

# ELLIOT R. BERNSTEIN

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## EXPERIENCE

|               |   |
|---------------|---|
| 1980 -present | Professor, Department of Chemistry, Colorado State University   |
| 1992 -1999    | Associate Chairman, Department of Chemistry, Colorado State University                                      |
| 1975 -1980    | Associate Professor, Department of Chemistry, Colorado State University                                     |
| 1969 -1975    | Assistant Professor, Department of Chemistry, Princeton University, Princeton, NJ                           |
| 1967 -1969    | Postdoctoral Fellow, Enrico Fermi Institute, University of Chicago, Chicago, IL (with C. A. Hutchinson Jr.) |

## EDUCATION

Ph.D. -1967 (Chemistry and Physics) California Institute of Technology, Pasadena, CA  
(with G. W. Robinson)

A. B. -1963, Princeton University, Princeton, NJ

## HONORS

National Science Foundation Summer Fellow 1961, 1962  
Woodrow Wilson Fellow 1963, 1964  
E. Fermi Postdoctoral Fellow 1967-1969  
American Physical Society Fellow 1992  
JSPS Fellow 1996-1997, 2005-2006, 2012 Bridge Fellowship  
Third Cycle in Chemistry Lecturer, Switzerland (Bern, Basel, Lausanne)  
Fulbright Specialist Fellow (2015-20)  
2016 – visiting scholar (FSF), IISc Bangalore, IISER Pune, TIFR and IIT Mumbai.  
CAS invited scholar – 2017  
Colorado Section ACS Research Chemist award 2016

## Visiting Professor Lecturer

University Pais Vasco, Bilbao, Spain, 2000  
University Autonoma, Madrid, Spain, 2000  
University of Seville, Seville, Spain, 2000  
National Taiwan University, Taipei, 2001  
National Tsing Hua University, Hsinchu, Taiwan, 2001  
Institute of Atomic and Molecular Sciences Academia Sinica, Taiwan, 2001  
National Sun Yat-sen University, Kaohsiung, Taiwan, 2001  
University Pais Vasco, Bilbao, Spain, 2004  
University Santiago de Compostela, Spain, 2004  
University of Barcelona, Spain, 2004  
Tsing Hua University & CAS Institute of Chemistry, Beijing, China, 2005  
CAS Chemical Physics Institute, Dalian, China, 2005  
University of Science & Technology of China, Hefei, China, 2005  
East China Normal University, Shanghai, China, 2005  
MBI/Humboldt University, Berlin, Germany, 2008

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## SOCIETY MEMBERSHIPS

American Chemical Society (ACS)  
American Physical Society (APS)  
AAA Science, Sigma Xi

## RESEARCH INTERESTS

Heterogeneous Catalysis and photocatalysis - Mass spectrometric investigation of catalytic reaction mechanisms for neutral metal and metal oxide, nitride, carbide, sulfide and mixed metal clusters;  
Energetic Materials - Initial excited electronic state decomposition mechanism and dynamics of energetic materials and their model systems;  
Biological and Hydrogen-bonded Systems - Investigation of conformations for amino acids, saccharides, alcohols, etc. and small molecule (NH<sub>3</sub>, H<sub>2</sub>O, H<sub>2</sub>O, ROH, etc) clusters;  
Mass spectroscopy and photoelectron spectroscopy - single VUV and EUV photon ionization of neutral species;  
Ultrafast Chemical Reactions.

## OTHER ACTIVITIES

Director: Condensed Matter Sciences Laboratory, CSU 1982-90  
Consultant: Los Alamos Scientific Laboratory (LANL) (1975-85)  
Philip Morris Research Center (PMRC) (1984-93)  
DuPont Corporation (1986-93)  
DX, Inc. (1988-93)  
Visiting Scientist: Brookhaven National Laboratory (BNL) (1971-75)  
Panel Member: NSF Energy Related Research (1976)  
NSF Workshop on "Future Trends in Vibrational Spectroscopy," 1979  
Patent: (US#4,632,419) 28 June 1977, "Laser Isotope Separation of Uranium Isotopes in the Solid State"  
Organizing Committee: X Molecular Crystals Symposium  
Co-Vice Chair: 2000 GRC on Molecular Electronic Spectroscopy  
Co-Chair: 2003 GRC on Molecular Electronic Spectroscopy  
EPA Review Panel 1998, 1999  
Symposium Organizer: Pacifichem 2000, Hawaii  
NSF Review Panel: 2007 (Engineering)

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## INVITED SEMINARS

1972

IBM, San Jose, CA  
Ohio State University  
California Institute of  
Technology  
University of  
Southern California  
Northwestern  
University

1973

University of Pennsylvania

1974

Ohio State University  
RCA Corporation  
University of Illinois  
Colorado State University  
University of Texas at Austin  
Northwestern University  
Electronic Spectroscopy Gordon Conference

1975

IBM, Yorktown Heights, NY  
Bell Laboratories  
Los Alamos Scientific Laboratory  
Boston University  
University of Denver

1976

Lawrence Livermore Laboratory  
University of Colorado  
Electronic Spectroscopy Gordon Conference

1977

University of Wyoming

1978

Utah State University  
University of Utah  
University of California, Davis  
City College of New York  
Brooklyn College  
New York Polytechnic Institute

1979

Colorado State University, Department of Physics Exxon Research Laboratory

1980

U.S. Army Night Vision & Electro-Optics Laboratory  
University of California, Irvine

## **ELLIOT R. BERNSTEIN**

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9th Molecular Crystal Symposium, Austria

1981

State University of New York, Binghamton

Bell Laboratories

Syracuse University

Wesleyan University

University of Michigan

Michigan State University

Wayne State University

University of California, Riverside

University of California, Irvine

University of Southern California

## **ELLIOT R. BERNSTEIN**

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1982

UCLA, Caltech  
Xerox Corporation, Rochester, NY  
State University of New York, Buffalo  
Temple University, PA  
University of Rochester  
University of Pennsylvania  
Dartmouth College

1983

University of Chicago  
University of Illinois at Chicago Circle  
Naval Research Laboratory, Washington, DC  
Technical University of Wroclaw, Poland  
16th European Congress on Molecular Spectroscopy, Sofia, Bulgaria  
Electronic Spectroscopy Gordon Conference

1984

Polytechnic Institute of New York, Brooklyn, NY  
Philip Morris Research Center  
Technical University of Wroclaw, Poland, "Conference on the Electrical Properties of Organic Solids"  
Plenary Lecturer  
ACS Meeting, Honolulu, HI

1985

Philip Morris Research Center  
Electronic Spectroscopy Gordon Conference  
University of California, San Diego

1986

DuPont, Wilmington, DE  
University of Pittsburgh  
Pennsylvania State University  
Iowa State University  
New York City ACS Meeting  
DEAP & DCP Joint Meeting in Eugene, Oregon  
International Symposium on the Physics & Chemistry of Small Clusters, Richmond, VA

1987

University of Colorado  
Virginia Commonwealth University  
ACS Meeting, Denver, CO  
Physics Department, Colorado State University  
International Conference on Multiphoton Process, University of Colorado, Boulder  
International Laser Science Conference, Atlantic City, NJ

## **ELLIOT R. BERNSTEIN**

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1988

University of Denver

Introductory Lecturer, Molecular Electronic Spectroscopy Conference, Ile d'Oleron, France

University of Iowa

Philip Morris Research Center

1989

Colorado School of Mines

NATO Conference on dynamics in van de Waals clusters, UCLA

ACS International Chemical Congress of Pacific Basic Societies

1990

Battelle, Pacific Northwest Laboratories Workshop on "Applications of Cluster Research to Environmental Problems"

Session Chair -Cluster Gordon Conference, Volterra, Italy

University of Southern California

University of California, Riverside

1991

Session Organizer and Invited Speaker

ACS meeting, Atlanta

University of Wisconsin Gordon Conference on Molecular Spectroscopy

1992

Rutgers University

Michigan Technological University

Telluride Summer Research Conference

University of Washington

University of Victoria

1993

Purdue University

Indiana University

Ohio State University

Michigan State University

University of North Carolina

Johns Hopkins University

Army Research Lab Naval Research Lab

University of Virginia Discussion Leader: R. Kopelman Symposium, Ann Arbor, MI

1994

Arizona State University

University of Arizona Invited Speaker

ACS National Meeting, San Diego, CA

University of Southern California Invited Speaker

3rd Symposium on Molecular Reaction Dynamics In Condensed Matter, Salt Lake City, UT

Session Chair, Gordon Conference on Molecular Electronic Spectroscopy

Invited Speaker, Chemical Physics Institute Retreat

Oregon State University IBM Applied Materials

## **ELLIOT R. BERNSTEIN**

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1995

Hebrew University, Jerusalem Tel-Aviv University  
APS Meeting March, San Jose, CA  
SPIE International Symposium, San Diego, CA  
ACS National Meeting, Chicago, IL  
Pacifichem'95, Honolulu, HI  
University of Utah, UT

1996

Rocky Mountain Symposium on Photons & Chemistry (PAC), Estes Park, CO  
13th Rocky Mountain Regional ACS Meeting, Denver, CO  
Radicals in the Rockies II, Telluride Summer Research, Telluride, CO  
Japan Society for the Promotion of Science, Invitation Fellowship Program, Japan

1997

Meeting of the American Chemical Society, Kansas City, MO  
APS Symposium organizer and speaker  
Rocky Mountain Symposium on Photons and Chemistry, Estes Park, CO  
Chemical Physics Program, University of Colorado, Boulder, CO  
Gordon Conference, Queen's College, Oxford, England  
MASUA Chair's Meeting, Lawrence, KS

1998

Florida State University, Tallahassee, FL  
University of Florida, Gainesville, FL

1999

Iowa State University, Ames, IA  
University of Iowa, Iowa City, IA  
ACS National Meeting, Anaheim, CA

2000

ACS National Meeting, San Francisco, CA  
Gordon Research Conference  
Colby-Sawyer College, New London, NH  
Pacifichem 2000, Honolulu, HI

2001

SUNY, Buffalo, NY  
National Sun Yat-Sen University, Kaohsiung, Taiwan  
National Cheng-Kui University, Tainan, Taiwan,  
March National Tsing-Hwa University, Hsinchu, Taipei,  
March National Taiwan University, Taipei, Taiwan,  
March Nanophase Materials Sciences Workshop, Oak Ridge National Laboratory, TN

2002

AAAS Meeting, Boston, MA  
University of Nevada, Reno, NV  
Los Alamos National Laboratory, Los Alamos, NM  
University of New Mexico, Albuquerque, NM  
ACS National Meeting/ACS Editorial Board Meeting, Boston, MA

## **ELLIOT R. BERNSTEIN**

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2002

Philip Morris, Richmond, VA

2003

Philip Morris, Richmond, VA

2004

Michigan State University

Wayne State University

University of Michigan

University of Arizona

Arizona State University

Pacific Northwest National Laboratory

University of British Columbia

University Pais Vasco, Bilbao, Spain

University Santiago de Compostela, Spain

2005

University of Barcelona, Spain

UGA Georgia Institute of Technology

Spelman College

Agnes Scott College

PRC Chinese Academy of Science

Institute of Chemical Physics

Dalian Chinese Academy of Science, Institute of Chemistry

Beijing Chinese Academy of Science

Technical Institute of Physics and Chemistry

Beijing University of Science and Technology of China

Hefei East China Normal University, Shanghai

2006

GRC-Electronic Spectroscopy and Dynamics

UCB Hiroshima University

Kyushu University

Riken Tokyo Tohoku University

Seoul National University

2007

Invited Lecture Aug. EUV Laser, San Diego, CA

AFOSR Conference, Irvine, CA

American Chemical Society Southwest Regional Meeting, Lubbock, TX

2008

Johns Hopkins University, Baltimore, MD

Auburn University, Auburn, AL

Centre National De La Recherche Scientifique, Saclay and Orsay, France

MBI Humboldt University, Berlin, Germany



## **ELLIOT R. BERNSTEIN**

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2009

SPIE Conference EUV Lasers  
University of California Merced  
University of California Davis

2010

Pacificchem, Hawaii  
Weizmann Institute of Science, Rehovot Israel  
RSC Poster Presentation, Budapest Hungary

2011

Argonne National Laboratory

2014

LM University, Munich, Germany GOMC, Ulm, Germany  
ACS, Houston, TX

2015

SPIE invited talk, San Diego, EUV/TOFMS & PES

2016 - 17

visiting scholar (FSF), Bangalore, Pune, Mumbai, India (IISc,  
IISER, TIFR, IIT)  
CAS invited scholar  
Colorado Section ACS Research Chemist award

**REVIEWER:**

ARO, NSF, DOE, Israel Science Found, Netherlands Science Foundation, JCP, JPC,  
JACS JPCL, CPL, CP, JMS, PCCP, RSC, EuJChem., and others.

