

CV: Professor George F. Smoot

Education:

PhD: 1970, Massachusetts Institute of Technology, Physics

BSc: 1966, Massachusetts Institute of Technology, Mathematics and Physics

Academic positions:

2016 – present, IAS Helmut & Anna Pao Sohmen Professor-at-Large, Hong Kong University of Science and Technology, Hong Kong and Nansha FYT Research Institute

2014-present, Director, Université Sorbonne, Paris PCCP and U. Paris Diderot & APC

2012-2013, Director, Extreme University Laboratory, SINP, Moscow State University

2011-present, Director, Paris Center for Cosmological Physics

2010-present, Professor, Dep. of Physics, Université Paris Diderot and APC Laboratory

2009-2014, Director, Institute for the Early Universe, Ewha W. Univ., Seoul, South Korea

2007 – present, Founding Director, Berkeley Center for Cosmological Physics

2000 – present, Member of SNAP Mission Team; now the DESI team

1996 – present, The Advisory Committee for the Space Sciences Laboratory

1993 – present, Member of Planck Mission Team.

1994-present, Professor, Department of Physics, University of California, Berkeley

1974-present, Research Physicist, Lawrence Berkeley National Laboratory

1971-present, Research Physicist, Space Sciences Laboratory, Univ. of California, Berkeley

Memberships, Awards and Honors:

Nobel Prize in Physics, with John Mather (2006)

Member USA National Academy of Sciences

Sigma Xi, American Physical Society, American Astronomical Society

American Association for Advancement of Science, International Astronomical Union

NASA Medal for Exceptional Scientific Achievement (May 1991)

Popular Science Award (Nov 1992)

Aerospace Laureate, Aviation Week & Space Technology (Apr 1993)

1993 Distinguished Scientist, ARCS Foundation, Inc. (Apr 1993)

Kilby Award (May 1993), Oersted Medal (2009)

Gravity Research Foundation Essay First Award (May 1993)

Productivity Group Award, Goddard Space Flight Center, NASA (May 1993)

American Achievement Golden Plate Award, (June 1994)

Lawrence Award, (March 1995)

Medal: Francois Fonde Le College De France (2002-2003)

Einstein Medal, Albert Einstein Society, Switzerland (2003)

Gruber Prize with John Mather (2006)

Daniel Chalonge Medal, International School of Astrophysics (2006)

Member, International Raoul Wallenberg Foundation (2006-present)

Charter Member National Academy of Inventors (2014)

Honorary Degrees etc.:

Docteur Honoris Causa, De L'Université de la Méditerranée (2007)
Board of Directors, Chabot Space and Science Center, 2007-2015
Doctor Honoris Causa Universidad Miguel Hernández (2008)
Honorary Doctor of Science Gustavus Adolphus College (2013)
Doctor Honoris Causa Nazabaev University (2015)
Doctor Honoris Causa and Gold Medal Universidad de Chile (Dec. 2015)
Honary Professor Northwester Polytechnical University (May 2016)

Special Lectures : I made several special and invited lectures recently including in the first part of 2016 and late 2015:

- (a) Xi'an : Launch of Lomonosov Satellite and GRBs 30 May 2016
- (b) Xi'an : Mapping the Universe in Time and Space 30 May 2016
- (c) HKUST : Launch of Lomonosov Satellite and GRBs 24 May 2016
- (d) Wuhan : Mapping the Universe in Time and Space 23 May 2016
- (e) Wuhan : Innovation and Productivity 22 May 2016
- (f) APC : Launch of Lomonosov Satellite and GRBs 11 May 2016
- (g) Pineapple Awards Hangzhou China – 9 April 2016
- (h) Colloquium Stanford University – 4 April 2016
- (i) Hong Kong University of Science and Technology – 24 March 2016
- (j) Xiamen University – 14 March 2016
- (k) a Xiamen High School - 13 March 2016
- (l) Santiago Chile - 3 talks and received a national medal for science promotion
Essential – 8-10-December 2015
- (m) 70th Anniversary of Azerbaijan Academy of Sciences speech – 23 November 2015
- (n) Dark Matter Madrid – 25 November 2015
- (o) Speech at Grand Challenge- Guangzhou Institute of Science and Tech 14 Nov 2015
- (p) Dark Matter Planetarium Show review and presentation Athens Planetaria –
September 2015

Current research : in cosmology and astrophysics. These fall in four main areas:

- (1) **CMB:** This year, 2016, marked the full release of cosmological results from the Planck Satellite with about 25 papers to be released. The results from the Planck mission have been a major step forward over the COBE and WMAP results using the CMB (cosmic microwave background) as the primary tool of cosmology. The next Planck mission data, calibrated and with explanatory supplement will be the legacy from Planck. We will continue analysing these data as individual and collaborative group efforts. I was co-PI of the COBRAS proposal which was combined with the SAMBA proposal to become Planck. Currently I am involved in setting up the next generation CMB observations. The first and most active presently of this is working for S4 CMB. I have been working on having Berkeley and hopefully APC will be the centres or a major pole of the S4 CMB program. This label is short hand for Stage 4 Cosmic Microwave Background observational program. This is a joint activity between Berkeley Physics and LBNL: Physics: Prof. Adrian Lee, Bill Holzapfel, and myself (and later probably theorists Martin White and Uros Seljak) and Akito Kusako, Julian Borrill, and myself

and Adrian Lee at LBNL. We have arranged for three LDRD proposals - two for hardware and one for software - which are currently being reviewed. Adrian is trying to get some Simons foundation matching through campus and I from other sources. Also coordinating with Physics Division Natalie Roe and new LBL director Mike Witherell on this effort. I am also working with Peter Nugent, Julian Borrill, and a post doc Dhiraj Hazra to develop a SciDAC proposal to further support the simulation and computation effort for the field in general but with a strong focus for S4 CMB. This is to have not only the instrumentation in Berkeley but also the primary data processing and analysis to be located in Berkeley. (We are primarily competing with U Chicago plus Argonne for being the lead institution.) Also working on bringing foreign collaboration into the effort. A major part is trying to bring APC into the effort.

A major effort in Paris is the development of mm-wave mKIDs detectors for a very large focal plane. (As a secondary goal is optical/IR/UV mKID focal planes for more general astrophysics efforts.)

- (2) **GRB Science and Instrumentation:** My group and collaborators have also generated two pathfinder instruments to observe the early portion of Gamma Ray Bursts (GRBs) scheduled for launch aboard the Lomonosov satellite, on the approaching April 27 actually delayed to 28 April for the actual . There have been numerous delays over nearly three years since the first scheduled launch. It will be onboard a Soyuz2.1a as the first launch on the Vostochny Cosmodrome. If it is launched – it was launched on April 28, 2016 and if works well, then data analysis will occur at the scientific computer center in Berkeley and in Paris. Also working with Nazabaeyev University in Kazakhstan.
- (3) **Galaxy Sky Surveys:** I am actively participating in the BigBOSS (third-generation galaxy sky survey) now relabeled as MS-DESI. The first phase involved testing and design of optical fibersystem and recruiting foreign groups as paying participants in the collaboration. The major portion of that is completed and now we are moving into the target finding surveys and the construction of the actual instrument with data taking anticipate to begin in later 2017. Also with my post docs am a member of Euclid.
- (4) **Post Docs & Group:** I am also involved in the production of a number of theory and data analysis papers primarily via a group of active post docs that I support via things like the Chaire of Excellence and various fellowships and scholarships. Post docs now include Valerie Dominke, Dhiraj Hazra, Andrea Tartari, and Ivan Debono.
- (5) **Education and Outreach:** In June 2016 I am running the Berkeley Teachers' Academy which is to train middle and particularly high school teachers how to teach science (and math). I have started this more than decade ago. It is partially supported by private funding. I will be doing some fund raising during this period. I anticipate this activity will continue in the future. I also run one in Paris usually in November and have run one in Malta 2014 and one in Greece 2015. Previously we have run these in Korea but this is now no longer active. While this is not a normal faculty job, it is encouraged by the University and is part of the overall effort that includes the CalTeach program at Berkeley and UParis teacher preparation.
- (6) **Innovation and Technology Program :**
 - (a) Have started one company with 6 products in production with a factory in Dongguan China. These are medical-mechanical devices.
 - (b) Have a serious effort and proposals which have made it through the first rounds for a

- second company to produce Air Quality Monitor
- (c) Other devices in early stages
- (d) Preparing a proposal for a MOOC on the « History and Now of Innovation »
- (e) Charter Member of National Academy of Inventors

Publications :

600 publications available list from

https://www.researchgate.net/profile/George_Smoot/contributions

Citations summary

Generated on 2016-06-02

301 papers found, 252 of them citeable (published or arXiv)

	Citeable papers	Published only
Citation summary results		
Total number of papers analyzed:	252	174
Total number of citations:	61,457	60,489
Average citations per paper:	243.9	347.6
Breakdown of papers by citations:		
Renowned papers (500+)	14	14
Famous papers (250-499)	7	7
Very well-known papers (100-249)	20	18
Well-known papers (50-99)	37	34
Known papers (10-49)	87	66
Less known papers (1-9)	63	27
Unknown papers (0)	24	8
h_{HEP} index [?]	64	62