S., California Institute of Technology 2002.
Thesis: Topics in Theoretical Particle Physics and Cosmology beyond the Standard Model.
- Attila Kovács (*Physics*) A.B., Harvard College 1997.
Thesis: SHARC-2 350 Micron Observations of Distant Submillimeter Selected Galaxies and Techniques for the Optimal Analysis and Observing of Weak Signals.
- Benjamin Leonard Lev (*Physics*) A.B., Princeton University 1999.
Thesis: Magnetic Microtraps for Cavity QED, Bose-Einstein Condensates, and Atom Optics.
- Xiaoyu Liu (*Mathematics*) B.S., Peking University 2001.
Thesis: On Divisible Codes over Finite Fields.
- Nathan Eric Lundblad (*Physics*) B.A., University of California, Berkeley; M.S., California Institute of Technology 2002.
Thesis: All-Optical Spinor Bose-Einstein Condensation and the Spinor Dynamics-Driven Atom Laser.
- Thomas Patrick Mack (*Mathematics*) S.B., Massachusetts Institute of Technology 2001.
Thesis: Quasiconvex Subgroups and Nets in Hyperbolic Groups.
- Raymond Timothy James McGarvey (*Biochemistry and Molecular Biophysics*) B.S., United States Naval Academy 1986; M.A., University of Toronto 1992.
Thesis: Ultra-Sensitive Absorption Measurements through Cavity-Enhanced Spectroscopy.

Doctor of Philosophy continued

- Stanimir Angelov Metchev (*Astronomy*) A.B., Harvard College 1999.
Thesis: Brown Dwarf Companions to Young Solar Analogs: An Adaptive Optics Survey Using Palomar and Keck.
- Stefan Mihalas (*Physics*) B.S., West University Timisoara 1997; M.S., 1999.
Thesis: Quantitative Model of Calcium/Calmodulin-Dependent Protein Kinase II Activation.
- Tejaswi Navilarekallu (*Mathematics*) B.S., Chennai Mathematical Institute 2001.
Thesis: On the Equivariant Tamagawa Number Conjecture.
- Margaret Whei-Jie Pan (*Astrophysics*) S.B., Massachusetts Institute of Technology 2001.
Thesis: Slices of Theoretical Astrophysics: Solar System Dynamics and Relativistic Explosions.
- Yi Pan (*Physics*) B.S., Peking University 2000.
Thesis: Topics of LIGO Physics: Template Banks for the Inspiral of Precessing, Compact Binaries, and Design of the Signal-Recycling Cavity for Advanced LIGO.
- Naveen Ananta Reddy (*Astrophysics*) B.S., The University of Texas at Austin 2000.
Thesis: A Multi-Wavelength Census of Star Formation at Redshifts z Equals 2.
- Alexander Samuel (*Physics*) A.B., Harvard College 1995.
Thesis: Measurement of Branching Fractions and Mass Spectra of $B \rightarrow K\pi\pi\gamma$ Decays.
- David Jerome Sand (*Physics*) B.S., University of California, Los Angeles 2000.
Thesis: On the Distribution of Dark Matter in Clusters of Galaxies.
- Graeme Stewart Baird Smith (*Physics*) B.Sc., University of Toronto 2001; M.S., California Institute of Technology 2004.
Thesis: Upper and Lower Bounds on Quantum Codes.
- Claus Mazanti Sorensen (*Mathematics*) Cand. Scient., Aarhus Universitet 2001.
Thesis: Level-raising for $GSp(4)$.
- Daniel Alexander Wagenaar (*Physics*) M.Sc., Universiteit van Amsterdam 1997; M.S., King's College London 1998.
Thesis: Development and Control of Epileptiform Bursting in Dissociated Cortical Cultures.
- Bahattin Yildiz (*Mathematics*) B.S., Bilkent University 2001.
Thesis: Weight Enumerators and Gray Maps of Linear Codes over Rings.
- Junhua Yuan (*Physics*) B.S., University of Science and Technology of China 1998; M.S., California Institute of Technology 2000.
Thesis: Progress towards a High Precision Measurement of the Neutron Spin–Electron Angular Correlation in Polarized Neutron β Decay with Ultra-Cold Neutrons.

PRIZES AND AWARDS

Prizes and awards are listed only for those students receiving degrees in 2006 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.

Name of 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.

2006 *Kimberly Julia Pependorf*

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.

2006 *Corinna Clio Markenscoff Zygorakis*

SIGMA XI AWARD

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

2006 *Patrick Anthony Hummel*

The four prizes above are announced at the commencement ceremony.

ROSALIND W. ALCOTT MERIT SCHOLARSHIP, UPPER CLASS MERIT AWARD, 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.

2002 *Yelizaveta Aleksandrovna Gorstko*

2004	<i>Ann Hinckley Bendfeldt</i>	<i>Mithun Diwakar</i>	<i>Dorota Zuzanna Korta</i>
	<i>Abigail Tinney Crites</i>	<i>Elena Fabrikant</i>	<i>Timothy Chieu Nguyen</i>
	<i>Adam Edward D'Angelo</i>	<i>Patrick Anthony Hummel</i>	

2005	<i>Adam Edward D'Angelo</i>	<i>Lea Hildebrandt</i>	<i>Timothy Chieu Nguyen</i>
	<i>Mithun Diwakar</i>	<i>Patrick Anthony Hummel</i>	<i>Laura Crosby Pruitt</i>
	<i>Christina Ann Dwyer</i>	<i>Dorota Zuzanna Korta</i>	<i>Trevor Miles Wilson</i>
	<i>Elena Fabrikant</i>	<i>Daniel Jacob Koslover</i>	<i>Phillip Gregory Zukin</i>
	<i>Joseph Edgar Gonzalez</i>	<i>Jeremy Michael Leibs</i>	

2006	<i>Derek Chang</i>	<i>Qinzi Ji</i>	<i>Akil Srinivasan</i>
	<i>Yang Chen</i>	<i>Dorota Zuzanna Korta</i>	<i>Leo C. Stein</i>
	<i>Adam Edward D'Angelo</i>	<i>Daniel Jacob Koslover</i>	<i>Martin Suchara</i>
	<i>Mithun Diwakar</i>	<i>Jeremy Michael Leibs</i>	<i>Amber Nicole Swenson</i>
	<i>Christina Ann Dwyer</i>	<i>Milo Miaoyu Lin</i>	<i>Kuanshuan Helen Tai</i>
	<i>Elena Fabrikant</i>	<i>Jun Lu</i>	<i>Matyas Tamas</i>
	<i>Jeremy Hugh Gillula</i>	<i>Rachel Elizabeth Maire</i>	<i>Michael Christopher</i>
	<i>Joseph Edgar Gonzalez</i>	<i>James Ji-Chao Mao</i>	<i>Villet</i>
	<i>Nicholas Wm Halpern-</i>	<i>Bart Hunter M'Guyer</i>	<i>Ruiqi Rachel Wang</i>
	<i>Manners</i>	<i>Timothy Chieu Nguyen</i>	<i>Trevor Miles Wilson</i>
	<i>David James Hardee</i>	<i>Lillian Jennifer Pan</i>	<i>Wensi Xu</i>
	<i>Lea Hildebrandt</i>	<i>Yun-Chieh Peng</i>	<i>Michael Ke Zhang</i>
	<i>Patrick Anthony Hummel</i>	<i>Laura Crosby Pruitt</i>	

AXLINE MERIT SCHOLARS

Awarded to selected freshmen whose record of personal and academic accomplishment is judged outstanding among incoming freshmen. These scholarships are renewable, contingent on academic performance.

2003	<i>Jacob Samuels Burnim</i>	<i>Jeremy Michael Leibs</i>	<i>Zhizhang Xia</i>
	<i>Timothy Allen Dong</i>	<i>Milo Miaoyu Lin</i>	<i>Miling Yan</i>
	<i>Steven Song Gao</i>	<i>Zhihao Liu</i>	<i>Corinna Clio Markenscoff</i>
	<i>Patrick Anthony Hummel</i>	<i>Lisa Adelaide Seeman</i>	<i>Zygorakis</i>

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.

2004 *Georgios C. Lykotrafitis*

ROBERT P. BALLE CALTECH MATHEMATICS SCHOLARS AWARD

Awarded to the mathematics major entering his or her senior year who has demonstrated the most outstanding performance in mathematics courses completed in the student's first three years at Caltech.

2005 *Trevor Miles Wilson*

WILLIAM F. BALLHAUS PRIZE

Awarded to aeronautics students for outstanding doctoral dissertations.

2006 *Daniel Lieberman*

ERIC TEMPLE BELL UNDERGRADUATE MATHEMATICS RESEARCH PRIZE

Awarded to one or more juniors or seniors for outstanding original research in mathematics.

2003 *Patrick Anthony Hummel*

2005 *Patrick Anthony Hummel, Timothy Chieu Nguyen, Trevor Miles Wilson*

2006 *Timothy Chieu Nguyen*

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.

2003 *Alexander Patrick McCauley*

ROLF D. BUHLER MEMORIAL AWARD IN AERONAUTICS

Awarded to an aeronautics student for outstanding academic achievement in the Master’s program.

2006 *Phanish Suryanarayana*

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.

2005 *Laura Crosby Pruitt*

THE W. P. CAREY & CO., INC., PRIZE IN APPLIED MATHEMATICS

Awarded to a student receiving a Doctor of Philosophy degree for an outstanding doctoral dissertation in applied mathematics or pure mathematics.

2006 *Laurent Demanet, David Michael Goulet, Wuan Luo*

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.

2002 *Milo Miaoyu Lin*

DONALD S. CLARK MEMORIAL AWARD

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.

2005 *Melody Ellen Grubbs, Lea Hildebrandt*

THE DONALD COLES PRIZE IN AERONAUTICS

Awarded to the graduating Ph.D. student in aeronautics whose thesis displays the best design of an experiment or the best design for a piece of experimental equipment.

2006 *Rongjing Zhang*

DEANS' CUP AND CAMPUS LIFE AND MASTER'S AWARDS

Two awards, selected by the deans, the director of campus 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.

2005 *Ryan Michael Farmer, Campus Life*

2006 *Angelina Marie Crans, Peter William Foley, Mary Helena Ollenburger,
Timothy Frederick Tirrell, Campus Life
John William Howard, Jeremy Michael Leibs, Dean's Cup*

DEMETRIADES-TSAFKA PRIZE IN BIOENGINEERING OR RELATED FIELDS

Awarded annually to a Ph.D. candidate for the best thesis, publication, or discovery in bioengineering or related fields during the past year. This prize is made possible by a gift from Anna Kokalis Demetriades and Sterge T. Demetriades (Eng. '58).

2006 *David Allan Drummond*

DEMETRIADES-TSAFKA PRIZE IN ENTREPRENEURSHIP OR RELATED FIELDS

Awarded annually for the best business plan or proposal, start-up, thesis, publication, discovery, or related efforts by student(s) in entrepreneurship or related fields. This prize is made possible by a gift from Anna Kokalis Demetriades and Sterge T. Demetriades (Eng. '58).

2006 *John William Howard*

DEMETRIADES-TSAFKA PRIZE IN NANOTECHNOLOGY OR RELATED FIELDS

Awarded annually to a Ph.D. candidate for the best thesis, publication, or discovery in nanotechnology or related fields at the Institute in the preceding 12 months. This prize is made possible by a gift from Anna Kokalis Demetriades and Sterge T. Demetriades (Eng. '58).

2006 *Michael Hochberg*

EVERHART DISTINGUISHED GRADUATE STUDENT LECTURER AWARD

Awarded to a graduate student who has demonstrated exemplary presentation ability and graduate research.

2004 *Houman David Hemmati*

2005 *Benjamin Leonard Lev*

2006 *Chin-wen Chou, David Allan Drummond*

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.

2006 *Eva Rose Murdock*

LAWRENCE L. AND AUDREY W. FERGUSON PRIZE

Awarded to the graduating Ph.D. candidate in biology who has produced the outstanding doctoral thesis for the past year.

2006 *Baris Bingol*

RICHARD P. FEYNMAN PRIZE IN THEORETICAL PHYSICS

Awarded to a senior on the basis of excellence in theoretical physics.

2006 *Milo Miaoyu Lin*

HAREN LEE FISHER MEMORIAL AWARD IN JUNIOR PHYSICS

Awarded to a junior physics major who demonstrates the greatest promise of future contributions in physics.

2005 *Milo Miaoyu Lin*

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.

2005 *Yang Chen, Patrick Anthony Hummel*

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.

2005 *Patrick Anthony Hummel, Corinna Clio Markenscoff Zygourakis*

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.

2006 *Michelle Margaret Meyer, Terrell D. Neal*

GEORGE W. AND BERNICE E. 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.

2003 *Patrick Anthony Hummel*

2005 *Trevor Miles Wilson*

2006 *Po-Yin Samuel Huang*

LUCY GUERNSEY SERVICE AWARD

Awarded to one or two students who have provided exceptional service to the CaltechY and/or the community, are involved with service projects, have demonstrated leadership in community and volunteer service efforts, and who exemplify a spirit of service.

2005 *Sidharth Jaggi, Eva Rose Murdock*

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.

2005 *Mithun Diwakar*

ALEXANDER P. AND ADELAIDE F. HIXON PRIZE FOR WRITING

Awarded annually in recognition of the best writing in freshman humanities courses.

2003 *Elena Fabrikant, Emma Lynn Thomas*

2004 *Jacob Samuels Burnim*

BIBI JENTOFT-NILSEN MEMORIAL AWARD

Awarded to an upperclass student who exhibits outstanding qualities of leadership and who actively contributes to the quality of student life at Caltech.

2005 *Kimberly Julia Pependorf*

2006 *Dmitriy Kernasovskiy*

SCOTT RUSSELL JOHNSON PRIZE FOR EXCELLENCE IN GRADUATE STUDY IN MATHEMATICS

Awarded to continuing graduate students for excellence in one or more of the following: extraordinary progress in research, excellence in teaching, or excellent performance as a first-year graduate student.

2002 *Matthew Thomas Gealy*

2004 *Matthew Thomas Gealy, Claus Mazanti Sorensen*

SCOTT RUSSELL JOHNSON GRADUATE DISSERTATION PRIZE IN
MATHEMATICS

Awarded for the best graduate dissertation in mathematics.

2006 *Matthew Thomas Gealy, Claus Mazanti Sorensen*

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.

2006 *Trevor Miles Wilson*

D. S. KOTHARI PRIZE IN PHYSICS

Awarded to a graduating senior in physics who has produced an outstanding research project during the year.

2006 *Bart Hunter M^cGuyer*

MARGIE LAURITSEN LEIGHTON PRIZE

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

2004 *Amber Nicole Swenson*

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 fair-mindedness, and unquestioned integrity. This prize is renewable, contingent on academic performance.

2003 *Corinna Clio Markenscoff Zygorakis*

THE HERBERT NEWBY McCOY AWARD

Awarded to chemistry doctoral students for outstanding contributions to the science of chemistry.

2006 *Ian Kyle Mangion, Raissa M. Trend*

MARY A. EARL MCKINNEY PRIZE IN LITERATURE

Awarded to undergraduate students for excellence in writing in three categories: poetry, prose fiction, and nonfiction essays.

2004 *Wensi Xu*

2005 *Christopher Brian George, Bingni Wen, Zhu Irene Ying*

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.

2006 *Rebecca Abigail Adler, Ryan Michael Farmer, Meng-meng Fu,
Matthew Hsing-Hung Walker*

PRESIDENT'S SCHOLARS

Awarded to selected freshmen to promote the breadth and diversity of the Caltech undergraduate student body. The scholarships are renewable, contingent on academic performance.

2002 *Javier Soliz*

2003 *Christopher Alike Ah New Alejandro Daniel Meruelo Nyssa Emiko Thompson
Keris Elizabeth Allrich Gustavo Willy Olm Regina L. Wilpiseski
Michael Joseph Betancourt Javier Soliz
Joseph Edgar Gonzalez Daniel Julian Stolarski*

HERBERT J. RYSER MEMORIAL SCHOLARSHIPS

Awarded to undergraduate students for academic excellence, preferably in mathematics.

2004 *Patrick Anthony Hummel, Timothy Chieu Nguyen*

2005 *Trevor Miles Wilson*

RICHARD P. SCHUSTER MEMORIAL PRIZE

Awarded to one or more juniors or seniors in chemistry or chemical engineering on the basis of financial need and academic promise.

2005 *Nicholas Wm Halpern-Manners*

2006 *Brandi Michelle Cossairt, Hannah Syeda Shafaat*

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.

2005 *Rongjing Zhang*

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.

2003 *William Kratz Coulter*
Eugene Yanayt

2004 *Jeremy Hugh Gillula* *Eva Rose Murdock* *Lara Crosby Pruitt*
Esther Sunghee Lee *Kevin Albert Peng*

2005 *Elena Fabrikant*
Meng-meng Fu
Franklin Steevens Jirón

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.

2006 *Corinna Clio Markenscoff Zygorakis*

JOHN STAGER STEMPLE MEMORIAL PRIZE IN PHYSICS

Awarded to a graduate student in physics for outstanding progress in research as demonstrated by an excellent performance on the oral Ph.D. candidacy examination.

2001 *Ching-Tzu Chen*

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.

2005 *Felicia Rachel Katz*

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."

2006 *Mary Helena Ollenburger*

MORGAN WARD PRIZE

Awarded for the best problems and solutions in mathematics submitted by a freshman or sophomore.

2003 *Patrick Anthony Hummel*

CHARLES WILTS PRIZE

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

2006 *Masoud Sharif*

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.

2004 *Trevor Miles Wilson*

Hail CIT

(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.

*In the oft practiced Baroque tradition of adapting
a different text to the same music*

There's Just One!

*G.F. Handel**

Hallelujah!

In Pasadena, graduation, jubilation, the time has come.

Sounds of music, glorious cheering, exaltation, adulation, the time is now!

Graduates on this day we salute you!

Sing praises, you've done it, it's over, hallelujah!

For your accomplishments, we give honor.

Sing praises, you've done it, it's over, hallelujah!

Praise on this day of great celebration!

You've done it, you're through, no more take-homes, no problem sets,
hallelujah!

No thesis, no flicking, no flaming, no more work, hallelujah!

No finals, no midterms, no more nights in the lab, hallelujah!

For there is life beyond quantum physics.

For there is life beyond the house alleys.

No research, no UASH, all-nighters are all gone,

No classes, no letters from the Dean!

Free weekends, real life begins!

With vision now go forth and seek a new horizon, and make your
alma mater proud.

And she shall reign forever in science.

There's just one!

- in theories of protons, electrons and chem bonds.

Caltech can stun!

- in science with rigor, in research with vigor.

There's just one!

- in rockets, in astro, in seismo, in neurons.

Tech is the sun:

- with medals of science, with Nobel achievements.

There's just one!

- for ever exalted remember the Rose Bowl!

And now you're done, you have won, hail new alum.

And you shall spread Tech's passion for science.

New alum, Tech needs you, remit a sum, contribute!

For Tech to reign in science forever.

There's just one! A star of stars!

There's just one! Renown on Mars!

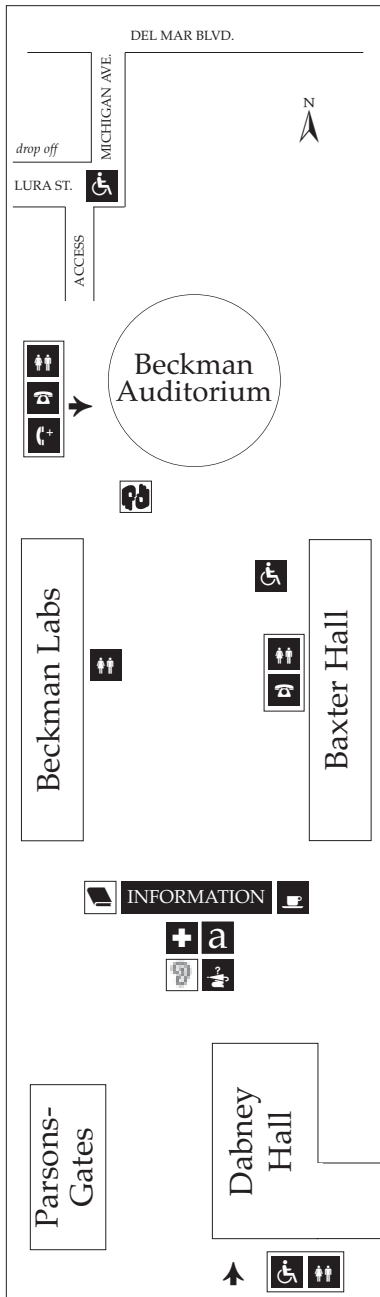
And Tech shall reign forever in science.

You've won the day, we shout hooray!







We honor your passion, your achievement, your triumph, hallelujah!

**Music: September 1741, George Frideric Handel*







Text: April 2004, K. Giapis and D. Caldwell



SERVICES FOR COMMENCEMENT GUESTS

-  PUBLIC TELEPHONES are available in Baxter Hall and Beckman Auditorium.
-  RESTROOMS are available in Baxter Hall, Beckman Labs, Dabney Hall, 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.)
-  CALTECH BOOKSTORE sells souvenirs, film, and other items. ATHENAEUM luncheon tickets on sale 8–10 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 of Baxter Hall.
-  AMPLIFIED TELEPHONE is available in Beckman Auditorium.

