

## Curriculum Vitae: THEODORE A. JACOBSON

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Birthdate: November 27, 1954

### *EDUCATION:*

B.A., Reed College, 5/77  
Ph.D., The University of Texas at Austin, 12/83

### *PROFESSIONAL POSITIONS:*

2013 -, Distinguished Visiting Research Chair  
Perimeter Institute for Theoretical Physics, Waterloo, Canada  
7/98 -, Professor  
Dept. of Physics, University of Maryland  
7/93 to 6/98, Associate Professor  
Dept. of Physics, University of Maryland  
8/88 to 6/93, Assistant Professor  
Dept. of Physics, University of Maryland  
9/86 to 8/88, Research Associate  
Dept. of Physics, Brandeis University  
9/84 to 8/86, Research Associate  
Dept. of Physics, University of California at Santa Barbara  
3/84 to 8/84, Research Associate  
Observatoire de Meudon and Institute Henri Poincaré, Paris

### *VISITING POSITIONS:*

1/15 to 6/15, Member (1-3), Program Coordinator (4-6)  
Kavli Institute for Theoretical Physics, Santa Barbara  
1/14 to 5/14, Distinguished Visiting Research Chair  
Perimeter Institute for Theoretical Physics, Waterloo, Canada  
10/13 to 12/13, Invited Researcher  
Inst. d'Astrophysique, Paris  
9/13, Invited Professor  
Université Pierre et Marie Curie, Inst. d'Astrophysique, Paris  
1/12 to 5/12, Simons Distinguished Visiting Scholar  
Kavli Institute for Theoretical Physics, Santa Barbara  
4/04 to 6/04, Professeur Invité

Université de Paris VII

8/03 to 8/04, Invited Visiting Researcher  
Inst. d'Astrophysique, Paris

1/99 to 7/99, Research Program Invited Participant  
Inst. for Theoretical Physics, Santa Barbara

7/95 to 6/96, Sabbatical Visitor  
Inst. for Theoretical Physics, University of Utrecht

6/94 to 8/94, Invited Visiting Researcher  
Inst. for Theoretical Physics, University of Bern

1/93 to 7/93, Research Program Invited Participant  
Inst. for Theoretical Physics, Santa Barbara

1/90 to 7/90, Visiting Researcher  
Dept. of Physics, University of California at Santa Barbara

*AWARDS and GRANTS:*

University Fellowships, Univ. Texas at Austin, 1979-1981

Fulbright Scholarship for Graduate Study in Israel, 1982-1983

NSF Research Grant, 8/89-7/91

Excellence in Teaching Award, University of Maryland, 9/89

GRB Semester Research Award, University of Maryland, 1990

NSF Research Grant, 8/91-8/94

Invited Visiting Scientist, ITP, Santa Barbara, 1/93-7/93

Invited Visiting Researcher, ITP, Univ. of Bern, 6/94-8/94

NSF Research Grant, 11/94-2/98

GRB Semester Research Award, University of Maryland, 1995

Invited Visitor, Univ. of Utrecht, 7/95-6/96

Invited Researcher, Schrödinger Inst., Vienna, 7/14/96-8/2/96

NSF Research Grant (co-P.I. with B.L. Hu), 4/98-3/03

Invited Visiting Scientist, ITP, Santa Barbara, 1/99-7/99

Invited Researcher, Schrödinger Inst., Vienna, 7/01/02-7/12/02

NSF Research Grant (co-P.I. with B.L. Hu), 7/03-6/06

Professeur Invité, Univ. de Paris VII, 3 months, 2004

APS Fellow, Elected 2004

NSF Research Grant, 7/06-6/09

Invited Program Participant, KITP, 8-26 Jan, 2007

FQXi Research Grant, 9/1/08-8/31/10

NSF Research Grant, 7/09-6/12

Univ. Maryland Distinguished Scholar-Teacher Award, 2008-9

APS Outstanding Referee Award, 2009

FQXi Research Grant, 1/1/11-12/31/12  
KITP Simons Distinguished Visiting Scholar, Jan.-May, 2012  
AAAS Fellow, Elected 2012  
NSF Research Grant, 7/14-6/17  
NSF Research Grant, 7/17-6/20

*PROFESSIONAL SERVICE:*

Member of AIP Committee to Review the  
Journal of Mathematical Physics, 1991  
Refereeing papers and grant proposals (about 25 per year)  
Co-organizer (with Bei-Lok Hu), International Symposium  
on Directions in General Relativity, May 27-29, 1993  
Editorial Board Member, Physical Review D, 1996-98  
Organizer of Black Hole Thermodynamics parallel session,  
Eighth Marcel Grossmann Meeting, Jerusalem, June 1997.  
Divisional Associate Editor, Physical Review Letters, 2001—  
Executive Committee,  
APS Topical Group on Gravitation, 2001-04  
Nominating Committee of the International Society  
for General Relativity and Gravitation, 2001-2007  
Scientific Advisory Board (steering committee),  
KITP, Santa Barbara, 2001-2004  
Five lectures at Chilean School on Quantum Gravity,  
Jan. 4-14, 2002  
Three lectures at Winter School of Theoretical Physics:  
Quantum Gravity Phenomenology, Feb. 4-14, 2004  
Co-organizer, 6th Eastern Gravity Meeting, March 2003  
Organizer, APS April '03 Meeting Focus Session:  
Phenomenology of Quantum Gravity  
NSF proposal review panels and external reviews (periodically)  
International Scientific Committee  
Non Perturbative Quantum Gravity, 3-7 May 2004  
CIRM, Luminy, Marseille, France  
Scientific Organizing Committee  
21st IAP Colloquium, Institut d'Astrophysique de Paris  
GR18 Travel Grant Selection Committee, April 2007  
Scientific Advisory Committee  
From Quantum to Emergent Gravity, 11-15 June, 2007  
SISSA, Trieste, Italy  
GRG Society, Bergmann-Wheeler Thesis prize committee, 2009

APS Meeting Session organizer, Feb. 2010  
 “Quantum Black Holes: Theory and Applications”  
 Scientific Advisor  
 KITP Program: “Bits, branes and black holes,” 3/12-5/12  
 Nominating Committee  
 APS Topical Group on Gravitation, 2012  
 Organizing Committee, Peyresq Physics Conf. Series, ’05-  
 Organizing Committee, Kavli IPMU Focus Week on  
 Gravity and Lorentz Violations, 2013  
 Selection Committee, APS Dannie Heineman Prize, 2013-4  
 Co-Coordinator, KITP Program:  
 “Quantum Gravity Foundations: UV to IR”, 3/15-6/15  
 Selection Committee Chair, GRG Bergmann-Wheeler Prize, 2015  
 Fellowship selection committee, APS DGRAV, 2016  
 Executive Comm, APS DGRAV, Member, 02/17 - 03/20  
 Programme Committee for the 19th U.K. and European  
 Meeting on the Foundations of Physics  
 APS April Meeting Abstract Sorting, 2019

*DEPARTMENTAL and UNIVERSITY SERVICE:*

Center for Theoretical Physics Committee, 1988-90  
 Graduate Student Advising, 1989-91  
 Extended Qualifying Exam Committee, 1989-90  
 Qualifying Exam Oral Committees, 1989-92  
 Ph.D. thesis committees, 1989-  
 Executive Committee of the Physics Council, 1990-91  
 Qualifying Exam Committee, 1990-92, (Chairman, 1991-92)  
 Graduate Committee, 1991-92  
 Undergraduate Advisor (1 student), 1992-94  
 Colloquium Committee, 1993-95  
 APT Committee, 1993-95  
 Co-organizer, Foundations and Frontiers seminar, 1993-2011  
 Grad Lab Subcommittee, 1995  
 Expanded Qualifying Exam Committee, 1996-  
 Graduate Admissions Committee, 1996-97  
 Deans Award for Excellence in Teaching Committee, 1997  
 Qualifying Exam Mini-Committee, 1997-2001  
 Community and High School Liasons Committee, 1997-98  
 Promotion Committee for V. Yakovenko, 1998  
 Joint Theory Seminar/CTP Committee, 1998-1999  
 CTP Committee, 1998-1999  
 Campus Senate, 1999-2002  
 Teaching peer review for S. Anlage, 2001  
 Undergraduate education committee, 2001-

Physics Website committee, 2002  
UMD-Goddard cooperation development, 2002-2004  
Gravitational wave faculty search committee, 2002-2004 (Chair)  
MD Day lecture 4/26/03: Relativity, Time and Black Holes  
GRID Symposium judging (annually)  
String/Gravity Faculty Search Committee, 2004/5  
Physics Citation advisor  
CMPS APT Committee, 2004/5, 2005/6 (Chair)  
Part./Str./Grav./Cosmo. Fac. Search Comm., 2005/6 (Co-Chair)  
Astronomy Department Chair Search Comm., 2007  
Physics Department Priorities Committee, 2008-2010  
Organizer, Maryland Ctr. Fund. Physics Colloquium, 2007/8  
JSI Physics Search Committee, 2010/11  
JSI minisymposia Organizing Committee. 2011/12  
JSI Web/Outreach Committee, 2012/13  
Promotion Committee for Manuel Tiglio, Chair, 2012  
Teaching Review, Ben Dreyfus, 2014-5  
JSI Prize Postdoc Selection Committee, 2015-6  
Qualifying exam: posing and grading problems (ongoing)  
JSI Gehrel's Prize Postdoc selection committee, 2019  
Undergraduate and Graduate Student Advising (ongoing)

# Recent talks by Ted Jacobson

*All talks invited, unless otherwise indicated*

## 2019

Feb. 17, workshop talk, Quantum Gravity: Back to Basics, Tempe, “The Entropy of the Vacuum”  
Mar. 21, workshop talk, QG and Q Info, CERN, “Holography and Gravity”  
Apr. 18, seminar, UT Austin, “Gravitational thermodynamics of causal diamonds”  
May 21, seminar, Perimeter Institute, “Gravitational thermodynamics of causal diamonds”  
May 22, seminar, Perimeter Institute QG group, “Diffeomorphism invariance and the black hole information paradox”  
June 18, conference talk, Peyresq Physics 24, “Hawking radiation in laboratory BEC black holes”  
June 20, conference talk, Peyresq Physics 24, “Axions, neutron stars, and fast radio bursts”  
July 13, conf. talk, 't Hooft 2019, Utrecht, “Gravitational thermodynamics of de Sitter spacetime and other causal diamonds”  
July 24, workshop talk, Simulating gravitation and cosmology in condensed matter and optical systems, Trento, “Rapidly expanding BEC ring: analog cosmology in a lab”

## 2018

Feb. 7, Goddard Colloquium, ‘Black Hole Entropy, Entanglement, and Holographic Spacetime’  
May 16, talk, APS mid-Atlantic Senior Physicists, “Black Hole Entropy, Entanglement, and Holographic Spacetime”  
May 30, conference talk, Interplay of Q. Info., Found. & QG, Vienna, “What is the black hole information paradox?”  
June 15, conference talk, Q. Info in QG, Florence, “Diffeomorphism invariance and the information paradox”  
June 18, workshop talk, Analogue-Gravity, Haifa, “The thin moustache mystery”  
July 13, conference talk, Foundations2018, “Diffeomorphism invariance and the information paradox”  
Oct.23, seminar, Philosophy of Cosmology, Johns Hopkins, “Inflation”

## 2017

Jan. 29, contributed talk (12min), APS Meeting, “Mechanism of stimulated Hawking radiation in a laboratory Bose-Einstein condensate”  
Mar. 10, seminar, U. Michigan, “Hawking Radiation in a Condensate of Rubidium Atoms”  
June 13, conference talk, Peyresq Physics 22, “Blandford-Znajek effect without plasma”  
July 3, conference talk, 75 Hawking Birthday, Cambridge, “Hawking radiation, infinite redshifts, and black hole analogues”  
Aug. 1, seminar, Perimeter Institute, “Blandford-Znajek process without plasma”  
Sept. 9, Berkeley CTP Summit, “BZ/CFT on BTZ: Electromagnetic energy extraction from rotating black holes and its holographic dual”  
Sept. 20, conference talk, IV Amazonian Symposium on Physics, “BZ/CFT on BTZ: Electromagnetic energy extraction from rotating black holes and its holographic dual”  
Oct. 28, conference talk, Quantum Gravity: Physics and Philosophy, IHES Paris, “What can black holes teach us about quantum gravity?”  
Nov. 1, conference talk, 20 Years Later: The Many Faces of AdS/CFT, “BZ/CFT on BTZ: Electromagnetic energy extraction from rotating black holes and its holographic dual”

## 2016

Feb. 19, sem., Princeton U., “Hawking radiation and the trans-Planckian puzzle: from black holes to rubidium condensates”  
Apr. 4, colloq. CMU-Pitt., “Hawking radiation and the trans-Planckian puzzle: from black holes to rubidium condensates”  
Apr. 14, colloq., ASU, “Hawking radiation and the trans-Planckian puzzle: from black holes to rubidium condensates”  
Apr. 16, contributed talk (12min), APS Meeting, “Maximal vacuum entanglement principle”  
May 9, conference talk, Holography for Black Holes and Cosmology, ULB, Brussels, “Is the vacuum maximally entangled?”  
May 10, seminar, U. Leuven, “Hawking radiation and the trans-Planckian puzzle: from black holes to rubidium condensates”  
May 25, conference talk, Carlofest, Marseille, “Diamonds are forever”  
June 14, conference talk, Peyresq Physics 21, Part I: “Hawking radiation in a condensate of rubidium atoms”  
Part II: “Is the vacuum maximally entangled?”  
July 6, conference talk, Amsterdam String Workshop, “Maximal vacuum entanglement hypothesis”  
Aug. 12, seminar, Univ. Waterloo, “Is the vacuum maximally entangled?”  
Sept. 16, seminar, Univ. Wisconsin, Milwaukee, “My take on the black hole information paradox”  
Nov. 16, seminar, Brown Univ., “Relativistic magnetospheres of spinning bodies”  
Dec. 9, conference talk, Gravity and Experiment, Paris, “Gravity, experiment, and observation”

## 2015

Dec. 1, conference talk, A Century of Relativity, Berlin, “Einstein’s equation from maximal entropy of vacuum entanglement”  
Nov. 11, seminar, UMD, “Einstein equation and vacuum entanglement equilibrium”

Oct. 6, seminar, Berkeley, “Does the Einstein equation follow from a maximum entropy principle for vacuum entanglement?”  
Oct. 5, seminar, Stanford, “Black Hole Entropy, Entanglement, and the Einstein Equation”  
Aug. 19, conference talk, Quant. Info. Quant. Grav., PI, “Einstein’s equation from maximal entropy of vacuum entanglement”  
Aug. 14, conference talk, UnruhFest, PI, “Einstein from Unruh”  
June 18, seminar KITP Santa Barbara, “Firewall evasion by diffeomorphism constraints”  
May 5, seminar, KITP Santa Barbara, “Entanglement, equilibrium, and the Einstein equation”  
Feb. 10, seminar, UCSB, “Plasma without plasma: the beauty and astrophysics of force-free magnetospheres”

## 2014

Nov. 21, colloquium, Florida Atlantic University, “Black hole entropy: then and now”  
Oct. 9, talk to UMD SPS, “Quantum gravity” June 26, seminar, Univ Nottingham, “Firewall evasion by quantum gravity”  
June 16, conference talk, Peyresq Physics 19, “Firewall evasion by quantum gravity”  
May 22, talk at Quantum Gravity Afternoons workshop PI (20 minutes), “Vacuogenesis”  
May 5, seminar, Univ. New Hampshire, “Firewall evasion by quantum gravity”  
May 4, conference talk, Finkelfest, “Reflections on quantum, cosmology, and Finkelstein”  
April 22, colloquium, Univ. Houston, “Relativistic magnetospheres of spinning bodies”  
March 31, seminar, Columbia University, “Firewall evasion by quantum gravity”  
Feb. 28, colloquium, St. Mary’s Univeristy, Halifax, “Relativistic magnetospheres of spinning bodies”  
Feb. 13, seminar, Perimeter Institute, “Firewall evasion by quantum gravity”