Professional Activities of
Andreas Albrecht
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Contents

QMAP Director

Spring 2017-Present
http://qmap.ucdavis.edu

Highlights

1) Worked with QMAP faculty and UCD administration to produce the vision and administrative documents for the establishment of the UCD Center for Quantum Mathematics and Physics (QMAP).
2) Recruited Robbert Dijkgraaf and David Gross to form and co-chair the QMAP External Advisory Committee
3) Oversaw the approval and planning work to create specially designed renovated space for QMAP (opening scheduled for Summer 2020)

UC Davis Physics Department Chair

Fall 2011 to Summer 2016

Highlights

1) Moving the department forward with an ambitious vision to grow from 41 faculty to 55 faculty in several years. This expansion includes a number of brand new initiatives.
2) Launched our Condensed Matter Experiment initiative which culminated in the hiring of four extraordinary new faculty members.
3) Oversaw our success in a campus-wide competition (the Provost's Hiring Investment Program), jointly with the Math Department which resulted in five exciting new faculty hires (four in Physics one in Math). These new hires form the core of our new Center for Quantum Mathematics and Physics.
4) Oversaw the expansion of our impressive Cosmology group more broadly into Astrophysics, resulting in the hiring of two outstanding new junior faculty during my term as chair.
5) Added to our ongoing departmental Particle Dark Matter Initiative with the hiring of another exceptional faculty member.

6) Restructured the departmental merit advancement documentation into a template format so that key information is easily found and reviewed. Overall workload was reduced and faculty voting participation showed a major improvement.

Meetings Organized/Convened

1. Wanted: a mathematical home for our out-of-equilibrium world Copenhagen, Oct 28-Nov 1 2019

2. Quantum Entanglement in Cosmology Tokyo, May 21-22 2019

3. Davis Cosmological Frontiers conferences Davis, May 20-25 2013

4. COSMO 12, Beijing, September 10-14, 2012

5. Challenges for Early Universe Cosmology July 12-16 2011

6. COSMO 06 September 25-29 2006, Lake Tahoe, CA (member of organizing committee).

7. *Nobel Symposium on String Theory and Cosmology* August 14-19 2004 Sigtuna, Sweden (convener of session on inflation)

8. *The Davis Meeting on Cosmic Inflation.* March 2003 (Chair of organizing committee)

9. *Snowmass 2001* Co-convener of the Early universe cosmology and tests of fundamental physics section.

10. *PASCOS 1999*, Lake Tahoe, December 1999 (co-organizer)

11. *Cosmic Genesis and Fundamental Physics* Sonoma 1999 (session convener)

12. *Workshop on analysis of large astronomical data sets*. Isaac Newton Institute, Cambridge, August 1999. (co-organizer)

13. *Programme on Complexity, Entropy, and the Physics of Information*. Isaac Newton Institute, Cambridge, May-August 1999. (co-orgnaizer)

14. *Early Universe Session.*. Inner Space/Outer Space II David Schramm memorial symposium, May 1999. (session organizer)

15. *Symposium on Gauge Theory, Cosmology, and Fundamental Physics* London, July 1998 (Co-organizer and Member of the Science Committee)

16. *The Eighteenth UK Institute for Theoretical High Energy Physicists* St Andrews, 1997 (Member of Scientific Committee)

17. *Imperial College international CMB workshop* London April 1997. (principle organizer)

18. *Defect CMB Workshop*, DAMTP, Cambridge, Feb 1996 (co-organizer)

Workshop participation

In addition to the large meetings listed in a separate document, I have been active in numerous informal workshops of international standing. For example, below I list such activities covering 1996-2003. In each case participation was by invitation only, and my contributions included presenting talks and other activities.

Defect CMB Workshop, DAMTP, Cambridge, Feb 1996 (co-organizer).

1. *IC CMB Workshop*, Imperial College, London April 1997 (Principle Organizer).

2. *Workshop on Structure Formation.* Aspen Center for Physics, Aspen, June 1997

3. *The Sloan Summit On Microwave Foregrounds* Institute for Advanced Study November 14-15, 1998

4. *Santa Fe Workshop on Cosmology.* Santa FE NM, July 1999

5. *Aspen Workshop on large extra dimensions.* August 2000

6. *Aspen Workshops on String Theory and Cosmology* August 2002

7. *New Horizons in String Cosmology* Banff Research Station, June 2004

8. Aspen Workshop on *Wide Fast Deep Surveys: New Frontier for Cosmology* June 2009

9. Aspen Workshop on *Testing General Relativity in the Cosmos* June 2009

10. Perimeter Institute Workshop on *Holographic Cosmology* July 2009

11. *Workshop on Inflationary Cosmology* CTS Princeton January 2011

Service on Key Panels and Committees

1. UC Davis College of Letters and Science Associate Dean Recruitment Advisory Panel (for filling three newly created Associate Dean positions. Spring 2017

2. UC Davis College of Letters and Science Visioning Committee, Fall 2015

3. UC Davis Letters and Science Reorganization Workgroup (evaluating options for reorganization of the UC Davis College of Letters and Science). Winter and Spring 2015

4. Astronomy and Astrophysics Advisory Committee (AAAC) 2011-present (Vice Chair 2012-2013, Chair for 2013-14). While Chair, the AAAC developed and adopted the "Principles of Access" in order to facilitate "open data/open skies" in astronomical research. The AAAC Principles of Access have been well received are being viewed as a model for international policies.

5. Kavli Institute for Cosmological Physics / Physics Frontier Center External Advisory Board (University of Chicago) 2011-2015

6. DoE Dark Energy Science Panel, 2012

7. ASTRO 2010 Decadal Survey Particle Astrophysics and Gravity subcommittee (2009-2010)

8. Joint Dark Energy Mission Figure of Merit Science Working Group (DoE/ESA/NASA) 2008

9. Kavli Institute for Cosmological Physics External Advisory Board (University of Chicago) 2007-2010

10. Particle Physics Project Prioritization Panel (P5) 2005 - 2007

11. Astronomy and Astrophysics Advisory Committee and the High Energy Physics Advisory Panel "Dark Energy Task Force" 2005 – 2006

12. Director's physics division review panel member, Lawrence Berkeley Laboratory, November 2005

13. SLAC program DOE review panel (2005)

14. NASA/DOE "Joint Dark Energy Mission Science Definition Team" 2004 – 2006.

15. DOE review panel member, Review of Lawrence Berkeley Laboratory High Energy Physics program. Feb 2004

16. NSF Particle Theory grant review panel (Jan 2004)

17. High Energy Physics Advisory Panel (HEPAP) Quantum Universe Committee (Nov 2003- June 2004) http://interactions.org/quantumuniverse/

18. UCD Faculty advisory panel member for the recruitment of a new Dean of Mathematical and Physical Sciences. (Spring 2003)

19. DOE SNAP Lehman review panel. (July 2002)

20. NSF Astronomy grant review panel (March 2001)

21. *Committee on the International Freedom Of Scientists* (of the American Physical Society*)* 2000-2002.

22. *Particle Physics Theory Committee* (PPTC). of the panels for the Particle Physics and Astronomy Research Council (PPARC) (Assesses theoretical particle physics grants) 1996-1998 (UK)

23. *Theoretical Research Assessment Panel* (TRAP). of the panels for the Particle Physics and Astronomy Research Council (PPARC) (Assesses theoretical astronomy grants) 1996-1998 (UK)

24. *Joint Astronomy and Particle Physics Supercomputer panel* (JAPPS) (Plans PPARC supercomputing strategy). 1995-1998 (UK)

Public Outreach

My colleagues and I energetically advocate cosmology as a showcase field in order to generate wider public understanding of basic research. This has resulted in increased support for cosmology at all levels. My direct personal efforts at communicating with the wider public include:

1. Numerous interviews with the media (see http://albrecht.ucdavis.edu/public/media)

2. Consultant for the Big Bang exhibit at the National Museum for Science and Industry in London (opened Sep 1996).

3. Frequent lectures to school students and other interested members of the public. (see http://albrecht.ucdavis.edu/public/public-lectures for recent examples)

Service on Editorial Boards

1. *Classical and Quantum Gravity* (1993-1996)
2. *Physical Review D* (2010-2012)