fall 2015 physics department welcome & first tea
State of the Physics Department

A look at the upcoming year
We’re #1

Physics at Berkeley is #1 in the Shanghai Rankings for the second year in a row.
(2015 Academic Ranking of World Universities)

Visit physics.berkeley.edu for the latest Physics at Berkeley news!
That is all. Tea in 375!

Challenges and Opportunities:
Research, Teaching, and Service
Department Mission

Our mission is to expand the frontiers of fundamental physics research, to educate the next generation of scientific and educational leaders, and to produce an impact on the community commensurate with the distinguished history and tradition of Physics at Berkeley.

We bring together diverse and excellent faculty, students, staff and researchers with a universal dedication to upholding the highest standards of scholarship, teaching, and service.

- S. Boggs
Outline

- New Faculty, Faculty News, and Faculty Awards
- Staff News
- New Postdocs and Visitors
- Fall 2015 Entering Graduate Students
- Undergraduate Student Statistics
- Student Groups and Clubs
- Changes over the Summer
- Townes Symposium
- Eugene Commins Chair
- Priorities for the Coming Year
- Schedule of Events for 2015-16
- Reception in the A. Carl Helmholz Room (375 Le Conte)
New Faculty

Barbara Jacak (started 1/1/15)
Experimental Nuclear Physics

Daniel McKinsey (started 7/1/15)
Experimental Astro/Particle Physics
New Faculty

Matt Pyle (started 7/1/2015)
Experimental Astrophysics

Hernan Garcia (started 8/1/14)
Experimental Biophysics
New Faculty

Norman Yao (starts 7/1/2017)
AMO Theory

Faculty Promotions

Michael DeWeese to
Associate Professor effective
July 1, 2014
Faculty News

Other News:

**Visiting Miller Professors:**

- Fall 2015 – **John Cardy**
- Fall 2015 – **Massimo Porrati**
Faculty Awards 2014-15

James Analytis
- Department of Energy Early Career Award
- 2015 Sloan Research Fellowship

Naomi Ginsberg
- 2015 Sloan Research Fellowship
- UC Berkeley Department of Chemistry Teaching Award (2015)
- Donald Sterling Noyce Prize for Excellence in Undergraduate Teaching in the Physical Sciences (2015)

Hartmut Haeffner
- UC Berkeley Rose Hill Innovator Award 2014
Faculty Awards 2014-15

Oskar Hallatschek
• 2014 Simons Investigators Award

Holger Mueller
• 2015-16 Bakar Fellow
• APS Francis M. Pipkin Award 2015

Ahmet Yildiz
• Turkish American Scientists & Scholars Association Jr. Faculty Award 2014
Faculty Awards 2014-15

Stuart Bale
• APS Fellow, 2014

Steve Boggs
• APS Fellow, 2014

Carlos Bustamante
• Member, American Academy of Arts & Sciences

John Clarke (Emeritus)
• Member, American Academy of Arts & Sciences

Marvin Cohen (Emeritus)
• Material Research Society Von Hippel Award 2014 (their highest honor)

Roger Falcone
• Vice President, American Physical Society
Faculty Awards 2014-15

Reinhard Genzel
• Grosses Verdienstkreuz mit Stern (Great Cross of Merit with Star) of the President of the Federal Republic of Germany, Berlin
• Doctor Honoris Causa, Observatoire de Paris, France
• Harvey Prize, Israel Institute of Technology

Barbara Jacak
• Selected as one of the inaugural honorees in the foundation’s Achievement Rewards for College Scientists (ARCS) Alumni Hall of Fame.

Daniel Kasen
• 2015 Scialog Fellow by the Research Corp for Scientific Advancement.

Edgar Knobloch
• 2014 Faculty Award for Excellence in Postdoctoral Mentoring from the Berkeley Postdoctoral Association.

Steve Louie
• Materials Research Society (MRS) 2015 Materials Theory Award
Faculty Awards 2014-15

Richard Muller (Emeritus)
• Breakthrough Prize in Fundamental Physics 2014

Joseph Orenstein
• Moore Foundation EPIQS Investigator 2014

Saul Perlmutter
• American Philosophical Society Membership 2014
• Breakthrough Prize in Fundamental Physics 2014

R. Ramesh
• TMS John Bardeen Prize 2014

Ashvin Vishwanath
• 2015 Simons Investigators Award
Staff News

New Employees:

- **Laura King**, Administrative Officer (Prof. Zettl)
- **Bharati Pandit**, Financial Services Analyst
- **Gordon Long**, Principal Lab Mechanician
- **Thomas Gutierrez**, Principal Lab Mechanician

2014 – 2015 “Years of Service” Awards:

- **35 Years**  
  - **Joseph Kant**, Principal Lab Mechanician
- **20 Years**  
  - **Claudia Trujillo**, Student Services Manager
- **15 Years**  
  - **LaVern Navarro**, Grant Assistant (BCTP)
- **15 Years**  
  - **Roberto Barrueto**, Lecture Demo Technician
- **10 Years**  
  - **Anthony Vitan**, Facilities Specialist
New Post docs and Visitors

Aaron M Meisner (Postdoc) - Berkeley Center for Cosmological Physics (Seljak)
Alex Frano (Postdoc) - Birgeneau Group
Alexander Chekhovskoy (Postdoc) - Kasen Group
Alexandre Juillard (Visiting Scholar) - Sadoulet Group
Allison Dove (Postdoc) - Quantum Nanoelectronics Lab (Siddiqi)
Amy Nicholson (Postdoc) - Haxton Group
André Kowalewski (Visiting Researcher) - Hellman Group
Andreas Pedersen (Visiting Scholar) - Berkeley Center for Theoretical Physics
Boerge Hemmerling (Postdoc) - Haeffner Group
Cai Hong Jia (Visiting Scholar) - Crommie Group
Carl Schreck (Postdoc) - Biological Physics and Evolutionary Dynamics Group (Hallatschek)
Christopher Jackson (Postdoc) - Orebi Gann Group
Christopher P Bronner (Postdoc) - Crommie Group
Clarice Aiello (Postdoc) - Ginsberg Group
Daniel Haxton (Visiting Scholar) - Haxton Group
Diana Fusco (Postdoc) - Biological Physics and Evolutionary Dynamics Group (Hallatschek)
New Post docs and Visitors

Dibyendu Mandal (Postdoc) - DeWeese Group
Eli Megidish (Postdoc) - Haeffner Group
Emmanuel Flurin (Postdoc) - Quantum Nanoelectronics Lab (Siddiqi)
Eunseong Kim (Visiting Scholar) - Quantum Nanoelectronics Lab (Siddiqi)
Evan Pease (Visiting Student Researcher) - McKinsey Group
Farzad Faramarzi (Visiting Student Researcher) - Holzapfel/Lee Group
Freija B.m. Descamps (Postdoc) - Orebi Gann Group
Gabriel Antonius (Postdoc) - Cohen/Louie Group
Hou Keong (Postdoc) - Berkeley Center for Theoretical Physics
Huey-Wen Lin (Visiting Assistant Professor) - Haxton Group
Irene Del Vecchio (Postdoc) - Lanzara Group
Javier Caravaca Rodriguez (Postdoc) - Orebi Gann Group
Jeremy Axelrod (Junior Specialist) - Haeffner Group
Jia Feng Cui (Visiting Student Researcher) - Müller Group
Jiang Xia Deng (Visiting Scholar) - Qiu Group
Jie Yang (Visiting Scholar) - Berkeley Center for Theoretical Physics
New Post docs and Visitors

Jihun Kang (Visiting Scholar) - Feng Wang Group
Jinhan Xie (Postdoc) - Knobloch Group
John Cardy (Researcher) - Moore Group
Jona Kayser (Postdoc) - Biological Physics and Evolutionary Dynamics Group (Hallatschek)
Joulien E Tatar (Postdoc) – Klein Group
Kathryn M Zurek (Vstg Associate Researcher) - Berkeley Center for Theoretical Physics
Keisuke Harigaya (Postdoc) - Berkeley Center for Theoretical Physics
Kevin P O’ Sullivan (Postdoc) - McKinsey Group
Likai Li (Visiting Student Researcher) - Feng Wang Group
Lili Jiang (Visiting Student Researcher) - Feng Wang Group
Linn Leppert (Postdoc) - Neaton Group
Maïca Clavel (Postdoc) - High Energy Astrophysics Group (Boggs)
Maksym Serbyn (Postdoc) - Moore Group
Manel Molina Ruiz (Postdoc) - Hellman Group
Markus Horn (Associate Project Scientist) - McKinsey Group
Mathew S Martens (Postdoc) - Clarke Group
Michael Tayler (Postdoc) - Budker Group

Physics @BERKELEY
New Post docs and Visitors

Ming Yi (Postdoc) - Birgeneau Group
Morgan Delarue (Postdoc) - Biological Physics & Evolutionary Dynamics Group (Hallatschek)
Nader Mirabolfathi (Visiting Scholar) - Sadoulet Group
Nicholas Zobrist (Junior Specialist) - Sadoulet Group
Osip Schwartz (Postdoc) - Müller Group
Philip J Moll (Postdoc) - Analytis Group
Pintu Das (Visiting Assistant Professor) - Crommie Group
Rai Takahashi (Postdoc) - Feng Wang Group
Ribhu Kaul (Visiting Associate Professor) - Moore Group
Richard Parker (Postdoc) - Müller Group
Scott A Hertel (Postdoc) - McKinsey Group
Sebastian Reyes Lilo (Postdoc) - Neaton Group
Seong-Min Hwang (Visiting Scholar) - Clarke Group
Siming Wang (Postdoc) - Hellman Group
Sinead Griffin (Postdoc) - Neaton Group
Sivan Rafaely-Abramson (Postdoc) - Neaton Group
New Post docs and Visitors

Snir Gazit (Postdoc) - Moore Group
Sojin Han (Junior Specialist) - Kolomensky Group
Stephanie Mack - Neaton Group
Thomas Kraetzschmar (Visiting Student Researcher) - Budker Group
Tongyan Lin (Postdoc) - Berkeley Center for Theoretical Physics
Vincent Dumont (Visiting Scholar) - Budker Group
Vivek Singh (Postdoc) - Kolomensky Group
William A Page (Visiting Student Researcher) - Sadoulet Group
Xuejian Wu (Postdoc) - Müller Group
Yasuto Hori (Postdoc) - Holzapfel/Lee Group
Yi Li (Postdoc) - Berkeley Center for Theoretical Physics
Yuji Chinone (Postdoc) - Holzapfel/Lee Group
Fall 2015 Entering Graduate Students

Hannah Klion
Caltech

John M. Kreikebaum
Santa Clara University

Jacob Leedom
Renesselaer Polytechnic Institute

Adam Levine
Stanford University

Franklin Liou
Stanford University

Gilbert Lopez
UC Berkeley

Margaret McCarter
Illinois Wesleyan University

Kodiak Murphy
Western Washington

Vijay Narayan
Yale University

Jihwan Oh
Cornell University

Daniel Parker
Brown University

Morgan Presley
Princeton University

Stephen Randall
University of Maryland, College Park

Dylan Rees
UC Los Angeles

Pratik Sachdeva
Washington University

Nicholas Salzetta
Caltech

Arvin Shahbazi Moghaddam
MIT

Vetri Velan
Rutgers University

Sophie Weber
MIT

Storm Weiner
UC Berkeley

Fangzhou Zhao
Shanghai Jiaotong University
Undergraduate Students

Berkeley graduates more physics majors than any other university in the US.

- Total Number of AB Degrees Granted 2014/15: **93**
- Total Number of current Physics Majors: **349** (up from 303 last year)
Undergraduate Students

Identifying potential majors and bringing them into the department early.

<table>
<thead>
<tr>
<th>Our Grads</th>
<th>2012-13</th>
<th>2013-14</th>
<th>2014-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>% URM</td>
<td>9%</td>
<td>9%</td>
<td>13%</td>
</tr>
</tbody>
</table>
Percentage of Degrees Awarded to Underrepresented Minorities

- Bachelor's
- Master's
- Doctorate

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Student Organizations

Tomorrow’s Leaders, Leading Today
Society of Women in the Physical Sciences (SWPS) encourages women and minorities to study the physical sciences and creates a friendly, supportive environment.

- Launch Day
- LN$_2$ Ice Cream Social
- Mentoring Program
- SPWS dinners

The Career Development Initiative for the Physical Sciences (CDIPS) aims to expose graduate and postgraduate students to careers outside academia and strengthen ties between academic science and industry.

**Respect is part of research** provide in-person gender bias and sexual harassment prevention and awareness education to fellow graduate students.

Physics Graduate Student Association (PGSA) a governing and advocacy body for the graduate students.

The Compass Project supports diversity, community, and pedagogy in the physical sciences.

- Summer Program for Freshman
- Courses
- Mentoring Program

Society of Physics Students (SPS) is a professional, national organization for all physics students.

- Faculty-Student Lunches
- Career Seminar Series
- Field Trips

IGenSpectrum aims to strengthen a sense of community for LGBT+ physicists and reach out to future generations of students.
What else is new since last year?
Campbell Hall
New Lathes for the Student Machine Shop

Successful Symposium held over the summer

Senior Class and Department launching a project to honor his legacy – courtyard remodel/bench
Welcome to the Physics Department at the University of California at Berkeley, a learning institution where distinguished professors and their students are key collaborators, leading the way in scientific research, challenging the fundamental laws of physics, and advancing tomorrow's ideas and discoveries.
Student Fellowships & Donor Appreciation Event
Cohen Condensed Matter Physics Interaction Center
The Eugene D. Commins Chair in Experimental Physics

Honors an extraordinary teacher, mentor and pillar at Berkeley Physics since 1961
Priorities for the coming year:

- Strategic Plan for Equity, Inclusion, and Diversity: faculty, students, and staff
- Complete the Undergraduate Reading Room & Collaboration Center
- Implement Major Curriculum Revisions
- Upgrading/modernizing our Shops
Equity, Inclusion, and Diversity

• Commitment to diversity is central to the Physics Department’s mission, and critical for maintaining our leadership status in research and education going forward.

• Diversity provides the experience and knowledge that is needed to fulfill UC Berkeley’s public mission to welcome and serve all segments of California’s population, which in turn facilitates better research, better teaching and better public service.

• Diversity ensures that a wider range of ideas and opinions are contributing to our excellence, and that we welcome and retain the best physics students, faculty, and staff.

• The Department of Physics is committed to inclusive excellence in both the support of the mission of the University of California in educating the diverse population of the state, as well as in preparing our students, faculty and staff to excel in an increasingly diverse global community.
The Physics Reading Room and Collaboration Center

- High visibility home for our Physics majors
- Modern amenities in support of learning
- Foster collaborations and physics identity early
Undergraduate Majors Curriculum

Lower Division
• Increase access to underrepresented groups
• Equip students early for research
• Improve preparation for upper division
• Physics 89 (Fall), 77 (Spring)

Upper Division
• Increase flexibility in requirements
• More exposure to cutting-edge research
Modernizing the Machine Shop

Keep our facilities relevant for leading the cutting edge of today’s research.
2015 Fall Schedule of Events

September 16: Book Signing and Reception, Mary K. Gaillard

October 29: Chupp Lecture, Michael Hiltzik

October 15: Segre Lecture, Steven Chu

Steven Chu: “A Random Walk in Science”
Student Trivia Question #1

Q: Who was the first faculty member at an American public university awarded the Nobel Prize in a science field?

A: Ernest O. Lawrence, Physics 1939, “for the invention and development of the cyclotron and for results obtained with it....”
Student Trivia Question #2

Q: Who was the first professor hired at the University of California?

A: John LeConte, 1869, professor of physics. Studied sound, including measuring the speed of sound in 1864. First acting president of UC (1869-70), president of UC (1876-1881).
Student Trivia Question #3

Q: How many paper airplanes are in the ceiling of the reading room?

A: 127
Student Trivia Question #4

Q: Which professor sets up a trebuchet in the Campanile Esplanade each year?

A: Bob Jacobsen.
fall 2015
physics department
welcome
& first tea