

## **Miller Institute for Basic Research in Science**

Dedicated to the  
encouragement of  
creative research  
and investigation  
in the pure and  
applied sciences



University of California

**Berkeley**

"The Miller Institute adds hugely to the collective intellectual life of UC Berkeley. It is a jewel".

**Lord Robert M May of Oxford OM AC**  
**Theoretical Physicist & Biologist**  
**Former President of the Royal Society**  
**Former Science Advisor to the Queen**

On October 14, 1955, UC Berkeley established what would become a world-renowned hub for young scientists exploring the frontiers of research. Funded with \$5 million in trust, the research would span all realms of scientific inquiry, from biology and chemistry to geophysics and mathematics. The President of the Advisory Board was to be none other than the President of the University him or herself, although that job has since been delegated to the UC Berkeley Chancellor. To date, the Adolph C. and Mary Sprague Miller Institute for Basic Research in Science has supported more than 1000 scientists, including seven Nobel Prize winners and six Fields Medalists.

Adolph C. Miller was born in San Francisco in 1866 and attended the University of California. Upon graduation, he was awarded the prestigious Harvard Club Prize to support his graduate study there. At age 29, he married Mary Sprague, the daughter of a wealthy Chicago businessman. While the Millers resided in Washington DC, Adolph was not forgotten by Berkeley, and vice versa. In 1937, he was invited to deliver the first Bernard Moses Memorial lecture. Three years later, he received an honorary LL.D. degree. The honor included the following citation from UC Berkeley president Robert Gordon Sproul:

"Native son of California; graduate of this University, and the first head of its Department of Economics; for twenty years a member of the Federal Reserve Board, contributing in a unique and invaluable way to its deliberations through his keen mind, sound thinking, and profound mastery of economic theory."

In 1943, the Millers entered into a trust with the University to establish an institute "dedicated to the encouragement of creative thought and conduct of research and investigation in the field of pure science." In 1953, Adolph Miller passed away and more than \$2 million was made available to fund the Institute. On October 14, 1955, the "Statement Establishing the Institute for Basic Research in Science" was approved by the Regents of the University. Two years later, Mary Miller died and an additional \$2 million became available. The first appointments to the Miller Institute were announced in January 1957.

Today, esteemed Miller Institute members and alumni carry on the tradition of being developers of the latest thinking in nanoscience, biology in the twenty-first century, and cosmology and its connection to fundamental physics. The Millers' vision and support of basic science continues to keep Berkeley at the forefront of cutting-edge scientific research.

"It is a joy to interact with the Institute's Fellows, a most brilliant, enthusiastic and diverse group, destined to be the future leaders of science."

**David Chandler**  
**Theoretical Chemist & Physicist**  
**Miller Professor Fall 1991, 1999-00**  
**Miller Institute Executive Director 2006-08**  
**National Academy of Sciences**

"If I could get a lifetime Miller postdoc, I would take it."

**Michael Manga**  
**Geologist**  
**Miller Fellow 1994-96**  
**MacArthur Prize**

# Miller Research Fellowships

The Institute's central program is the support of Research Fellows - a group of the world's most brilliant young scientists. Each year, eight to ten Miller Research Fellows are chosen from hundreds of nominations in all areas of science. The Fellowships are three-year appointments. During this time, the young scientists launch their careers, being mentored by Berkeley's outstanding faculty and making use of Berkeley's magnificent facilities. A few Fellows stay on as new Berkeley faculty. Most move on to contribute to other great institutions around the world.

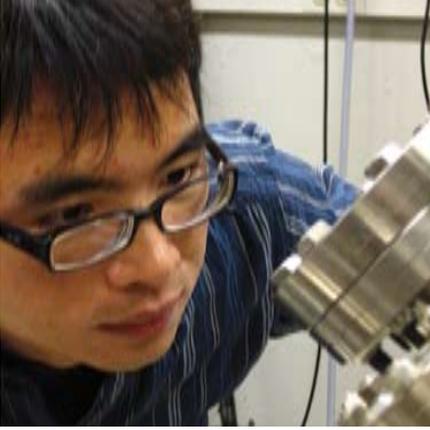
Annually, the Institute invites department chairs and faculty advisors around the world to nominate candidates for Miller Research Fellowships. The Institute seeks to discover and encourage individuals of outstanding talent, and to provide them with the opportunity to pursue their research on the Berkeley campus. Fellows are selected on the basis of their academic achievement and the promise of their scientific research.



"The Miller Institute was the most important and influential experience of my scientific career."

**Adam Summers**  
**Biologist**  
**Miller Fellow 1999-01**

# Miller Institute Research @Work



"The Miller Institute is truly a fantastic place for scientists: independent research, inspiring discussions with people from various fields...not to mention California weather."

**Yuanbo Zhang**  
**Physicist**  
**Miller Fellow 2006-2009**



"Having been active in all facets of the Miller Institute (as a Miller Postdoctoral Fellow, a Miller Professor, and a sponsor of several Fellows and Visiting Miller Professors), my own career has been greatly enhanced; indeed, I probably would not be where I am today were it not for the Institute."

**Alex Filippenko**  
**Astrophysicist**  
**Miller Fellow 1984-86**  
**Miller Professor Spring 1996 & Spring 2005**  
**Carnegie/CASA 2006 National Professor of the Year**  
**Richtmyer Memorial Award**



"...my Miller Fellowship was one of my most memorable and productive times; and particularly important for me."

**Erin O'Shea**  
**Biochemist**  
**Miller Fellow 1992-93**  
**National Academy of Sciences**



"The Miller Fellowship offered an exceptional opportunity with an unusual level of autonomy to pursue an entirely new research program."

**Chris Lowe**  
**Evolution & Developmental Biologist**  
**Miller Fellow 1998-01**



"The Miller Institute provides its Fellows with absolute intellectual freedom."

**Anne Pringle**  
**Ecologist and Evolutionary Biologist**  
**Miller Fellow 2001-04**

# Miller Institute Timeline

## 1943

Adolph C. and Mary Sprague Miller entered into a trust with the Board of Regents to establish an institute “dedicated to the encouragement of creative thought and conduct of research and investigation in the field of pure science.”

## 1953

Adolph Miller passes away.

## 1955

The Statement Establishing the Institute for Basic Research in Science was submitted to the Regents and was subsequently approved.

## 1957

Mary Sprague Miller passes away. The names of the donors became public and the Institute was designated: “The Adolph C. and Mary Sprague Miller Institute for Basic Research in Science.”

Six professors were named the first Miller Research Professors:

James Carson, Jr., Chemistry

Jack Evernden, Geology & Geophysics

Daniel Mazia, Zoology

Jerzy Neyman, Statistics

William Nierenberg, Physics

Roger Stanier, Bacteriology

## 1958

1st Visiting Miller Professor is named:

Leopold Schmetterer, Statistics

## 1960

1st Miller Fellows are named:

John Fletcher, Physics

James Kinsey, Chemistry

Carl Sagan, Astronomy

Dana Scott, Mathematics

Charles Shuster, Bacteriology

Paul Whitfeld, Biochemistry

## 1997

Miller Institute establishes an annual Interdisciplinary Symposium

## 2005

The Miller Institute celebrates 50 years of science and establishes development campaign to provide for continued support of its programs.



“The pressures on a faculty member’s time are enormous and the Miller Professorship provides an extraordinary opportunity to escape these bonds and devote oneself full time to one’s research. Many of the greatest living mathematicians have visited Berkeley through the Miller programs.”

**Vaughan Jones**  
**Mathematician**  
**Miller Professor Fall 1992**  
**Fields Medalist**  
**National Academy of Sciences**  
**Distinguished Companion of The**  
**New Zealand Order of Merit**  
**Honorary Vice President for Life of the**  
**International Guild of Knot-tyers**

“The Miller Institute is unique in its impact on science, advancing the frontiers of knowledge... effective in its cross-disciplinary impact by standing on the capabilities of some of the best scientists in the world, from junior researchers to seasoned professionals.”

**Raymond Jeanloz**  
**Geophysicist**  
**Miller Professor Fall 1992**  
**Miller Institute Executive Director 1998-03**  
**MacArthur Prize**  
**National Academy of Sciences**

In 1997, the Miller Institute broadened its charge with the addition of an Interdisciplinary Symposium. The motivation for the Symposium came from recognizing two trends in science: 1) as the sciences grow increasingly diverse, few can begin to keep up with cutting-edge developments outside of specialties; and 2) it is more important than ever to be able to communicate the significance of work to the community at large. To address these issues, the Miller Institute started the annual meeting intended to sample the full spectrum of basic sciences through promoting discussion of cutting-edge science among leading researchers. The Research Fellows were the catalyst behind this new program and they helped to design it as a freewheeling discussion across all the sciences, including astronomy, biology, chemistry, geology, mathematics and physics.

"I was most grateful for my Miller appointment."

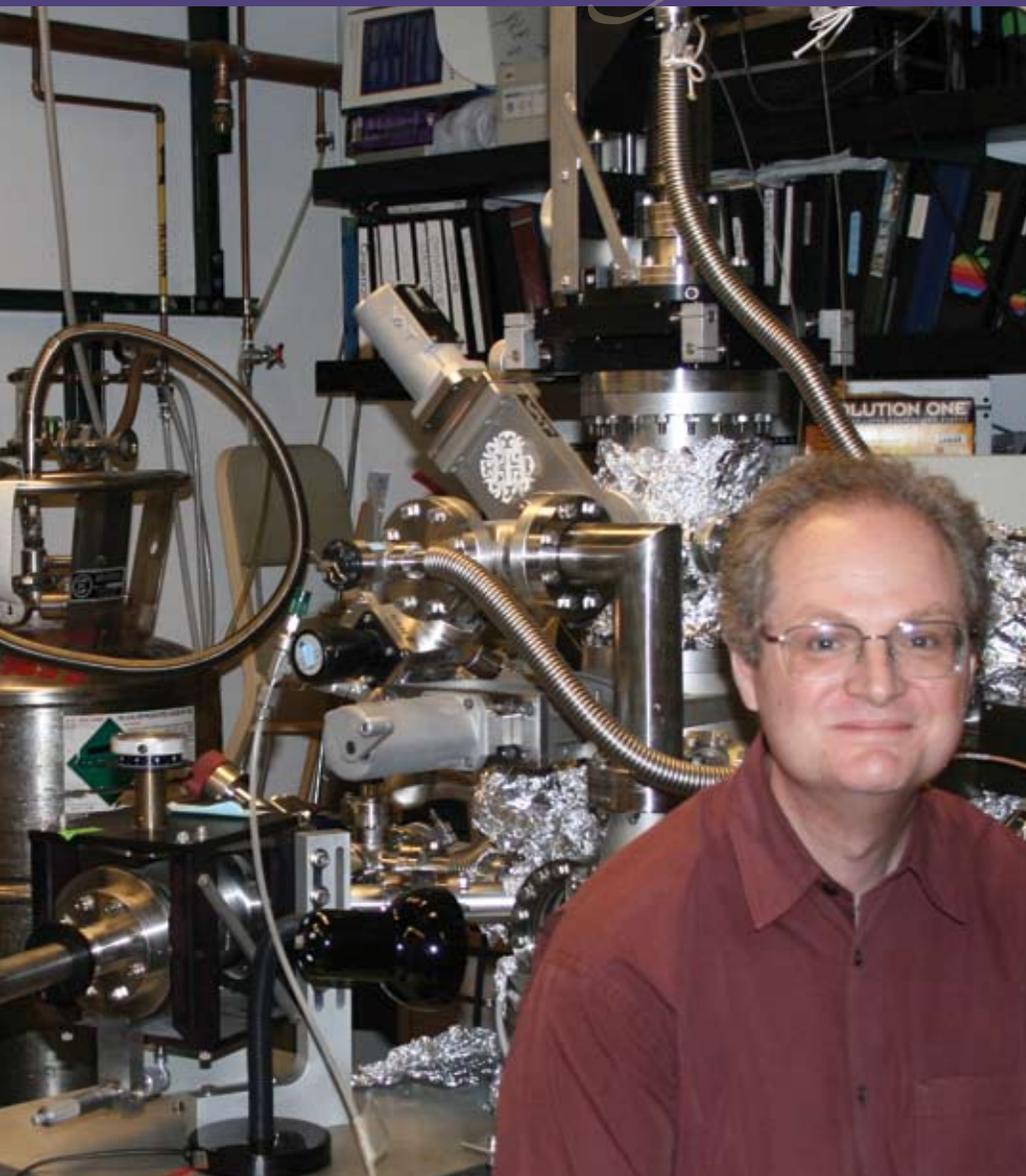
**Donald A. Glaser**  
**Physicist**  
**Miller Professor 1962-64**  
**Nobel Prize**

"Though I'd heard about the broad intellectual exchange that was possible at U. C. Berkeley, I didn't experience it until I was a Miller Professor."

**Sydney Kustu**  
**Microbial Biologist**  
**Miller Professor 2005-06**  
**National Academy of Sciences**



## Miller Research Professorships



The first advisory board, established in 1956 by President Robert G. Sproul and chaired by Glenn Seaborg, established the Miller Research Professorships as its first program in support of the Miller Institute's mission. The gift of time allows the Miller Professors to be released from teaching and administrative duties to pursue full-time effort to research. Appointees are encouraged to follow promising leads that may develop in the course of their research effort whether or not they fall within the original research proposal.



### You Can Make a Difference

The Institute's endowment is large and stable, a testament to the Millers' wisdom and foresight. Yet the number of deserving scientists is growing significantly, and increasing our endowment is necessary to maintain proportional growth in our programs. Increasing our endowment is possible through continued wise investment and donations. A substantial fraction of our alumni regularly donate. If you wish to contribute to this important endeavor, please contact <http://givetocal.berkeley.edu/atoz/m.cfm> to make an online donation.

"Throughout my years at Berkeley, the Miller Institute has given me a chance to interact with a tremendously talented, thoughtful, and energetic group of young scientists from across a range of disciplines."

**A. Paul Alivisatos**  
**Pioneer of Nanoscience & Technology**  
**Miller Professor 2001-02**  
**National Academy of Sciences**

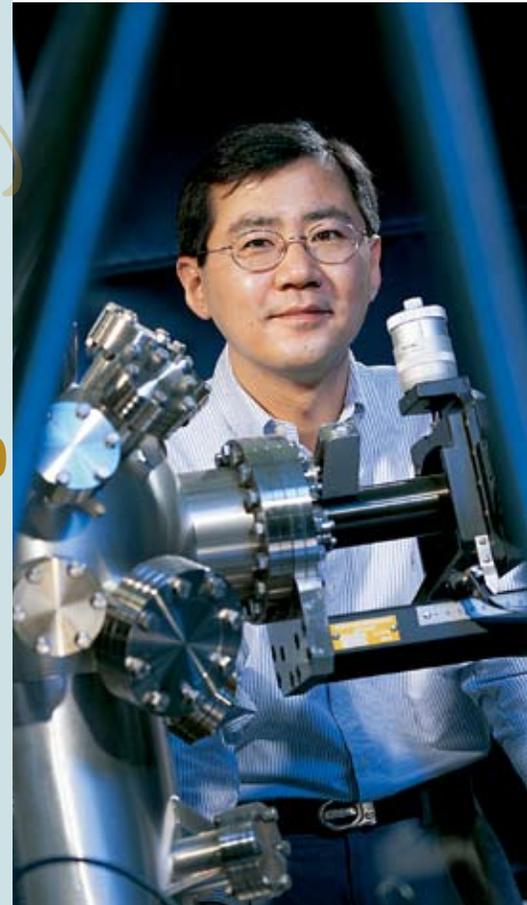


"Being hosted at Berkeley was a big treat in itself, but the weekly lunches with their camaraderie and fascinating talks and discussions were a special benefit, that I will forever treasure."

**Sandra Faber**  
**Astrophysicist**  
**University Professor**  
**University of California**  
**Visiting Miller Professor**  
**Spring 2005**  
**National Academy of**  
**Sciences**

## Visiting Miller Professorships

The Advisory Board of the Miller Institute invites Berkeley department chairs to make nominations for Visiting Miller Research Professorships through an annual competition. The purpose of the Visiting Miller Professorship is to bring promising or eminent scientists to the Berkeley campus on a short-term basis for collaborative research interactions. Approximately six to ten awards are made each year to visitors from the U.S. and abroad.



"The Miller Visiting Professorship provided me with an unparalleled opportunity to establish scientific interactions and friendships with the brightest minds in the field. It was one of the most enjoyable experiences of my career!"

**Hongkun Park**  
**Physical Chemist &**  
**Condensed Matter Physicist**  
**Harvard University**  
**Visiting Miller Professor**  
**Fall 2003**



**Miller Institute  
for Basic Research in Science**

2536 Channing Way

Berkeley, CA 94720-5190

Phone: 510-642-4088

Fax: 510-643-7393

e-mail: [millerinstitute@berkeley.edu](mailto:millerinstitute@berkeley.edu)

<http://millerinstitute.berkeley.edu>