

Biographical Sketch of J. Richard Bond OC, O.Ont., FRS, FRSC

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Research Interests: Theoretical Cosmology, Early Universe Physics, CMB Analysis

Professional Preparation:

University of Toronto	Math & Physics B.Sc. 1973
Caltech	Theoretical Physics M.Sc. 1975
Caltech	Theoretical Physics Ph.D. 1979

Professional Appointments:

2002 –	Director, CIFAR Cosmology & Gravity Program
1996-2006	Director, CITA
2000–	University Professor, Univ. of Toronto
1987-2000	Professor, CITA; 1985-87 Associate Prof, CITA
1986-	Fellow, CIFAR Cosmology & Gravity Program
1985-87	Associate Professor, Stanford; 1981-85 Assistant Prof, Stanford

Five Products Most Related to the Proposal:

2009, ApJ 694.1200, *High resolution CMB power spectrum from the complete ACBAR data set*, C. Reichardt, P.A.R. Ade, J.J. Bock, J.R. Bond, J.A. Brevik, C.R. Contaldi, M.D. Daub, J.T. Dempsey, J.H. Goldstein, W.L. Holzapfel, C.L. Kuo, A.E. Lange, M. Lueker, M. Newcomb, J.B. Peterson, J. Ruhl, M.C. Runyan, Z. Staniszewski

2013, J. Cosmol. Astropart. Phys. 04, 047, astro-ph/1106.3087, *SPIDER: Probing the Early Universe with a Suborbital Polarimeter*, A. A. Fraisse, P. A. R. Ade, M. Amiri, S. J. Benton, J. J. Bock, J. R. Bond, J. A. Bonetti, S. Bryan, B. Burger, H. C. Chiang, C. N. Clark, C. R. Contaldi, B. P. Crill, G. Davis, O. Dore, M. Farhang, J. P. Filippini, L. M. Fissel, N. N. Gandilo, S. Golwala, J. E. Gudmundsson, M. Hasselfield, G. Hilton, W. Holmes, V. V. Hristov, K. Irwin, W. C. Jones, C. L. Kuo, C. J. MacTavish, P. V. Mason, T. E. Montroy, T. A. Morford, C. B. Netterfield, D. T. O’Dea, A. S. Rahlin, C. Reintsema, J. E. Ruhl, M. C. Runyan, M. A. Schenker, J. A. Shariff, J. D. Soler, A. Trangsud, C. Tucker, R. S. Tucker, A. D. Turner, D. Wiebe

2013, JCAP accepted, arXiv:1301.0824, *The Atacama Cosmology Telescope: Cosmological parameters from three seasons of data*, Jonathan L. Sievers, Renée A. Hlozek, Michael R. Nolta, Viviana Acquaviva, Graeme E. Addison, Peter A. R. Ade, Paula Aguirre, Mandana Amiri, John William Appel, L. Felipe Barrientos, Elia S. Battistelli, Nick Battaglia, J. Richard Bond, Ben Brown, Bryce Burger, Erminia Calabrese, Jay Chervenak, Devin Crichton, Sudeep Das, Mark J. Devlin, Simon R. Dicker, W. Bertrand Dorise, Joanna Dunkley, Rolando Dünner, Thomas Essinger-Hileman, David Faber, Ryan P. Fisher, Joseph W. Fowler, Patricio Gallardo, Michael S. Gordon, Megan B. Gralla, Amir Hajian, Mark Halpern, Matthew Hasselfield, Carlos Hernández-Monteagudo, J. Colin Hill, Gene C. Hilton, Matt Hilton, Adam D. Hincks, Dave Holtz, Kevin M. Huffenberger, David H. Hughes, John P. Hughes, Leopoldo Infante, Kent D. Irwin, David R. Jacobson, et al. (47 additional authors not shown)

2013, Astronomy & Astrophysics, submitted, arXiv:1303.5076, *Planck 2013 results. XVI. Cosmological parameters*, Planck Collaboration: P. A. R. Ade, N. Aghanim, C. Armitage-Caplan, M. Arnaud, M. Ashdown, F. Atrio-Barandela, J. Aumont, C. Baccigalupi, A. J. Banday, R. B. Barreiro, J. G. Bartlett, E. Battaner, K. Benabed, A. Benot, A. Benoit-Levy, J.-P. Bernard, M. Bersanelli, P. Bielewicz, J. Bobin, J. J. Bock, A. Bonaldi, J. R. Bond, J. Borrill, F. R. Bouchet, M. Bridges, M. Bucher, C. Burigana, R. C. Butler, E. Calabrese, B. Cappellini, J.-F. Cardoso, A. Catalano, A. Challinor, A. Chamballu, R.-R. Chary, X. Chen, L.-Y. Chiang, H. C. Chiang, P. R. Christensen, S. Church, D. L. Clements, S. Colombi, L. P. L. Colombo, F. Couchot, A. Coulais, B. P. Crill, A. Curto, F. Cuttaia, L. Danese, R. D. Davies, R. J. Davis, P. de Bernardis, A. de Rosa, G. de Zotti, J. Delabrouille, J.-M. Delouis, F.-X. Desert, et al. (204 additional authors not shown)

2013, ApJ., 771, 12, astro-ph/1108.2043, *Primordial Gravitational Wave Detectability with Deep Small-Sky CMB Experiments*, M. Farhang, J.R. Bond, O. Dore, C.B. Netterfield.

Five Other Significant CMB Products:

2009, MNRAS 393, 1073, *Exploring the magnetized cosmic web through low frequency radio emission*, N. Battaglia, C. Pfrommer, J.L. Sievers, J.R. Bond, T.A. Ensslin

2009, Phys. Rev. Lett. 103:071301, astro-ph/0903.3407, *Non-Gaussian Spikes from Chaotic Billiards in Inflation Preheating*, J. R. Bond, A.V. Frolov, Z. Huang, L. Kofman

2011, MNRAS 414, 823, astro-ph/0912.4059, *Application of XFaster power spectrum and likelihood estimator to Planck*, G. Rocha, C. R. Contaldi, J. R. Bond, K. M. Gorski

2012, Ap.J. 758, 75, astro-ph/1109.3711, *On the Cluster Physics of Sunyaev-Zel'dovich and X-ray Surveys II: Deconstructing the Thermal SZ Power Spectrum*, N. Battaglia, J. R. Bond, C. Pfrommer, J. L. Sievers

2011, MNRAS.418.2720T, astro-ph/1108.3950, *The Cosmic Background Imager 2*, Angela C. Taylor, Michael E. Jones, James R. Allison, Emmanouil Angelakis, J. Richard Bond, Leonardo Bronfman, Ricardo Bustos, Richard J. Davis, Clive Dickinson, Jamie Leech, Brian S. Mason, Steven T. Myers, Timothy J. Pearson, Anthony C. S. Readhead, Rodrigo Reeves, Martin C. Shepherd, Jonathan L. Sievers

2013, Ap.J. in press, arXiv:1211.4634, *Constraints on perturbations to the recombination history from measurements of the CMB damping tail*, M. Farhang, J.R. Bond, J. Chluba and E.R. Switzer

Synergistic Activities: 1) Honoured for developing Canadian cosmology with Order of Canada & Order of Ontario, plus others; 2) 52 media articles or radio/TV appearances since 2000 (+ Planck media, 10^6 links); 3) 80 conference organizing committees (chair of 22); 4) 21 Public Lectures, 2 conference "after dinner" speeches, 13 closing summary talks, 6 opening intro talks, +184 more; 5) 93 Physics/Astronomy Colloquia; 59 Seminars.

Recent Collaborators: I have collaborated with almost all of the current and former postdoctoral fellows, Senior Research Associates and graduate students listed below, and as well with Andrei Frolov (Simon Fraser University), Neil Barnaby (DAMTP), van der Weygaert (Groningen) on theoretical issues. I have an extensive group of current collaborators on a various CMB teams, from which I list a few of the senior ones I have closest interaction with not already listed in the CITA group: CBI (Readhead & Pearson (Caltech), Jones & Taylor (Oxford), Mason & Myers (NRAO)), Acbar (Holzapfel (Berkeley), Ruhl (Case), papers completed), ACT & ACTpol (Page & Spergel (Princeton), Dunkley (Oxford), Marriage (Hopkins), Devlin (Penn), Hughes & Menanteau (Rutgers)), Spider (Jones (Princeton), Netterfield (Toronto), Contaldi (Imperial)), Planck (HFI PI Puget & Aghanim & Douspis (IAS-Orsay), Efstathiou & Lasenby (Cambridge), Bouchet, Wandelt & Prunet (IAP), Ensslin, Sunyaev & S White (MPA), but it is a very large consortium with over 200 signing on per paper); and the redshifted 21 cm team: Chime (Dobbs (McGill), Halpern & Hinshaw (UBC), Pen (CITA). I am also Director of the CIFAR Cosmology and Gravity Program whose members include, among those not already listed in physical cosmology as collaborators, Carlberg (Toronto), Holder (McGill), Navarro (Victoria), van Waerbeke (UBC) in Canada, and Frenk (Durham), Hoekstra (Leiden), Kaiser (Hawaii), Peacock (Edinburgh). Silk (IAP), & Szalay (Hopkins).

Advisor: PhD: Willy Fowler (Caltech).

Thesis Advisor and Postgraduate-Scholar Sponsor: CITA total PDFs/SrRAs since 1985 from all sources ~ 180 . **Bond's Individual Grant-Supported SrRAs and PDFs 19:** Takeshi Kobayama 11– (CITA), Ilian Iliev (Sussex faculty) 06–07, Amir Hajian 10– (PDF), Carolyn MacTavish (KICC@IoA) 05-08, Christoph Pfrommer (HITS) 05–10, Mike Nolte 04– (CITA SrRA), Jonathan Sievers 03–11 (Princeton), Marc-Antoine Miville-Deschene 02–04, 04–10, 10–12 (IAS tenure), **CITA-Supported RAs and PDFs Bond Supervised 32:** Joel Myers 12– (SrRA), Eric Switzer 11– (SrRA), Rajat Thomas 09–11 (Amsterdam), Jens Chluba 08– (SrRA) Brice Menard 06–11 (JHU faculty), Mike Kesden 05–08 (Caltech), Neal Dalal 05–11 (Illinois faculty), Olivier Dore 05–09 (JPL), Pat McDonald 04–10 (Brookhaven) **Bond's Graduate students 12:** Jonathan Braden 10– (CITA), Gojko Vujanovic 08–10 (McGill), Marzieh Fahrang 07–13 (CITA), Nick Battaglia 06–11 (Carnegie Mellon), Zhiqi Huang 05–10 (Saclay), **Bond's summer undergraduate research students:** 20