

Pascal J. Elahi

International Centre for Radio Astronomy Research
University of Western Australia
Perth, WA, Australia

Mobile 📞 +61 497838285
Office ☎ +61 8 64883776
Email ✉ pascal.elahi@uwa.edu.au

Personal Information

Place & Date of Birth: Ottawa, ON, Canada, November 27, 1980
Citizenship: Canadian
Languages: English, French

References

- Prof. G. Lewis, University of Sydney, geraint.lewis@sydney.edu.au
- A. Prof. A. Knebe, Universidad Autònoma de Madrid, alexander.knebe@uam.es
- Prof. G. Yepes, Universidad Autònoma de Madrid, gustavo.yepes@uam.es

Academic Positions

04/2016-present Postdoctoral Researcher, International Centre for Radio Astronomy Research, University of Western Australia, Perth, Australia
04/2013-04/2016 Postdoctoral Researcher, Sydney Institute for Astronomy, University of Sydney, Sydney, Australia
08/2012-12/2012 Visting Postdoctoral fellow, Nottingham University as a member of Shanghai Astronomical Observatory, Shanghai, China
08/2010-08/2012 Postdoctoral Fellow, Shanghai Astronomical Observatory, Shanghai, China
02-08/2010 Research associate, Saint Mary's University, Department of Astronomy & Physics, Halifax, NS, Canada
10/2009-02/2010 Research associate, Queen's University, Department of Physics, Engineering Physics and Astronomy, Kingston, ON, Canada

Education

2005-2009 PhD in Astronomy, Queen's University, Department of Physics, Engineering Physics and Astronomy, Kingston, ON
Thesis: *Simulations of Scale-Free Cosmologies for the Small-Scale Cold Dark Matter Universe*
2003-2005 MSc in Astronomy, Queen's University, Department of Physics, Engineering Physics and Astronomy, Kingston, ON
Thesis: *The Slippery Slope Toward the Bottom of the CDM hierarchy: Large-Scale Power's Influence on Ultra-Small Scale Structure*
1999-2003 BSc in Applied Physics, Carleton University, Ottawa, ON, Graduate with Highest Honours.

Scholarship, Fellowship & Awards

2010-2012 Chinese Academy of Sciences Foreign Youth Scientists Fellowship, Shanghai Astronomical Observatory
2005-2008 Natural Science and Engineering Research Council Scholarship, PGSD, Queen's University
2005-2006 Sun Microsystems of Canada Scholarship in Computational Sciences and Engineering, Queen's University

2004-2005	Natural Science and Engineering Research Council Scholarship, PGSM, Queen's University
2001-2003	E.P. Hincks Award of the Institute of Particle Physics, Carleton University
05-08/2002	Natural Science and Engineering Research Council Research Scholarship, Carleton University
2000-2001	E.P.(Ted) Hincks Memorial Scholarship in Physics, Carleton University
05-08/2001	Natural Science and Engineering Research Council Research Scholarship, Carleton University
1999-2003	Faculty Entrance Scholarship, Carleton University

Teaching/Supervisor Experiences

2016-present	University of Western Australia <ul style="list-style-type: none"> • Co-supervising 2 PhD students with Dr. C. Lagos & Prof. C. Power, (primary supervisors) at the ICRAR, University of Western Australia: R.A. Cañas, G.E.G. Munoz. Also co-supervising 1 PhD student with A. Prof. A. Robotham & Prof. C. Power, (primary supervisors) at the ICRAR-UWA: R. Poultan. These students have just started their PhD.
2014-present	University of Sydney <ul style="list-style-type: none"> • Co-supervising 4 PhD students with Professor G. Lewis (primary supervisor) at the Sydney Institute for Astronomy, University of Sydney: E. Adermann, N. Iwanus, A. Watts, and H. Mahdi. E. Adermann, N. Iwanus, and A. Watts are in their 2nd year. H. Mahdi has been awarded his Doctorate.
2003-2009	Queen's University <ul style="list-style-type: none"> • Teaching & Laboratory Assistant for 1st year Undergraduate Physics. Responsible for teaching course material in tutorials, supervising experiments and marking their reports. Assisted in editing the laboratory manual used in the course.

Publications

Since **2012** I have published **28** articles in international refereed journals with a total of **544** citations, resulting in an h-index of **14** (based on NASA ADS and Google Scholar). Over my academic career I have an h-index of **15**, having published **33** articles with **593** citations.

Refereed

33. “The SAMI Galaxy Survey: Revisiting Galaxy Classification Through High-Order Stellar Kinematics” J. van de Sande, J. Bland-Hawthorn, L. M. R. Fogarty, L. Cortese, F. d'Eugenio, S. M. Croom, N. Scott, J. T. Allen, S. Brough, J. J. Bryant, G. Cecil, M. Colless, W. J. Couch, R. Davies, **PJE**, C. Foster, G. Goldstein, M. Goodwin, B. Groves, I. Ho, H. Jeong, D. H. Jones, I. S. Konstantopoulos, J. S. Lawrence, S. K. Leslie, A. R. Lopez-Sanchez, R. M. McDermid, R. McElroy, A. M. Medling, S. Oh, M. S. Owers, S. N. Richards, A. L. Schaefer, R. Sharp, S. M. Sweet, D. Taranu, C. Tonini, C. J. Walcher, S. K. Yi, 2017, accepted for publication in *MNRAS*
 - Number of NASA ADS citations: 2
 - Thomson ISI Journal Impact Factor: 5.107
32. “nIFTy galaxy cluster simulations V: Investigation of the Cluster Infall Region” J. Arthur, F. R. Pearce, M. E. Gray, **PJE**, A. Knebe, A. M. Beck, W. Cui, D. Cunnama, R. Davé, S. February, S. Huang, N. Katz, S. T. Kay, I. G. McCarthy, G. Murante, V. Perret, C. Power, E. Puchwein, A. Saro, F. Sembolini, R. Teyssier, G. Yepes 2017, *MNRAS*, 464, 2027-2038
 - Number of NASA ADS citations: 1
 - Thomson ISI Journal Impact Factor: 5.107
31. “Matter in the Beam: Weak lensing, substructures and the temperature of dark matter” H. Mahdi, **PJE**, G.F. Lewis, C. Power, 2016, *ApJ*, 826, 2016

- Number of NASA ADS citations: 1
 - Thomson ISI Journal Impact Factor: 5.99
30. “[Sussing merger trees: stability and convergence](#)” Y. Wang, F. R. Pearce, A. Knebe, A. Schneider, C. Srisawat, D. Tweed, I. Jung, J. Han, J. Helly, J. Onions, **PJE**, P. A. Thomas, P. Behroozi, S. K. Yi, V. Rodriguez-Gomez, Y. Y. Mao, Y. Jing, W. Lin, 2016, *MNRAS*, 459, 1554-1568
- Number of NASA ADS citations: 1
 - Thomson ISI Journal Impact Factor: 5.107
29. “[nIFTy galaxy cluster simulations II: radiative models](#)” F. Sembolini, **PJE**, F. R. Pearce, C. Power, A. Knebe, S. T. Kay, W. Cui, G. Yepes, A. M. Beck, S. Borgani, D. Cunnama, R. Davé, S. February, S. Huang, A. Hobbs, N. Katz, I. G. McCarthy, G. Murante, R. D. A. Newton, V. Perret, E. Puchwein, A. Saro, J. Schaye, R. Teyssier, 2016, *MNRAS*, 459, 2973-2991
- Number of NASA ADS citations: 12
 - Thomson ISI Journal Impact Factor: 5.107
28. “[nIFTy galaxy cluster simulations IV: Quantifying the influence of baryons on halo properties](#)” W. Cui, C. Power, A. Knebe, S. T. Kay, F. Sembolini, **PJE**, G. Yepes, F. Pearce, D. Cunnama, A. M. Beck, S. Borgani, C. Dalla Vecchia, R. Davé, S. February, S. Huang, A. Hobbs, N. Katz, I. G. McCarthy, G. Murante, V. Perret, E. Puchwein, J. I. Read, A. Saro, R. Teyssier, R. J. Thacker, 2016, *MNRAS*, 458, 4052-4073
- Number of NASA ADS citations: 11
 - Thomson ISI Journal Impact Factor: 5.107
27. “[Major substructure in the M31 outer halo: distances and metallicities along the giant stellar stream](#)” Conn, A. R. and McMonigal, B. and Bate, N. F. and Lewis, G. F. and Ibata, R. A. and Martin, N. F. and McConnachie, A. W. and Ferguson, A. M. N. and Irwin, M. J. and **PJE**, Venn, K. A. and Mackey, A. D., 2016, *MNRAS*, 458, 3282-3298
- Number of NASA ADS citations: 2
 - Thomson ISI Journal Impact Factor: 5.107
26. “[nIFTy galaxy cluster simulations III: The Similarity & Diversity of Galaxies & Subhaloes](#)” **PJE**, A. Knebe, F. R. Pearce, C. Power, G. Yepes, W. Cui, D. Cunnama, S. T. Kay, F. Sembolini, A. M. Beck, R. Davé, S. February, S. Huang, A. Hobbs, N. Katz, I. G. McCarthy, G. Murante, V. Perret, E. Puchwein, A. Saro, R. Teyssier, 2016, *MNRAS*, 458, 1096-1116
- Number of NASA ADS citations: 10
 - Thomson ISI Journal Impact Factor: 5.107
25. “[nIFTy galaxy cluster simulations I: dark matter & non-radiative models](#)” F. Sembolini, G. Yepes, F. R. Pearce, A. Knebe, S. T. Kay, C. Power, W. Cui, A. M. Beck, S. Borgani, C. Dalla Vecchia, R. Davé, **PJE**, S. February, S. Huang, A. Hobbs, N. Katz, E. Lau, I. G. McCarthy, G. Murante, D. Nagai, K. Nelson, R. D. A. Newton, E. Puchwein, J. I. Read, A. Saro, J. Schaye, R. J. Thacker, 2015, *MNRAS*, 457, 4063-4080,
- Number of NASA ADS citations: 23
 - Thomson ISI Journal Impact Factor: 5.107
24. “[Major Mergers Going Notts: Challenges for Modern Halo Finders](#)” P. Behroozi, A. Knebe, F. R. Pearce, **PJE**, J. Han, H. Lux, Y.-Y. Mao, S. I. Muldrew, D. Potter, C. Srisawat, 2015, *MNRAS*, 454, 3
- Number of NASA ADS citations: 11
 - Thomson ISI Journal Impact Factor: 5.107
23. “[Hidden from view: Coupled Dark Sector Physics and Small Scales](#)” **PJE**, G. F. Lewis, C. Power, E. Carlesi, A. Knebe, 2015, *MNRAS*, 452, 1341
- Number of NASA ADS citations: 3
 - Thomson ISI Journal Impact Factor: 5.107

22. “[nIFTy Cosmology: Comparison of Galaxy Formation Models](#)” A. Knebe, F. R., Pearce, P. A. Thomas, A. Benson, J. Blaizot, R. Bower, J. Carretero, F. J. Castander, A. Cattaneo, S. A. Cora, D. J. Croton, W. Cui, D. Cunnam, G. De Lucia, J. E. Devriendt, **PJE**, A. Font, F. Fontanot, J. Garcia-Bellido, I. D. Gargiulo, V. Gonzalez-Perez, J. Helly, B. Henriques, M. Hirschmann, J. Lee, G. A. Mamon, P. Monaco, J. Onions, N. D. Padilla, C. Power, A. Pujol, R. A. Skibba, R. S. Somerville, C. Srisawat, C. A. Vega-Martinez, S. K. Yi, 2015, *MNRAS*, 451, 4029
 - Number of NASA ADS citations: 23
 - Thomson ISI Journal Impact Factor: 5.107
21. “[Sussing merger trees: the impact of halo merger trees on galaxy properties in a semi-analytic model](#)” J. Lee, K. Y. Sukyoung, **PJE**, P. A. Thomas, F. R. Pearce, P. Behroozi, J. Han, J. Helly, I. Jung, A. Knebe, Y. Y. Mao, J. Onions, V. Rodriguez-Gomez, A. Schneider, C. Srisawat, D. Tweed, 2014, *MNRAS*, 445, 4197
 - Number of NASA ADS citations: 17
 - Thomson ISI Journal Impact Factor: 5.107
20. “[The life and death of cosmic voids](#)” P. M. Sutter, **PJE**, B. Falck, J. Onions, N. Hamaus, A. Knebe, C. Srisawat, A. Schneider, 2014, *MNRAS*, 445, 1235
 - Number of NASA ADS citations: 12
 - Thomson ISI Journal Impact Factor: 5.107
19. “[Accretion in action: phase space coherence of stellar debris and globular clusters in Andromeda’s South-West Cloud*](#)” A. D. Mackey, G. F. Lewis, M. L. M. Collins, N. F. Bate, R. A. Ibata, N. F. Martin, S. Chapman, A. Conn, **PJE**, A. M. N. Ferguson, A. Huxor, M. Irwin, A. McConnachie, B. McMonigal, J. Peñarrubia, J. Veljanoski, 2014, *MNRAS Letters*, 445, 89
 - Number of NASA ADS citations: 14
 - Thomson ISI Journal Impact Factor: 5.107
18. “[Warm dark haloes accretion histories and their gravitational signatures](#)” **PJE**, H. S. Mahdi, G. F. Lewis, C. Power, 2014, *MNRAS*, 444, 2333
 - Number of NASA ADS citations: 4
 - Thomson ISI Journal Impact Factor: 5.107
17. “[Subhaloes gone Notts: subhaloes as tracers of the dark matter halo shape](#)” K. Hoffmann, S. Planelles, E. Gaztañaga, A. Knebe, F. R. Pearce, H. Lux, J. Onions, S. I. Muldrew, **PJE**, P. Behroozi, Y. Ascasibar, J. Han, M. Maciejewski, M. E. Merchan, M. Neyrinck, A. N. Ruiz, M. A. Sgro, 2014, *MNRAS*, 442, 1197
 - Number of NASA ADS citations: 11
 - Thomson ISI Journal Impact Factor: 5.107
16. “[SUSSING MERGER TREES: the influence of the halo finder](#)” S. Avila, A. Knebe, F. R. Pearce, A. Schneider, C. Srisawat, P. A. Thomas, P. Behroozi, **PJE**, J. Han, Y. Y. Mao, J. Onions, V. Rodriguez-Gomez, D. Tweed, 2014, *MNRAS*, 441, 3488
 - Number of NASA ADS citations: 17
 - Thomson ISI Journal Impact Factor: 5.107
15. “[Gravitational Lensing in WDM Cosmologies: the Cross-section for Giant Arcs](#)” H. S. Mahdi, M. van Beek, **PJE**, G. F. Lewis, C. Power, M. Killedar, 2014, *MNRAS*, 441, 1954
 - Number of NASA ADS citations: 7
 - Thomson ISI Journal Impact Factor: 5.107
14. “[A Thousand Shadows of Andromeda: Rotating Planes of Satellites in the Millennium-II Cosmological Simulation](#)” R. A. Ibata, N. .G. Ibata, G. F. Lewis, N. F. Martin, A. Conn, **PJE**, V. Arias, N. Fernando, 2014, *ApJ*, 784, L6
 - Number of NASA ADS citations: 51
 - Thomson ISI Journal Impact Factor: 5.99

13. [“Subhaloes gone Notts: the clustering properties of subhaloes”](#) A. Pujol, E. Gaztañaga, C. Giocoli, A. Knebe, F. R. Pearce, R.A. Skibba, Y. Ascasibar, P. Behroozi, **PJE**, J. Han, H. Lux, S. I. Muldrew, M. Neyrinck, J. Onions, D. Potter, D. Tweed, 2014, *MNRAS*, 438, 3205
 - Number of NASA ADS citations: 16
 - Thomson ISI Journal Impact Factor: 5.107
12. [“Sussing Merger Trees: The Merger Trees Comparison Project”](#) C. Srisawat, A. Knebe, F. R. Pearce, A. Schneider, P. A. Thomas, P. Behroozi, K. Dolag, **PJE**, J. Han, J. Helly, Y. Jing, I. Jung, J. Lee, Y. Y. Mao, J. Onions, V. Rodriguez-Gomez, D. Tweed, S. K. Yi, 2013, *MNRAS*, 436, 150
 - Number of NASA ADS citations: 38
 - Thomson ISI Journal Impact Factor: 5.107
11. [“Structure Finding in Cosmological Simulations: The State of Affairs”](#) A. Knebe, F. R. Pearce, H. Lux, Y. Ascasibar, P. Behroozi, J. Casado, C. Corbett Moran, J. Diemand, K. Dolag, R. Dominguez-Tenreiro, **PJE**, B. Falck, S. Gottloeber, J. Han, A. Klypin, Z. Lukic, M. Maciejewski, C. K. McBride, M. E. Merchan, S. I. Muldrew, M. Neyrinck, J. Onions, S. Planelles, D. Potter, V. Quilis, Y. Rasera, P. M. Ricker, F. Roy, A. N. Ruiz, M. A. Sgró, V. Springel, J. Stadel, J. P. M. Sutter, D. Tweed, M. Zemp, 2013, *MNRAS*, 435, 1618
 - Number of NASA ADS citations: 85
 - Thomson ISI Journal Impact Factor: 5.107
10. [“Streams Going Notts: The Tidal Debris Finder Comparison Project”](#) **PJE**, J. Han, H. Lux, Y. Ascasibar, P. Behroozi, A. Knebe, S.I. Muldrew, J. Onions, F.R. Pearce, 2013, *MNRAS*, 433, 1537
 - Number of NASA ADS citations: 18
 - Thomson ISI Journal Impact Factor: 5.107
9. [“Subhaloes Gone Notts: Spin across Subhaloes and Finders”](#) J. Onions, Y. Ascasibar, P. Behroozi, J. Casado, **PJE**, J. Han, A. Knebe, H. Lux, M.E. Merchán, S.I. Muldrew, M. Neyrinck, L. Old, F.R. Pearce, D. Potter, A.N. Ruiz, M.A. Sgró, D. Tweed, and T. Yue, 2013, *MNRAS*, 429, 2739
 - Number of NASA ADS citations: 22
 - Thomson ISI Journal Impact Factor: 5.107
8. [“Galaxies going MAD: The Galaxy-Finder Comparison Project”](#) A. Knebe, N.I. Libeskind, F. Pearce, P. Behroozi, J. Casado, K. Dolag, R. Dominguez-Tenreiro, **PJE**, H. Lux, S.I. Muldrew, and J. Onions, 2013, *MNRAS*, 428, 2039
 - Number of NASA ADS citations: 20
 - Thomson ISI Journal Impact Factor: 5.107
7. [“SubHaloes going Notts: The SubHalo-Finder Comparison Project”](#), J. Onions, A. Knebe, F.R. Pearce, S.I. Muldrew, H. Lux, S.R. Knollmann, Y. Ascasibar, P. Behroozi, **PJE**, J. Han, M. Maciejewski, M.E. Merchán, M. Neyrinck, A.N. Ruiz, M.A. Sgró, V. Springel, and D. Tweed, 2012, *MNRAS*, 423, 1200
 - Number of NASA ADS citations: 65
 - Thomson ISI Journal Impact Factor: 5.107
6. [“Exploring Galaxy Formation Models and Cosmologies with Galaxy Clustering”](#) X. Kang, M. Li, W.P. Lin, and **PJE**, 2012, *MNRAS*, 422, 804
 - Number of NASA ADS citations: 17
 - Thomson ISI Journal Impact Factor: 5.107
5. [“Peaks above the Maxwellian Sea: A New Approach to Finding Substructures in N-Body Haloes”](#) **PJE**, R.J. Thacker and L.M. Widrow, 2011, *MNRAS*, 418, 320

- Number of NASA ADS citations: 23
 - Thomson ISI Journal Impact Factor: 5.107
4. “Subhaloes in Scale-Free Cosmologies”
PJE, L.M. Widrow and E. Scannapieco, 2009, *MNRAS*, 395, 1950
 - Number of NASA ADS citations: 19
 - Thomson ISI Journal Impact Factor: 5.107
 3. “Power spectrum for the small-scale Universe”
 L.M. Widrow, **PJE**, R.J. Thacker, M. Richardson and E. Scannapieco, 2009, *MNRAS*, 397, 1275
 - Number of NASA ADS citations: 18
 - Thomson ISI Journal Impact Factor: 5.107
 2. “Can substructure in the Galactic Halo explain the ATIC and PAMELA results?”
PJE, L.M. Widrow and R.J. Thacker, 2009, *Phys. Rev. D*, 80, 123513
 - Number of NASA ADS citations: 8
 - Thomson ISI Journal Impact Factor: 4.506
 1. “Transforming the Einstein static universe into physically acceptable static fluid spheres. II. A twofold infinity of exact solutions”
 C. Grenon, **PJE**, K. Lake, 2008, *Phys. Rev. D*, 78, 4
 - Number of NASA ADS citations: 10
 - Thomson ISI Journal Impact Factor: 4.506

Non-Refereed

1. “The STructure Finder: Using Velocity Space to identify Substructures in N-Body Haloes”,
PJE, R.J. Thacker and L.M. Widrow, 2011, “Advances in computational astrophysics: methods and tools”, (Cefalu’, June 13-17, 2011), *Conference Proceedings*

Software

- VELOCIRAPTOR package (aka STructure Finder STF): A massively parallel (MPI+OpenMP) halo finder for N-body/Hydrodynamical simulations. Includes TREEFROG a massively parallel halo merger tree builder. <https://github.com/pelahi/VELOCIraptor-STF>

Recent Conferences & Talks

11/2016	<i>CAASTRO Retreat</i> , Busselton, Australia
09/2016	<i>ICRAR-CON</i> , Mandurah, Australia
06/2016	<i>Compact Clusters</i> , Cape Town, South Africa
03/2015	<i>Perth Clusters Workshop</i> , Perth, Australia
02/2015	<i>Australian National Institute of Theoretical Astrophysics (ANITA) Workshop</i> , Canberra, Australia
07/2014	<i>Ecole Internationale d’Astrophysique Daniel Chalonge: The 18th Paris Cosmology Colloquium Chalonge 2014</i> , Paris, France
07/2014	<i>nIFTY Workshop</i> , Madrid, Spain
04/2014	<i>Seminar</i> , ICRAR, Perth, Australia
02/2014	<i>ANITA N-Body School</i> , Sydney, Australia
02/2014	<i>Australian National Institute of Theoretical Astrophysics (ANITA) Workshop</i> , Sydney, Australia
07/2013	<i>Sussing Merger Trees</i> , Sussex, UK
05/2013	<i>Tea Time Seminar</i> , Sydney Institute for Astronomy, Sydney, Australia

12/2012	<i>Virgo Consortium Meeting</i> , Durham, UK
12/2012	<i>Seminar</i> , DARK Institute, Copenhagen, Denmark
11/2012	<i>Seminar</i> , Institute of Astronomy, Cambridge, UK
10/2012	<i>Seminar</i> , University of Nottingham, Nottingham, UK
08/2012	<i>CosmoCompTrieste</i> , Trieste, Italy
05/2012	<i>Subhaloes Going “Notts”</i> , Nottingham, UK
06/2011	<i>Advances in Computational Astrophysics: methods, tools and outcomes</i> , Cefalu, Sicily, Italy
10/2010	9 th <i>Sino-Germain Workshop on Galaxy Formation</i> , Hangzhou, China
10/2009	2 nd <i>Halifax Meeting on Computational Astrophysics 2009</i> , Saint Mary’s University, Halifax, NS, Canada
05/2009	<i>Canadian Astronomical Society 2009</i> , University of Toronto, Toronto, ON, Canada
07/2008	<i>Santa Fe 2008 Cosmology Summer Workshop</i> , Saint John’s College, Santa Fe, NM, USA
06/2008	<i>Small Scale Structure of Dark Matter</i> , Perimeter Institute, Waterloo, ON, Canada

Service

Astronomy

2014	LOC of the Australian National Institute for Theoretical Astrophysics (ANITA), University of Sydney
2009-present	Referee for <i>Monthly Notices of the Royal Astronomical Society</i>
2009-present	Referee for <i>Physical Review Letters</i>
<i>Public</i>	
2013-present	Public Outreach Festival, “ Pint of Science: Sydney ”, http://tinyurl.com/ptgaaw7
2010-2012	Public Outreach, Bispudong International Elementary Schools, Shanghai.
2003-2009	Queen’s University Observatory Open House Tours
2003-2009	Kingston Royal Astronomical Society of Canada Public Outreach Tours