

ANNUAL GENERAL MEETING

2011

AGENDA

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 - k. CITA and High Performance Computing
 - l. Research Collaborations
- 5. New Membership Applications
Renewal of Membership**

Highlights of 2010-2011

FACULTY

- **Dick Bond**
- **Peter Martin**
- **Norman Murray**, Director
- **Ue-Li Pen**, Associate Director
- **Harald Pfeiffer**, CRC Tier II
- **Chris Thompson**

FACULTY AWARDS

- **Bond:**
 - **2010 Canadian Association of Physicists Lifetime Achievement Award (first ever given to an astrophysicist)**
 - **US National Academy of Science (Foreign Associate)**
- **Pfeiffer: Connaught New Researcher Award**

PDF RECRUITING

- **3** PDFs/SRAs and **4** CITA National Fellows recruited for 2010/2011
- **12** PDFs/SRAs and **6** CITA National Fellows recruited for 2011/2012

STAFF

- **Nina Duras**
- **Candace Duong**

COMPUTING

- **Don Banh**, Computer Manager to December 2010
- **Jason Chong**, New Computing Manager January 2011
- **John Dubinski**, Parallel programmer January 2010

1. CITA Current Snapshot

NEW RESEARCH FELLOWS (Sept 2011)

243 applications for positions

Fabio Antonini (PhD Rochester 2011) galactic dynamics

Ido Ben-Dayan (PhD Ben-Gurion University 2011) early universe (joint CITA/PI)

Tony Chu (PhD Caltech 2011) numerical relativity, gravitational waves

Francois Foucalt (PhD Cornell 2011) numerical relativity, accretion disks

Kelsley Hoffman (PhD UBC 2011) neutron stars, molecular dynamics

Takeshi Kobayashi (PhD RESCEU, U. Tokyo 2011) early universe cosmology

Min-Kai Lin (PhD DAMTP, Cambridge 2011) disk planet, numerical simulations

James Owen (PhD IoA, Cambridge 2011) star and planet formation

Arabindo Roy (PhD UofT 2011) dust, ISM, massive star formation

Linda Strubbe (PhD UC Berkeley 2011) stellar dynamics, accretion physics

Eric Switzer (PhD Princeton 2008) CMB, atomic cosmology

Quang Nguyen-Luong (PhD University Paris 2011) star formation

CURRENT FELLOWS:

- Marcelo Alvarez (2009)
- Kevin Blagrove (2006)
- Avery Broderick (2007)
- Matthew Browning (2008)
- Kipp Cannon (2010)
- Phil Chang (2009)
- Jens Chluba (2008)
- Neal Dalal (2005)
- Shane Davis (2010)
- Adrienne Erickcek (2009)
- Amir Hajian (2010)
- Robyn Levine (2008)
- Brice Ménard (2006)
- Abdul Mroué (2009)
- Mike Nolta (2004)
- Carlos Palenzuela (2009)
- Richard Shaw (2010)
- Jonathan Sievers (2003)
- Rajat Thomas (2010)
- Geoffrey Vasil (2009)

CITA Current Snapshot

TO PERMANENT POSITIONS:

- **Avery Broderick**, faculty position, Perimeter Institute/Waterloo
- **Matthew Browning**, faculty position, University of Exeter
- **Phil Chang**, faculty position, University of Wisconsin-Milwaukee
- **Neal Dalal**, faculty position, University of Illinois
- **Brice Ménard**, faculty position, Johns Hopkins University

TO OTHER POSITIONS:

- **Robyn Levine**, undecided
- **Jonathan Sievers**, Associate Researcher, Princeton University
- **Rajat Thomas**, postdoc, Netherlands Institute for Neuroscience

65% of former CITA postdocs and researchers are in permanent academic or research positions (104)

24% are in PDF positions poised for faculty positions (includes current PDFs at CITA)

11% have left the field – most are in industry

CITA Current Snapshot

	CITA FACULTY	
<i>Stanford University</i>	BOND, Dick (CMB , LSS, early universe)	
<i>University of Toronto</i>	MARTIN, Peter (ISM)	
<i>Caltech</i>	MURRAY, Norm (solar system, AGN)	<i>Director, CRC Tier I</i>
<i>Harvard University</i>	PEN, Ue-Li (LSS, hydro)	<i>Associate Director</i>
<i>Caltech</i>	PFEIFFER, Harald (numeral relativity)	<i>CRC Tier II</i>
<i>University of North Carolina</i>	THOMPSON, Chris (high energy)	
	PDFs/SRAs	
<i>Stanford University</i>	ALVAREZ, Marcelo	
<i>University of Toronto</i>	BLAGRAVE, Kevin	<i>Peter Martin</i>
<i>CfA, Harvard</i>	BRODERICK, Avery (SRA)	<i>Faculty, PI/Waterloo</i>
<i>University of Chicago</i>	BROWNING, Matthew	<i>Lecturer, University of Exeter</i>
<i>Caltech</i>	CANNON, Kipp	
<i>University of California, Berkeley</i>	CHANG, Phil	<i>Faculty, U. of Wisconsin-Milwaukee</i>
<i>MPA-Garching</i>	CHULBA, Jens	
<i>IAS (Princeton)</i>	DALAL, Neal (SRA)	<i>Faculty, University of Illinois</i>
<i>IAS (Princeton)</i>	DAVIS, Shane	
<i>Caltech</i>	ERICKCEK, Adrienne	<i>CITA/PI postdoc</i>
<i>Princeton University</i>	HAJIAN, Amir	
<i>University of Colorado</i>	LEVINE, Robyn	
<i>IAS (Princeton)</i>	MENARD, Brice (SRA)	<i>Faculty, Johns Hopkins University</i>
<i>IAS, Orsay</i>	MIVILLE-DESCHENES, Marc-Antoine	
<i>Cornell University</i>	MROUE, Abdul	
<i>Princeton University</i>	NOLTA, Mike (SRA)	<i>Bond (CSA project)</i>
<i>MPI, Germany</i>	PALENZUELA, Carlos	
<i>Cambridge University</i>	SHAW, Richard	
<i>Caltech</i>	SIEVERS, Jonathan (SRA)	<i>Researcher, Princeton University</i>
<i>IMPU, Japan</i>	THOMAS, Rajat	<i>Netherlands Inst of Neuroscience</i>
<i>JILA, U. of Colorado</i>	VASIL, Geoffrey	

CITA Current Snapshot

CITA Alumni in Permanent or Tenure-Stream Positions

1. P. Armitage, Associate Professor, Dept. of Astrophysical & Planetary Science, University of Colorado
2. P. Arras, Assistant Professor, Dept. of Astronomy, University of Virginia
3. K. Ashman, Associate Professor, Dept. of Physics, University of Missouri
4. A. Babul, Professor, Dept. of Physics and Astronomy, University of Victoria
5. D. Ballantyne, Assistant Professor, Dept. of Physics, Georgia Tech
6. R. Barkana, Senior Lecturer, Tel Aviv University
7. J. Barnes, Professor, Institute for Astronomy, University of Hawaii, USA
8. P. Barnes, Staff Scientist, NRAO, Socorro, New Mexico, USA
9. S. Basu, Professor, Dept. of Physics & Astronomy, University of Western Ontario
10. A. Beloborodov, Associate Professor, Dept. of Astronomy, Columbia University
11. F. Bernardeau, ingénieur CEA, Service de Physique Théorique, Saclay, France
12. L. Binette, Associate Professor, UNAM, Instituto de Astronomia, Mexico City, Mexico
13. O. Blaes, Professor, Dept. of Physics, University of California, Santa Barbara
14. L. Boyle, Junior Faculty, Perimeter Institute
15. P. Brown, Lecturer, Dept. of Biological Sciences, University of Manchester, UK
16. B. Chaboyer, Professor, Dept. of Physics & Astronomy, Dartmouth College
17. Tzuching Chang, Staff Scientist, ASIAA, Taiwan
18. J. Cho, Assistant Professor, Chungnam National University
19. S. U. Choe, Professor, Seoul National University, Korea
20. M. Choptuik, Professor, Dept. of Physics, University of British Columbia
21. S. Colombi, chargé de recherche, l'Institut d'Astrophysique, Paris, France
22. C. Contaldi, Lecturer, Imperial College
23. H. Couchman, Professor, Dept. of Physics & Astronomy, McMaster University
24. R. Crittenden, Reader, Institute of Cosmology and Gravitation, University of Portsmouth
25. L. Dones, Senior Research Scientist, Southwest Research Institute
26. O. Doré, Senior Research Scientist, JPL/Caltech
27. J. Fiege, Assistant Professor, University of Manitoba
28. G. Felder, Professor, Dept. of Physics, Smith College
29. H. Feldman, Professor, Dept. of Physics & Astronomy, University of Kansas
30. A. Frolov, Assistant Professor, Dept. of Physics, Simon Fraser University
31. B. Gladman, Professor, Dept. of Physics & Astronomy, UBC
32. B. Hansen, Associate Professor, UCLA
33. H. Hoekstra, Assistant Professor, Leiden University
34. G. Holder, Assistant Professor, McGill University
35. M. Holman, Astrophysicist, Planetary Sciences Division, Smithsonian Astrophysical Observatory
36. N. Ivanova, Assistant Professor, University of Alberta
37. A. Jaffe, Lecturer, Imperial College
38. D. Johnstone, Assoc. Research Officer, Herzberg Institute of Astrophysics
39. A. Klypin, Professor, Dept. of Astronomy, New Mexico State University
40. L. Kofman, Professor, University of Hawaii to CITA
41. L. Knox, Professor, Dept. of Physics, UC Davis
42. K. Kuijken, Professor, Leiden University
43. J. Lattanzio, Reader and Deputy Head, Dept. of Mathematics, Monash University, Australia
44. B. Latter, Staff Scientist, IPAC, California Institute of Technology, USA
45. A. Lazarian, Associate Professor, Dept. of Astronomy, University of Wisconsin at Madison
46. H.-M. Lee, Professor, Pusan National University, Korea
47. M.-H. Lee, Associate Professor, University of Hong Kong
48. J. Levin, Professor, Barnard College, Columbia
49. Y. Levin, Lecturer, Monash University
50. A. Lewis, Lecturer, University of Sussex
51. M. Liebendorfer, Assistant Professor, University of Basel

52. P. Lilje, Professor, Institute of Theoretical Astrophysics, University of Oslo, Norway
53. Y. Lithwick, Assistant Professor, Northwestern University
54. M. Lyutikov, Assistant Professor, Purdue University
55. S. Majumdar, Assistant Professor, Tata Institute of Fundamental Research, Bombay, India
56. R. Maloney, Senior Lecturer, School of Electrical Engineering and Telecommunications, University of New South Wales
57. C. Matzner, Associate Professor, Dept. of Astronomy, University of Toronto
58. Pat McDonald, Staff Scientist, Berkley Lab/NYU
59. M. Medvedev, Associate Professor, University of Kansas
60. A. Meiksin, Reader, Dept. of Physics, University of Edinburgh, UK
61. M. Merrifield, Professor, Dept. of Astronomy, University of Nottingham, UKD. Merritt, Professor, Dept. of Physics, Rochester Institute of Technology
62. D. Merritt, Professor, Rochester Institute of Technology
63. M. Miville-Deschenes, charge de recherche Iere classe au CNRS, Institut d'Astrophysique Spatiale
64. I. Murakami, Staff Scientist, National Institute for Fusion Science, Nagoya, Japan
65. J. Murray, Staff scientist, Centre for Astrophysics and Supercomputing, Swinburne University
66. S. Myers, Staff Scientist, NRAO
67. P. Natarajan, Associate Professor, Dept. of Astronomy, Yale University
68. L. Nelson, Professor, Dept. of Physics, Bishop's University
69. A. Noriega-Crespo, Staff Scientist, SIRTf Science Center, Caltech
70. M. Peloso, Associate Professor, University of Minnesota
71. C. Pichon, Chargé de recherche, l'Observatoire de Strasbourg
72. D. Pogosyan, Associate Professor, Dept. of Physics, University of Alberta
73. S. Prunet, Staff Scientist, Institut d'Astrophysique de Paris
74. T. R. Quinn, Research Assistant Professor, University of Washington, USA
75. A. Raga, Professor, UNAM, Instituto de Astronomia, Mexico City, Mexico
76. D. Richardson, Professor, Dept. of Astronomy, University of Maryland
77. B. Ryden, Professor, Dept. of Astronomy, Ohio State University
78. P. Saha, Scientist, ETH, Zurich
79. V. Sahni, faculty, Inter-University Centre for Astronomy and Astrophysics, Pune, India
80. R. Scoccimarro, Associate Professor, New York University
81. N. Shaviv, Professor, Hebrew University
82. T. Souradeep, faculty, Inter-University Centre for Astronomy and Astrophysics, Pune, India
83. S. Sridhar, faculty, Inter-University Centre for Astronomy and Astrophysics, Pune, India
84. G. Starkman, Professor, Dept. of Physics, Case Western Reserve University
85. A. Stebbins, Staff Scientist, NASA/Fermilab Astrophysics Center, USA
86. J. F. Sygnet, chargé de recherche, Institut d'Astrophysique, Paris, France
87. I. Szapudi, Associate Professor, University of Hawaii
88. S. Terebey, Professor, California State University in Los Angeles
89. P. Thomas, Professor, Astronomy Centre, University of Sussex, UK
90. C. Thompson, Professor, Dept. of Physics & Astronomy, University of North Carolina to CITA
91. J. Touma, faculty, American University of Beirut
92. D. van Buren, Project Manager, Jet Propulsion Laboratory, Caltech
93. R. van de Weygaert, Lecturer, Kapteyn Astronomical Institut, University of Groningen
94. L. van Waerbeke, Assistant Professor, University of British Columbia
95. J. Wadsley, Associate Professor, McMaster
96. J. Wang, Assistant Professor, University of Maryland (d)
97. R. Webster, Professor, School of Physics, University of Melbourne, Australia
98. M. West, Professor, Dept. of Physics & Astronomy, University of Hawaii at Hilo
99. L. Widrow, Professor, Dept. of Physics, Queen's University
100. G. Wilson, Scientist, SIRTf, Caltech
101. Y. Wu, Associate Professor, Dept. of Astronomy, University of Toronto
102. J. Weingartner, Assistant Professor, Dept. of Physics & Astronomy, George Mason University
103. H. Yan, Professor, KIAA, Peking University
104. G. Yepes, Professor Titular, Departamento de Fisica Teorica C-XI, Universidad Autonoma Madrid, Spain

CITA Current Snapshot

CITA ALUMNI in FACULTY POSITIONS WITHIN CANADA

- **A. Babul**, Professor, Dept. of Physics and Astronomy, University of Victoria
- **S. Basu**, Associate Professor, Dept. of Physics & Astronomy, University of Western Ontario
- **L. Boyle**, Junior Faculty, Perimeter Institute
- **M. Choptuik**, Professor, Dept. of Physics, University of British Columbia
- **H. Couchman**, Professor, Dept. of Physics & Astronomy, McMaster University
- **J. Fiege**, Assistant Professor, University of Manitoba
- **A. Frolov**, Assistant Professor, Simon Fraser University
- **B. Gladman**, Professor, Dept. of Physics & Astronomy, UBC
- **H. Hoekstra**, Assistant Professor, Dept. of Physics & Astronomy, University of Victoria moved to Leiden University in August 2008
- **G. Holder**, Assistant Professor, Dept. of Physics, McGill University
- **N. Ivanova**, Assistant Professor, University of Alberta
- **D. Johnstone**, Senior Research Officer, NRC, HIA
- **L. Kofman**, Professor, CITA (deceased)
- **C. Matzner**, Associate Professor, Dept. of Astronomy, University of Toronto
- **L. Nelson**, Professor, Dept. of Physics, Bishop's University
- **D. Pogosyan**, Associate Professor, Dept. of Physics, University of Alberta
- **C. Thompson**, Professor, CITA
- **L. van Waerbeke**, Assistant Professor, Dept. of Physics & Astronomy, UBC
- **L. Widrow**, Professor, Dept. of Physics, Queen's University
- **Y. Wu**, Associate Professor, Dept. of Astronomy, University of Toronto

A number of **CITA National Fellows** have also gone on to faculty positions in Canada:

- **M. Hudson**, Professor, University of Waterloo;
- **R. Thacker**, Associate Professor and Canada Research Chair, St. Mary's
- **R. Ouyed**, Associate Professor, University of Calgary;
- **J. Wadsley**, Assistant Professor, McMaster University

Some **CITA graduate students** as well:

- **M. Mandy**, Associate Professor, University of Northern British Columbia

CITA Current Snapshot

CITA COUNCIL MEMBERS 2010-2011

Norm Murray **Director**

Robert Baker **Vice-Dean, FAS, UofT**

***Arif Babul** **University of Victoria (2011)**

****Pierre Bastien** **Université de Montréal, CAS rep (2012)**

Ralph Pudritz **Chair, McMaster University (2012)**

Ethan Vishniac **McMaster University (2014)**

Larry Widrow **Queen's University (2013)**

***Term Expires – one new member for 2011-2012**

****CAS rep – 2 year term 2010-2012**

3. National Programs

A. CITA NATIONAL FELLOWS

National Fellows are nominated by the host university and selected by CITA Council using the same quality criteria as for the CITA research fellows, along with strategic national considerations. Since the start of the program in 1988, we have named **61** National Fellows.

CITA provides 50% of the stipend up to 55K/2 years, plus up to 6K research expenses. The remainder is provided by the host university. National Fellows are encouraged to visit CITA for extended periods of time.

CITA put ads in the AAS Job Register, highlighting the National Fellow Program and web links.

CITA also advertise the National Fellow positions on CITA's Website, coupling NF visibility to CITA RA opportunities.

CITA helps in recruitment.

INCOMING:

National Fellows for 2011-2012:

- **BARAUSSE, Enrico** University of Guelph, nominated by Luis Lehner
- **FERRAND, Giles** University of Manitoba, nominated by Samar Safi-Harb
- **KIM, Chang-Goo** University of Western Ontario, nominated by Shantanu Basu
- **LAVAUX, Guilhem** University of Waterloo, nominated by Michael Hudson
- **MA, Yin-Zhe** University of British Columbia, nominated by Kris Sigurdson
- **STARKENBURG, Else** University of Victoria, nominated by Julio Navarro

CURRENT:

National Fellows for 2010-2011:

- **HILDEBRANDT, Hendrik** UBC, nominated by Ludovic Van Waerbeke
- **SORKIN, Evgeny** UBC, nominated by Matt Choptuik & Bill Unruh
- **ZAVALA FRANCO, Jesus** University of Waterloo, nominated by Michael Balogh
- **KAIB, Nathan** Queen's University, nominated by Martin Duncan

National Fellows for 2009-2010:

- **DUTTON, Aaron** University of Victoria, nominated by Julio Navarro
- **TASKER, Elizabeth** McMaster University, nominated by J. Wadsley & R. Pudritz

National Programs

B. SENIOR VISITING FELLOWS

CITA supports salaries of faculty members from other Canadian universities to make extended visits to CITA:

2009-10	Denis Leahy (University of Calgary) Rachid Ouyed (University of Calgary) James Wadsley (McMaster University)
2008-09	Dimitri Pogosyan (University of Alberta) Eric Poisson (University of Guelph)
2007-08	Ralph Pudritz (McMaster University)
2005-06	Rachid Ouyed (University of Calgary) Norbert Bartel (York University)
2004-05	Lorne Nelson (Bishop's University)
2003-04	Hugh Couchman (McMaster University)
2002-03	Mike Hudson (University of Waterloo) Arif Babul (University of Victoria)
2000-01	Norbert Bartel (York University)
1999-00	Werner Israel (University of Victoria) Sun Kwok (University of Calgary) Marshall McCall (York University) Douglas Scott (UBC) Larry Widrow (Queen's University)
1998-99	Kim Innanen (York University) Lorne Nelson (Bishop's University)
1995-97	Hugh Couchman (Western Ontario) Dick Henriksen (Queen's University) Michael West (Saint Mary's University) Larry Widrow (Queen's University) Ralph Pudritz (McMaster University) Paul Wesson (Waterloo)

We are interested in new Senior Visiting Fellows:

Typically the fellowships provide funding to release the fellow from teaching and administrative duties for one academic term, or for sabbatical top-up. The Fellow is expected to spend a minimum of 50% of the supported time in residence at CITA. The CITA Senior Visiting Fellows Program began with start-up funds from the UofT Astronomy Department and has thrice received injections of funding from the UofT School of Graduate Studies and Faculty of Arts & Science.

National Programs

RECENT SABBATICAL VISITORS:

- Professor **Peter Goldreich**, Caltech, 1 month x 2
- Professor **Laura Mersini**, University of North Carolina, 1 year

PREVIOUS SABBATICAL VISITORS:

- Professor **Changbom Park**, University of Korea, 3 months
- Professor **Denis Leahy**, University of Calgary, 1 month
- Professor **James Wadsley**, McMaster University, 8 months
- Professor **Bernard Carr**, Queen Mary University, 2 months x 2
- Professor **Peter Goldreich**, Caltech, 1 month x 2
- Professor **Rachid Ouyed**, University of Calgary, 4 months
- Professor **Eric Poisson**, University of Waterloo, 1 year
- Professor **Dimitri Pogosyan**, University of Alberta, 4 months
- Professor **Gary Felder**, Smith College, visited for 5 months
- Professor **Francis Bernardeau** Centre D'etudes de Saclay, 6 months
- Professor **Ralph Pudritz**, McMaster, visited for 4 months
- Professor **Richard Ellis**, Caltech visited for 2 months
- Dr. **Steve Myers**, NRAO visited for 3 months
- Professor **Andreas Reisenegger**, Universidad Catholica in Santiago Chile
- Professor **Joao Magueijo**, Imperial Colleg, 1 year (joint CITA/PI visitor)
- Professor **Sergei Shandarin**, University of Kansas visited for 6 months
- Professor **Rien van de Weygaert**, University of Groningen, 1 month
- Professor **Peter Coles**, University of Nottingham visited for 3 months
- Professor **Norbert Bartel**, York University visited for 4 months
- Professor **Rachid Ouyed**, Univ. of Calgary visited for 4 months
- Professor **Dong Lai**, Cornell visited for a term
- Professor **Lorne Nelson**, Bishop's University visited for a term
- Professor **Ewan Stewart**, KAIST Korea, 6 months
- Professor **Arif Babul**, University of Victoria, 4 months
- Professor **Mike Hudson**, University of Waterloo, 4 months
- Professor **Margot Mandy**, Univ. of Northern British Columbia, 2 months
- Professor **Omer Blaes**, UC Santa Barbara, 3 months
- Professor **Tongjie Zhang**, Beijing Normal University, 1 year

National Programs

CITA LONG TERM VISITORS: 21 from May 2010 - April 2011

<i>Caltech</i>	Arnold Boothroyd	<i>CITA Visitor</i>
<i>University of Waterloo</i>	Mike Fich	<i>CITA Visitor</i>
<i>McMaster University</i>	Ethan Vishniac	<i>CITA Visitor</i>
<i>Perimeter Institute</i>	Frederico Piazza	<i>CITA Visitor</i>
<i>University of Western Ontario</i>	Mohaddesseh Azimlu	<i>CITA Visitor</i>
<i>TIFR, India</i>	Subha Majumdar	<i>CITA Visitor</i>
<i>KIAS, Korea</i>	Graziano Rossi	<i>CITA Visitor</i>
<i>Seoul National University</i>	Jounghun Lee	<i>CITA Visitor</i>
<i>U. of Northern British Columbia</i>	Margot Mandy	<i>CITA Visitor</i>
<i>UC Berkeley</i>	Margaret Pan	<i>CITA Visitor</i>
<i>UC Berkeley</i>	Holly Maness	<i>CITA Visitor</i>
<i>York University</i>	Alireza Rafiee	<i>CITA Visitor</i>
<i>IAS, France</i>	Aurelie Penin	<i>CITA Visitor</i>
<i>APC, Paris</i>	Guillaume Patachon	<i>CITA Visitor</i>
<i>CEA/Saclay</i>	Zhiqi Huang	<i>CITA Visitor</i>
<i>Caltech</i>	Peter Goldreich	<i>Sabbatical Visitor</i>
<i>University of Calgary</i>	Denis Leahy	<i>Sabbatical Visitor</i>
<i>Queen Mary University London</i>	Bernard Carr	<i>Sabbatical Visitor</i>
<i>McMaster University</i>	James Wadsley	<i>Sabbatical Visitor</i>
<i>University of North Carolina</i>	Laura Mersini	<i>Sabbatical Visitor</i>
<i>KIAS, Korea</i>	Changbom Park	<i>Sabbatical Visitor</i>

CITA SHORT-TERM VISITORS: 144 (May 2010-April 2011)

CITA has a vigorous visitors program that brings a large number of astronomy and physics faculty and researchers from abroad and Canadian Universities for both extended stays and shorter visits.

National Programs

C. PREDOCTORAL PROGRAM

Bringing students in their PhD programs to CITA for periods of a few months to a year has proven to be a great success. All candidates have come with their own funding. Participants in the program so far are:

- **Susana Valdez-Alvarado**, University of Guanajuato, March – August 2011
- **Haoran Yu**, Beijing Normal University, January – December 2011
- **Eleonore Saury**, IAS, France, October 2010 – October 2011
- **Khosrow Allaf-Akbari**, Princeton University, July 2010 – August 2011
- **Mark Bennett**, University of Melbourne, May – July 2010
- **Anders Pinzke**, Stockholm University May 2010
- **Fabio Zandanel**, Instituto de Astrofisica de Andalucia, May – June 2010
- **Yuri Cavecchi**, Leiden University, June - July 2009
- **Francisco Villaescusa** – Universitat de Valencia, Sept to Dec 2009
- **Andreu Font-Ribera** – Spain, February to April 2009
- **Daniel Figuero** – Spain, August to December 2007
- **Marie Martig** - Ecole Centrale de Paris, 2006
- **Jean Coupon** – Observatoire de Paris, 2006
- **Jan Kratochvil** – Stanford, 2005-2006
- **Amir Hajian** – IUCAA, India, 2005
- **Doug Hanley** – Caltech, 2004
- **Wan-Il Park** – KAIST, Korea, 2004
- **Parker Troischt** – University of North Carolina, 2004
- **Francois Fressin** – Institut d'Astrophysique Spatiale, Paris, 2003
- **Stelios Kazantzidis** – Institute for Theoretical Physics, Zurich, 2003
- **Jie Wang** – Beijing Observatory. 2003
- **Shingkwong Wong** – National Taiwan University, 2003
- **Sebastien Ray** – École Normale Supérieure, 2002
- **Yacine Dolivet** – École Normale Supérieure, 2001
- **Kenji Kadota** – University of California, Berkeley, 2001
- **Tom Montroy** – University of California, Santa Barbara, 2001-2001
- **Aristotle Socrates** – University of California, Santa Barbara, 2001
- **Amanda Karakas** – Monash University, 2000
- **Juhan Kim** – Seoul National University, 2000-2001
- **Johannes Martin** – University of Jena, Germany, 2000
- **Sebastian Pichler** – Ludwig, Maximilians Universitaet, Germany, 2000-2001
- **Gary Felder** – Stanford, 1999-2000 (now a CITA PDF)
- **Céline Anthoine** – École Normale Supérieure, 1999
- **Colin Borys** – University of British Columbia, 1999

National Programs

D. GRADUATE STUDENTS 2010-2011: 17

- **BATTAGLIA, Nicholas** (Astronomy) Supervised by Dick Bond
- **BRADEN, Jonathan** (Physics) Supervised by Dick Bond/Eric Poppitz
- **CROLL, Bryce** (Astronomy) Supervised by Norm Murray/R. Jayawardhana
- **FARHANG, Marzieh** (Astronomy) Supervised by Dick Bond/Barth Netterfield
- **GONCLAVES, Daniela** (Astronomy) Supervised by Peter Martin
- **HARNOIS-DERAPS, Joachim** (Physics) Supervised by Ue-li Pen
- **HARPER-CLARK, Elizabeth** (Astronomy) Supervised by Norm Murray
- **MACDONALD, Ilana** (Astronomy) Supervised by Harold Pfeiffer
- **MASUI, Kiyoshi** (Physics) Supervised by Ue-li Pen
- **OSSOKINE, Sergei** (Astronomy) Supervised by Harald Pfeiffer
- **PACIGA, Gregory** (Astronomy) Supervised by Ue-li Pen
- **PRODAN, Snezana** (Physics) Supervised by Norm Murray
- **RIVERA-INGRAHAM, Alana** (Astronomy) Supervised by Peter Martin
- **ROY, Arabindo** (Astronomy) Supervised by Peter Martin
- **RUSSO, Matt** (Physics) Supervised by Dick Bon/Ue-Li Pen
- **TACIK, Nick** (Astronomy) Supervised by Harald Pfeiffer
- **EMBERSON, Jeffrey** (Astronomy) Supervised by Harald Pfeiffer

National Programs

E. SUMMER UNDERGRADUATES:

This summer there are **8** summer students working with faculty in collaboration with many of the postdoctoral fellows, **2** have won NSERC Summer undergraduate awards.

NSERC:

- Lisa Esteves (Pfeiffer)
- Eve Lee (Murray)

NON-NSERC:

- Heidi White (Phil Chang, Marten van Kerkwijk)
- Fangda Li (Erickcek)
- Junjiajia Long (Bond)
- Liviu-Mihai Calin (Pen, Chluba, Masui)
- Divij Vaidya (Pen)

This year we also have students participating in the joint CITA/Woodsworth College summer exchange program, where students will be attending lectures at CITA and then spend 2 months at the Giant Metrewave Radio Telescope (GMRT) in India. This program is organized by Ue-Li Pen. The participants are:

- Josh Albert
- Nidhi Banavar
- Mark Kuiack
- Connie Lien
- Hans Nguyen

National Programs

F. COMPUTATIONAL UNDERGRADUATE STUDENTS:

Ahron Train, Assistant to the System Manager, Co-op student
Bo Liu, PEY undergraduate student
David Song, Assistant to the System Manager, Co-op student
Dusan Andric, PEY undergraduate student
Andre Resnick, Assistant to the Systems Manager, co-op student
Davinder Singh, Assistant to the Systems Manager, co-op student
Owaiz Haji, Assistant to the Systems Manager, co-op student
Anthony Paulozza, Assistant to the Systems Manager, co-op student
Alex Hughson, Assistant to the Systems Manager, co-op student
Radu Nitu, Assistant to the Systems Manager, co-op student
Jacob de Bruyn, Assistant to the Systems Manager, co-op student
Alex Zenkov, Assistant to the Systems Manager, co-op student
Paul Millerd, Assistant to the Systems Manager, co-op student
Alex Zenkov, Assistant to the Systems Manager, co-op student
Jason Chong, Assistant to the Systems Manager, co-op student
Peter Wagner, Assistant to the Systems Manager, co-op student
Jason Chong, Assistant to the Systems Manager, co-op student
Peter Wagner, Assistant to the Systems Manager, co-op student
Philip Petracca, Assistant to the Systems Manager, co-op student
Mubdi Rahman, Summer student web assistant, windows
Steven Di Rocco, Assistant to the Systems Manager, co-op student
Steven D’Cruz, Assistant to the Systems Manager, co-op student
Steven Di Rocco, Assistant to the Systems Manager, co-op student
David Wu, Assistant to the Systems Manager, co-op student
Don Banh, Assistant to the Systems Manager
Filip Lazar, Assistant to the Systems Manager, co-op student
Nishant Faria, Assistant to the Systems Manager
Don Banh, Assistant to the Systems Manager, continued 2001-02 academic year on a reduced basis

4. CITA ACTIVITY

A. SACKLER VISITING ASTROPHYSICIST

Each year CITA invites an internationally distinguished scholar conducting research in theoretical astrophysics to give two lectures (one public) at the University of Toronto, and to interact with the CITA faculty, research fellows and graduate students, as well as researchers and students in the Departments of Astronomy and Physics. This is funded by an endowment, the Raymond and Beverly Sackler Visiting Astrophysicist Program. The visit is intended to be the highlight of the academic year at CITA.

- **Sir Martin Rees (Lord Martin)**, Cambridge, 1997-1998
- **Peter Goldreich**, Caltech, 1998-1999
- **Frank Shu**, Berkeley, 1999-2000
- **Jim Peebles**, Princeton, 2000-2001
- **John Bahcall**, Princeton, 2001-2002
- **Andrei Linde**, Stanford, 2002-2003
- **George Efstathiou**, Cambridge, 2003-2004
- **Chris McKee**, UC Berkeley, 2004-2005
- **Rashid Sunyaev**, Max-Planck, 2005-2006
- **Scott Tremaine**, IAS Princeton, 2006-2007
- **Kip Thorne**, Caltech, 2007-2008
- **Roger Blandford**, Stanford, 2008-2009
- **Jerry Ostriker**, Princeton University, 2009-2010
- **Leonard Susskind**, Stanford University, 2010-2011

CITA ACTIVITY...

B. SUPPORT FOR SCIENTIFIC MEETINGS IN 2010-2011

As part of CITA's national mandate, the aim of this program is to promote interaction, collaboration and exchange of scientific results within the Canadian and international astrophysics communities.

- **21cm Data Analysis Mini-Workshop, October 15, 2010, CITA (Organizer: Ue-Li Pen)**
- **Gravitational Waves with GStreamer Workshop, November 8-11, 2010, CITA (Organizer: Kipp Cannon)**
- **Symposium on Visualizing Science, February 2011, University of Toronto (Organizer: Mubdi Rahman)**
- **Cosmic Magnification with Current and Future Surveys, Feb 20-25, 2011, CITA (Organizer: Brice Ménard)**
- **CHIME Team Workshop, June 2011, HIA-DRAO in Penticton, BC (Organizer: Mark Halpern)**
- **Theory Canada 6, June 10-12, 2011, Memorial University (Organizer: Rainer Dick)**
- **Women in Physics and Astrophysics, July 18-21, 2011, Perimeter Institute (Organizer: Sarah Croke)**

CITA ACTIVITY...

C. AWARDS

THE BEATRICE D. TREMAINE FELLOWSHIP

This is an endowed award to be given annually on the basis of outstanding research to a current CITA research fellow.

- 2011: Avery Broderick**
- 2010: Jens Chluba**
- 2009: Neal Dalal**
- 2008: Patrick McDonald**
- 2007: Natasha Ivanova**
- 2006: Michael Nolte**
- 2005: Jonathan Sievers**
- 2004: Carlo Contaldi**
- 2003: Yuri Levin**
- 2002: Andrei Beloborodov**
- 2001: Henk Hoekstra**
- 2000: Nir Shaviv**
- 1999: Dmitri Pogosyan**

CITA ACTIVITY...

C. AWARDS

THE JEFFREY L. BISHOP FELLOWSHIP

Jeffrey Bishop was one of the first group of postdocs at CITA. He died tragically in an accident shortly after leaving CITA. In his memory his mother gives a donation biennially.

- 2011: Carlos Palenzuela**
- 2009: Matt Browning**
- 2007: Yoram Lithwick**
- 2005: Jonathan Dursi**
- 2003: Matthias Liebendorfer**
- 2001: Yanqin Wu**
- 1999: Phil Arras**
- 1997: John Dubinski**
- 1995: Kevin Rauch**
- 1993: Janna Levin**
- 1991: Gerry Quinlan**
- 1990: Konrad Kuijken**

CITA ACTIVITY...

D. SCIENTIFIC CONTRIBUTIONS:

Researchers at CITA published nearly **180** in 2010-2011.

E. CITA WEBSITE:

www.cita.utoronto.ca lists all upcoming events, CITA's latest news, information on current research initiatives, jobs and visitor information. The website also provides archives on all talks, seminars, meetings, workshops and special lectures.

F. CITA WEB CASTING:

CITA is providing web casts of all our seminars, lectures and talks. Archives of web casts, audio, video, and slides are recorded and are accessible at the CITA seminar page:

www.cita.utoronto.ca/index.php.eac

G. SUPPORT FOR VISITS BY CITA FELLOWS:

The aim of this program is to promote professional interactions within the Canadian theoretical astrophysics community, by helping to defray the travel costs of CITA staff who are invited to visit Canadian universities outside Toronto. Please contact the CITA Business Officer if you are interested.

H. LECTURES and SEMINARS:

Both CITA professors and postdoctoral fellows give numerous colloquia and seminars at institutions across North America and around the world, as well as presentations at scientific meetings. The total number for 2010- 2011 exceeds **120**.

CITA hosted more than **100** seminars from May 2010-April 2011. CITA typically hosts 2 seminars per week. All seminars can now be viewed on the CITA website.

I. WEEKLY Astro-ph MEETINGS:

Communication in astronomy is enhanced by the Astro-ph pre-print server, which posts about 30 papers per day, submitted by astronomers from around the world. A selection of these papers (selections made primarily by CITA PDFs or grad students) are discussed for an hour over lunch on Mondays, Wednesdays and Fridays. Since CITA PDFs cover every field in astronomy, this sharing of expertise enhances learning for everybody at CITA.

CITA ACTIVITY...

J. SCIENTIFIC EXCHANGE PROGRAM AGREEMENTS:

To enhance the scientific breadth of young researchers, as well as scientific interactions between CITA and the following institutions:

- Kavli Institute for Theoretical Astrophysics, UC Santa Barbara
- Max Planck Institute for Astrophysics, Germany
- Academia Sinica Institute of Astronomy and Astrophysics, Taiwan

K. CITA and High Performance Computing:

High-performance computing is essential for cutting edge research in theoretical astrophysics and CITA is continuing its history of pushing state-of-the art in supercomputers. Currently CITA operates the 1600 core “Sunnyvale” cluster, and aggressively pursues GPU computing. We are providing access to these facilities through national programs and collaborations. Larger high-performance computing capability for the astrophysics community is provided by SciNet, a UofT campus-wide network with a 33,000 core cluster in which CITA is one of the key members.

L. Research Collaborations:

CITA faculty and postdoctoral fellows are engaged in international and Canadian collaborations. Examples include: the Planck/Herschel satellite mission (Bond and Martin), the WMAP cosmic microwave background satellite (Nolta); Cosmic Background Imager (Bond, Sievers); Spider Balloon-borne cosmic microwave background telescope (Bond); (ACT) - Atacama Cosmology Telescope for high resolution CMB studies (Bond, Nolta, Sievers); Planck Deep Field Radio Survey (Martin, Bond, Sievers); 21cm collaborations including: GMRT (Pen, Chang, Battaglia, Sievers, Bond); CHIME (Pen, Bond, McDonald, Sievers); the CMU cylinder (Pen, Chang, Bond); the international CST and CFHTLS for weak lensing (Ménard), CCAT (Murray), LIGO Scientific Collaboration (Pfeiffer, Cannon) among others.

CITA has made a number of joint postdoctoral fellow appointments, including one with Perimeter Institute (Erickcek) and one with SciNet (Dursi).

5. New Membership Applications and Renewals

NEW MEMBERSHIP APPLICATIONS:

- **Latham Boyle, Perimeter Institute**
- **Luis Lehner, University of Guelph/Perimeter Institute**

RENEWAL APPLICATIONS:

- **J. Richard Bond (CITA)**
- **Ray Carlberg (UofT)**
- **John Dubinski (CITA/UofT)**
- **Charles Dyer (UofT)**
- **Michael Hudson (U. Waterloo)**
- **Kayall Lake (Queen's)**
- **Denis Leahy (U. Calgary)**
- **Sharon Morsink (U. Alberta)**
- **Lorne Nelson (Bishop's)**
- **Serge Pineault (Laval)**
- **Eric Poisson (Guelph)**
- **Peter Sutherland (McMaster)**
- **Christopher Thompson (CITA)**

Membership of CITA Inc

Murray Alexander (NRC) 2015
Arif Babul (Victoria) 2015
Pierre Bastien (Montréal) 2015
Shantanu Basu (Western) 2015
Richard Bond (CITA) 2011
Ray Carlberg (Toronto) 2011
David Clarke (St. Mary's) 2015
Alan Coley (Dalhousie) 2015
Hugh Couchman (McMaster) 2015
Andrew Cumming (McGill) 2012
Robert Deupree (St. Mary's) 2015
John Dubinski (Toronto) 2011
Martin Duncan (Queen's) 2015
Charles Dyer (Toronto) 2011
Mike Fich (Waterloo) 2013
Jason D. Fiege (Manitoba) 2013
Andrei Frolov (SFU) 2012
Brett Gladman (UBC) 2012
David Guenther (St. Mary's) 2012
Mark Halpern (UBC) 2011
David Harwick (Victoria) *
Richard Henriksen (Queen's) *
Falk Herwig (Victoria) 2015
Jeremy Heyl (UBC) 2014
Mike Hudson (Waterloo) 2011
Kim Innanen (York) *
Werner Israel (Victoria) *
Natasha Ivanova (Alberta) 2015
Doug Johnstone (HIA NRC at Victoria) 2014
Sun Kwok (HKU) 2015

Kayall Lake (Queen's) 2011
Denis Leahy (Calgary) 2011
Margot Mandy (UNBC) 2015
Michael Marlborough (Western) *
Hugo Martel (Laval) 2015
Peter Martin (CITA) 2015
Christopher Matzner (Toronto) 2012
Romas Mitalas (Western) *
George Mitchell (St. Mary's) *
Sharon Morsink (Alberta) 2011
Norman Murray (CITA) 2014
Julio Navarro (Victoria) 2014
Lorne Nelson (Bishop's) 2011
Rachid Ouyed (Calgary) 2015
Ue-Li Pen (CITA) 2013
Harald Pfeiffer (CITA) 2015
Serge Pineault (Laval) 2011
Levon Pogosian (SFU) 2012
Dmitri Pogosyan (Alberta) 2013
Eric Poisson (Guelph) 2011
Ralph Pudritz (McMaster) 2013
Douglas Scott (UBC) 2013
Ian Short (St. Mary's) 2015
Kris Sigurdson (UBC) 2014
Alison Sills (McMaster) 2013
Glenn Starkman (Case Western) 2015
Peter Sutherland (McMaster) 2011
James Taylor (Waterloo) 2013
Robert Thacker (Queen's) 2012
Chris Thompson (CITA) 2011

Membership of CITA Inc

Cont'd...

Scott Tremaine (IAS, Princeton) *
Don Vandenberg (Victoria) 2015
Ludo van Waerbeke (UBC) 2015
Ethan Vishniac (McMaster) 2013
James Wadsley (McMaster) 2013
Francois Wesemael (Montréal) 2012
Michael West (U. Hawaii, Hilo) 2015
Larry Widrow (Queen's) 2015
Paul Wiegert (Western) 2015
Yanqin Wu (Toronto) 2012

* honorary members

CITA on the WWW

CITA CAN BE FOUND AT:

<http://www.cita.utoronto.ca>

There you will find all the usual document information about CITA, a list of current personnel, Annual Reports, CITA guidelines, CITA Visitor and Seminar lists, etc.

Pillars of Support

CITA Inc. and NSERC

NSERC support: Special Program to Collaborative Special Program to Institute Grant (as with the 3 Math Institutes, Fields, CRM, PIMS) tied in with 4 year NSERC Reallocation (1999-2003, 2003-07)

New structure for Institute Grants under MRS, Major Research Support (2008-2012).

CITA, Arts & Science@UofT

Institute in the School of Graduate Studies, 1986-2005

Institute in the Faculty of Arts & Science, July 2005 (extremely positive reviews Fall 2006)

CIFAR Cosmology and Gravity Program

Critical node of the CIFAR Cosmology and Gravity Program (3 Fellows - including Program Director until July 1, 2012)

Other

NSERC Operating Grants for Faculty, CFI for computing, External Fellowships for PDFs, NSERC/CFI/CSA collaborative grants and other targets of opportunity