

Dummy file for html research publications

Tony Roberts

February 20, 2019

Procedure Replace the cite command below with a cite command from BibDesk for all publications sorted by year, say. \LaTeX this file, ignoring all error messages. Then BibTeX this file to get the `ajr.bbl` file. *Do not* \LaTeX the file `site.tex` to translate the bbl file into the html file of the cite.

There exists an error such as url with extra brace, which I cannot track down. But it makes no difference to the result as far as I can see.

Writing publications.php file lets see what happens.

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- *Linear Algebra Reformed for 21st-C Application*. A.~J. Roberts. <https://raw.githubusercontent.com/ajr/linear-algebra-reformed-for-21st-c-application/master/linear-algebra-reformed-for-21st-c-application.pdf>, 2019.
- **Lyapunov exponents of the kuramoto–sivashinsky pde**. Russell~A. Edson, J.~E. Bunder, Trent~W. Mattner, and A.~J. Roberts. Technical report, University of Adelaide, jan 2019.
- **Center manifolds for infinite dimensional random dynamical systems**. Xiaopeng Chen, A.~J. Roberts, and Jinqiao Duan. *Dynamical Systems (CDSS)*, to appear, oct 2018.
- **Nonlinear emergent macroscale PDEs, with error bound, for nonlinear microscale systems**. J.~E. Bunder and A.~J. Roberts. Technical report, [<https://arxiv.org/abs/1806.10297>], June 2018.

- **Backwards theory supports modelling via invariant manifolds for non-autonomous dynamical systems.** A.~J. Roberts. Technical report, [<http://arxiv.org/abs/1804.06998>], April 2018.
- **Couple microscale periodic patches to simulate macroscale emergent dynamics.** Hammad Alotaibi, Barry Cox, and A.~J. Roberts. *ANZIAM~J.*, 59(3):313–334, 2018.
- **Boundary conditions for macroscale waves in an elastic system with microscale heterogeneity.** Chen Chen, A.~J. Roberts, and J.~E. Bunder. *IMA Journal of Applied Mathematics*, pages 1–33, 2018
[A HREF=<http://arxiv.org/abs/1603.06686>]Download (draft) article/[A].
- **Smooth subgrid fields underpin rigorous closure in spatial discretisation of reaction-advection-diffusion PDEs.** G.~A. Jarrad and A.~J. Roberts. *Applied Numerical Mathematics*, 132:91–110, 2018.
- **Good coupling for the multiscale patch scheme on systems with microscale heterogeneity.** J.~E. Bunder, A.~J. Roberts, and I.~G. Kevrekidis. *J.~Computational Physics*, 337:154–174, may 2017.
- **Slowly varying, macroscale models emerge from microscale dynamics over multiscale domains.** A.~J. Roberts and J.~E. Bunder. *IMA Journal of Applied Mathematics*, 82:971–1012, 2017 [A HREF=<http://arxiv.org/abs/1703.06686>]Download (draft) article/[A].
- **Resolution of subgrid microscale interactions enhances the discretisation of nonautonomous partial differential equations.** J.~E. Bunder and A.~J. Roberts. *Applied Mathematics and Computation*, 304:164–179, 2017.
- **Dynamics of suspended rigid aggregating particles in flowing medium: theory, analysis and scientific computing.** Sarthok Sircar and Anthony~J. Roberts. Technical report, [<http://arxiv.org/abs/1610.02100>], October 2016.
- **Ligand mediated adhesive mechanics of two deformed spheres.** Sarthok Sircar, Andrei Kotousov, Giang Nguyen, and A.~J. Roberts. *European Physical Journal E*, 39(95), 2016.
- **Surface deformation and shear flow in ligand mediated cell adhesion.** Sarthok Sircar and A.~J. Roberts. *Journal of Mathematical Biology*, pages 1–18, 2016.

- **Ion mediated crosslink driven mucous swelling kinetics.** Sarthok Sircar and A.~J. Roberts. *J. Discrete and Continuous Dynamical System~B*, 21(6):1937–1951, 2016.
- **Splitting in systems of PDEs for two-phase multicomponent flow in porous media.** Sara Borazjani, A.~J. Roberts, and Pavel Bedrikovetsky. *Applied Mathematics Letters*, 53:25–32, 2016 ;A HREF=http://dx.doi.org/10.1016/j.aml.2015.12.014 (draft) articlej/Aj.
- **Accuracy of patch dynamics with mesoscale temporal coupling for efficient massively parallel simulations.** Judith Bunder, A.~J. Roberts, and Ioannis~G. Kevrekidis. *SIAM Journal on Scientific Computing*, 38(4):C335–C371, 2016.
- **Modelling suspended sediment in environmental turbulent fluids.** Meng Cao and A.~J. Roberts. *J.~Engrg. Maths*, 98(1):187–204, 2016.
- **Multiscale modelling couples patches of nonlinear wave-like simulations.** Meng Cao and A.~J. Roberts. *IMA J.~Applied Maths.*, 81(2):228–254, 2016.
- Troy Farrell and A.~J. Roberts, editors. *Proceedings of the Mathematics and Statistics in Industry Study Group 2015*, volume 57(E) of *ANZIAM Journal*, 2016.
- Troy Farrell and A.~J. Roberts, editors. *Proceedings of the Mathematics and Statistics in Industry Study Group 2014*, volume 56(E) of *ANZIAM Journal*, 2016.
- Graeme Wake and Anthony Roberts, editors. *Proceedings of the Mathematics for Industry NZ Study Group 2015*, volume 57(E) of *ANZIAM Journal*, 2016.
- **Macroscale boundary conditions for a non-linear heat exchanger.** Chen Chen, A.~J. Roberts, and J.~E. Bunder. In Jason Sharples and Judith Bunder, editors, *Proceedings of the 17th Biennial Computational Techniques and Applications Conference, CTAC-2014*, volume 56 of *ANZIAM J.*, pages C16–C31, September 2015.
- **Centre manifolds for stochastic evolution equations.** Xiaopeng Chen, A.~J. Roberts, and Jinqiao Duan. *Journal of Difference Equations and Applications*, June 2015.

- A.~J. Roberts. **Effective multiscale computational modeling of spatio-temporal systems**, May 2015. Video of talk at SIAM conference on Dynamical Systems ;A HREF=

2014 <http://arxiv.org/abs/1103.1187>; Download (draft) article [A](#).

- Troy Farrell and A. J. Roberts, editors. *Proceedings of the Mathematics in Industry Study Group 2013*, volume 55(E) of *ANZIAM Journal*, 2014.
- **Multiscale modelling couples patches of two-layer thin fluid flow.** Meng Cao and A. J. Roberts. Technical report, [<http://arxiv.org/abs/1405.7093>] 2014.
- **Multiscale modelling couples patches of wave-like simulations.** Meng Cao and A. J. Roberts. In Scott McCue, Tim Moroney, Dann Mallet, and Judith Bunder, editors, *Proceedings of the 16th Biennial Computational Techniques and Applications Conference, CTAC-2012*, volume 54 of *ANZIAM J.*, pages C153–C170, May 2013.
- **Self similarity and attraction in stochastic nonlinear reaction-diffusion systems.** Wei Wang and A. J. Roberts. *SIAM J. Applied Dynamical Systems*, 12(1):450–486, 2013.
- **Simulating stochastic inertial manifolds by a backward-forward approach.** Xingye Kan, Jinqiao Duan, Ioannis G. Kevrekidis, and A. J. Roberts. *SIAM J. Appl. Dyn. Systems*, 12(1):487–514, 2013. <http://arxiv.org/abs/1206.4954> <http://epubs.siam.org/doi/abs/10.1137/1206.4954>; Download (draft) article [A](#).
- **Macroscopic reduction for stochastic reaction-diffusion equations.** Wei Wang and A. J. Roberts. *IMA Journal of Applied Mathematics*, 78(6):1237–1264, 2013.
- John Shephard, Andrew Stacey, and A. J. Roberts, editors. *Proceedings of the Mathematics in Industry Study Group 2012*, volume 54(E) of *ANZIAM Journal*, 2013.
- **Modelling 3d turbulent flows based upon the smagorinski large eddy closure.** Meng Cao and A. J. Roberts. In P. A. Brandner and B. W. Pearce, editors, *18th Australasian Fluid Mechanics Conference*, Dec 2012 http://people.eng.unimelb.edu.au/imarusic/proceedings/18/70/draft_article/A.
- **Modify the improved euler scheme to integrate stochastic differential equations.** A. J. Roberts. Technical report, [<http://arxiv.org/abs/1210.0930>] Oct 2012.

- **Patch dynamics for macroscale modelling in one dimension.** J.~E. Bunder and A.~J. Roberts. In Mark Nelson, Mary Coupland, Harvinder Sidhu, Tara Hamilton, and A.~J. Roberts, editors, *Proceedings of the 10th Biennial Engineering Mathematics and Applications Conference, EMAC-2011*, volume 53 of *ANZIAM J.*, pages C280–C295, June 2012.
- **Averaging approximation to singularly perturbed nonlinear stochastic wave equations.** Yan Lv and A.~J. Roberts. *J.~Math. Phys.*, 53(6):062702, 2012 [jA HREF=http://arxiv.org/abs/1107.4184v1](http://arxiv.org/abs/1107.4184v1) [Download \(draft\) articlej/Aj.](#)
- **Large deviations and approximations for slow-fast stochastic reaction-diffusion equations.** Wei Wang, A.~J. Roberts, and Jin-qiao Duan. *J.~Differential Equations*, 253(12):3501–3522, 2012.
- **Average and deviation for slow-fast stochastic partial differential equations.** Wei Wang and A.~J. Roberts. *J. Differential Equations*, 253:1265–1286, 2012.
- **Slow manifold and averaging for slow-fast stochastic differential system.** Wei Wang and A.~J. Roberts. *Journal of Mathematical Analysis and Applications*, 398:822–839, 2012. [jA href="http://dx.doi.org/10.1016/j.jmaa.2012.09.010" data-bbox="221 511 1000 528" style="display: inline-block; vertical-align: middle;">jdiv data-badge-popover="right" data-badge-type="2" data-doi="10.1016/j.jmaa.2012.09.010" data-hide-no-mentions="true" class="altmetric-embed" data-bbox="221 528 1000 545" style="display: inline-block; vertical-align: middle;">jA HREF=http://arxiv.org](http://dx.doi.org/10.1016/j.jmaa.2012.09.010) [\(draft\) articlej/Aj.](#)
- Mark Nelson, Anthony~J. Roberts, Mary Coupland, Tara Hamilton, and Harvinder Sidhu, editors. *Proceedings of the Engineering Mathematics and Applications Conference*, volume 53 of *ANZIAM Journal*, 2012.
- **Construct centre manifolds of ordinary or delay differential equations (autonomous).** A.~J. Roberts. Technical report, <http://www.maths.adelaide.edu.au/~ajr1/centre-manifolds.pdf>, 2012–2019.
- **Projective integration of expensive multiscale stochastic simulation.** Xiaopeng Chen, A.~J. Roberts, and Ioannis~G. Kevrekidis. In W. McLean and A.~J. Roberts, editors, *Proceedings of the 15th Biennial Computational Techniques and Applications Conference, CTAC-2010*, volume 52 of *ANZIAM J.*, pages C661–C677, August 2011.

- **Macroscopic discrete modelling of stochastic reaction-diffusion equations on a periodic domain.** Wei Wang and A.~J. Roberts. *Discrete and Continuous Dynamical System~A*, 31(1):253–273, 2011.
- **Averaging, homogenization and slow manifolds for stochastic partial differential equations.** Jinqiao~Q. Duan, A.~J. Roberts, and Wei Wang. In Huaizhong Zhao and Aubrey Truman, editors, *New Trends in Stochastic Analysis and Related Topics*, volume 12 of *Interdisciplinary Mathematical Sciences*, chapter 3, pages 95–131. World Scientific, 2011.
- John~J. Shepherd, Andrew Stacey, and Anthony~J. Roberts, editors. *Proceedings of the Mathematics in Industry Study Group 2011*, volume 53(E) of *ANZIAM~J.*, 2011.
- **On the approximation for singularly perturbed stochastic wave equations.** Wei Wang, Yan Lv, and A.~J. Roberts. Technical report, <http://arxiv.org/abs/1109.3000>, 2011 ;A HREF=<http://arxiv.org/abs/1109.3000> ;Download (draft) article ;A ;.
- **Computer algebra derives the slow manifold of patch or element dynamics on lattices in two dimensions.** Tony MacKenzie and A.~J. Roberts. Technical report, The University of Adelaide, 2011. <http://arxiv.org/abs/1102.2037> ;A HREF=<http://arxiv.org/abs/1102.2037> ;Download (draft) article ;A ;.
- **The harmonic mean renormalises random diffusion across a spatial multigrid.** A.~J. Roberts. In P. Howlett, M. Nelson, and A.~J. Roberts, editors, *Proceedings of the 9th Biennial Engineering Mathematics and Applications Conference, EMAC-2009*, volume 51 of *ANZIAM J.*, pages C83–C96, April 2010.
- **Choose interelement coupling to preserve self-adjoint dynamics in multiscale modelling and computation.** A.~J. Roberts. *Applied Numerical Modelling*, 60:949–973, 2010.
- A.~J. Roberts. **Stochastically forced, cubic reaction-diffusion equation**, <http://math.iit.edu/~spde2010/TonyRobertsMovieSPDE2010.mpg>, 2010 ;A HREF=<http://math.iit.edu/~spde2010/TonyRobertsMovieSPDE2010.mpg> ;Download (draft) article ;A ;.
- **Equation-free computation: an overview of patch dynamics.** G. Samaey, A.~J. Roberts, and I.~G. Kevrekidis. In Jacob Fish, edi-

tor, *Multiscale methods: bridging the scales in science and engineering*, chapter 8, pages 216–246. Oxford University Press, 2010.

- **Effectively model dynamics, deterministic and stochastic, across multiple space and time scales.** A.~J. Roberts. In J.~G. Hartnett and P.~C. Abbott, editors, *Frontiers of Fundamental and Computational Physics: 10th International Symposium*, volume 1246, pages 75–87. AIP, 2010.
- William McLean and A.~J. Roberts, editors. *Proceedings of 15th Computational Techniques and Applications Conference CTAC-2010*, volume 52(E) of *ANZIAM~J.*, 2010.
- John~J. Shepherd, Andrew Stacey, and Anthony~J. Roberts, editors. *Proceedings of the Mathematics in Industry Study Group 2010*, volume 52(E) of *ANZIAM~J.*, 2010.
- Andrew Metcalfe, Phil Howlett, Mark Nelson, and A.~J. Roberts, editors. *Proceedings of the 9th Biennial Engineering Mathematics and Applications Conference, EMAC-2009*, volume 51(E) of *ANZIAM~J.*, 2010.
- **Computer algebra compares the stochastic superslow manifold of an averaged spde with that of the original slow-fast spde.** A.~J. Roberts. Technical report, University of Adelaide, 2010.
- **Resolve subgrid microscale interactions to discretise stochastic partial differential equations.** A.~J. Roberts. preprint, January 2010.
- **Modelling turbulent flow from dam break using slow manifolds.** D.~J. Georgiev, A.~J. Roberts, and D.~V. Strunin. In Geoffrey~N. Mercer and A.~J. Roberts, editors, *Proceedings of the 14th Biennial Computational Techniques and Applications Conference, CTAC-2008*, volume 50 of *ANZIAM J.*, pages C1033–C1051, September 2009.
- **Low-dimensional boundary-layer model of turbulent dispersion in a channel.** D.~V. Strunin and A.~J. Roberts. In S.~I. Ao, Len Gelman, David W.~L. Hukins, Andrew Hunter, and A.~M. Korsunsky, editors, *Proc. of the World Congress on Engineering, International Conference of Applied and Engineering Mathematics ICAEM-2009*, volume II of *Lecture Notes in Engineering and Computer Science*, pages 1230–1234, Imperial College London, UK, July 2009. Newswood Limited, International Association of Engineers.

- **Model dynamics across multiple length and time scales on a spatial multigrid.** A.~J. Roberts. *Multiscale Modeling and Simulation*, 7(4):1525–1548, 2009. [A HREF=http://link.aip.org/link/?MMS/7/1525](http://link.aip.org/link/?MMS/7/1525); Download (draft) article; A.
- *Elementary calculus of financial mathematics.* A.~J. Roberts, volume 15 of *Mathematical Modeling and Computation*. SIAM, Philadelphia, 2009. Appeared twice (two printings) in SIAM’s top-25 best sellers for the year ending April, 2010. [A HREF=http://bookstore.siam.org/mm15/](http://bookstore.siam.org/mm15/); Download (draft) article; A.
- Geoffrey~N. Mercer and A.~J. Roberts, editors. *Proceedings of 14th Computational Techniques and Applications Conference CTAC-2008*, volume 50(E) of *ANZIAM~J.*, 2009. <http://journal.austms.org.au/ojs/index.php/ANZIAMJ>; [A HREF=http://journal.austms.org.au/ojs/index.php/ANZIAMJ/issue/view/37](http://journal.austms.org.au/ojs/index.php/ANZIAMJ/issue/view/37); Download (draft) article; A.
- **Slow manifold of stochastic or deterministic multiscale differential equations.** A.~J. Roberts. Technical report, <http://www.maths.adelaide.edu.au/>, 2009–2019.
- **A mathematical model for the iterative effects of tnfr-alpha positive feedback mechanisms on inflammatory cascades in tlr-4 mediated signalling pathways.** Bryan Essien, Michael Kotiw, Harry Butler, Dmitry Strunin, and A.J. Roberts. Technical report, University of Southern Queensland, 2009.
- **Holistic discretisation ensures fidelity to dynamics in two spatial dimensions.** Tony MacKenzie and A.~J. Roberts. Technical report, <http://arxiv.org/abs/0904.0855v1>, 2009.
- **Computer algebra derives the slow manifold of macroscale holistic discretisations in two dimensions.** Tony MacKenzie and A.~J. Roberts. Technical report, The University of Adelaide, 2009. <http://hdl.handle.net/2440/49292>; [A HREF=http://hdl.handle.net/2440/49292](http://hdl.handle.net/2440/49292); Download (draft) article; A.
- **Normal form of stochastic or deterministic multiscale differential equations.** A.~J. Roberts. Technical report, <http://www.maths.adelaide.edu.au/>, 2009–2019.
- **Maximum likelihood multifractal analyser of point data.** A.~J. Roberts. Technical report, <http://www.maths.adelaide.edu.au/anthony.roberts/mult>

January 2009 [jA HREF=http://www.maths.adelaide.edu.au/anthony.roberts/multifractal.h](http://www.maths.adelaide.edu.au/anthony.roberts/multifractal.h)
(draft) [articlej/Aj](#).

- **Model emergent dynamics in complex systems.** A.~J. Roberts.
Technical Report 2nd edition, <http://www.maths.adelaide.edu.au/anthony.roberts/mo>
2009–2019.
- **Average and deviation for the stochastic fitzhugh–nagumo system.** W. Wang and A.~J. Roberts. In Geoffrey~N. Mercer and A.~J. Roberts, editors, *Proceedings of the 14th Biennial Computational Techniques and Applications Conference, CTAC-2008*, volume 50 of *ANZIAM J.*, pages C292–C307, November 2008.
- **The style files: Teach explicit skills with feedback.** A.~J. Roberts.
The Australian Mathematical Society Gazette, 35(3):156–157, July 2008.
Unrefereed [jA HREF=http://www.austms.org.au/Publ/Gazette/2008/Jul08/StyleFiles.pdf](http://www.austms.org.au/Publ/Gazette/2008/Jul08/StyleFiles.pdf)
(draft) [articlej/Aj](#).
- **The style files: Write to read breadth first, not depth first.**
A.~J. Roberts. *The Australian Mathematical Society Gazette*, 35(1):17–
19, March 2008. Unrefereed [jA HREF=http://www.austms.org.au/Publ/Gazette/2008/Ma](http://www.austms.org.au/Publ/Gazette/2008/Ma)
(draft) [articlej/Aj](#).
- **Combined instructions and template for articles submitted to the anziam journal.** A.~J. Roberts. *ANZIAM~J. (Electronic supplement)*, 50, 2008.
- **Normal form transforms separate slow and fast modes in stochastic dynamical systems.** A.~J. Roberts. *Physica~A*, 387:12–38, 2008.
- A.~J. Roberts. **Nash equilibria: strategies in the prisoner’s dilemma**, 2008. <http://www.youtube.com/watch?v=5Ug2EVjdS4E> [jA HREF=http://www.youtube.com/watch?v=5Ug2EVjdS4E](#)
(draft) [articlej/Aj](#). Download
- A.~J. Roberts. **Nash equilibria: Nash’s solution of the prisoner’s dilemma**, 2008. <http://www.youtube.com/watch?v=J4n-Eg6UAW8> [jA HREF=http://www.youtube.com/watch?v=J4n-Eg6UAW8](#)
(draft) [articlej/Aj](#). Download
- **Co-ordinate transforms underpin multiscale modelling and reduction in deterministic and stochastic systems.** A.~J. Roberts.
In Derek Abbott, Tomaso Aste, Murray Batchelor, Robert Dewar, Tiziana~Di Matteo, and Tony Guttman, editors, *Complex Systems II:*

SPIE Symposium on Microelectronics, MEMS, and Nanotechnology, 5–7 December 2007 at The Australian National Univ, volume 6802, page 68021F, 2008.

- Geoff Mercer and A.~J. Roberts, editors. *Proceedings of the 8th Biennial Engineering Mathematics and Applications Conference, EMAC-2007*, volume 49(E) of *ANZIAM~J.*, 2008. <http://journal.austms.org.au/ojs/index.php>
- **Combined instructions and template for articles submitted to the ANZIAM Journal.** Anthony~John Roberts. Technical report, ANZIAM Journal, 2008–2016.
- **Conserving self-adjoint rules for coupling in multiscale modelling.** A.~J. Roberts. Technical report, University of Southern Queensland, 2008.
- **Computer algebra derives discretisations via self-adjoint multiscale modelling.** A.~J. Roberts. Technical report, <http://eprints.usq.edu.au/4275/> 2008 ;A HREF=<http://eprints.usq.edu.au/4275/> ;Download (draft) article ;/A ;.
- **Model turbulent floods with the Smagorinski large eddy closure.** A.~J. Roberts, D.~J. Georgiev, and D.~V. Strunin. Technical report, <http://arxiv.org/abs/0805.3192>, 2008.
- **Computer algebra describes flow of turbulent floods via the Smagorinski large eddy closure.** A.~J. Roberts. Technical report, <http://eprints.usq.edu.au/4008/>, 2008.
- **The dynamics of the vertical structure of turbulence in flood flows.** D.~J. Georgiev, A.~J. Roberts, and D.~V. Strunin. In Wayne Read, Jay~W. Larson, and A.~J. Roberts, editors, *Proceedings of the 13th Biennial Computational Techniques and Applications Conference, CTAC-2006*, volume 48, pages C573–C590, December 2007.
- **Computer algebra models dynamics on a multigrid across multiple length and time scales.** A.~J. Roberts. Technical report, University of Southern Queensland, <http://eprints.usq.edu.au/3373/>, November 2007.
- **The style files: Use the most informative synonym.** A.~J. Roberts. *The Australian Mathematical Society Gazette*, 34(4):208–209, September 2007. Unrefereed. ;A HREF=<http://www.austms.org.au/Publ/Gazette/2007/S> (draft) article ;/A ;.

- **The style files: Write what you mean.** A.~J. Roberts. *The Australian Mathematical Society Gazette*, 34(3):156–157, July 2007. Unrefereed. ;A HREF=<http://www.austms.org.au/Gazette/2007/Jul07/156StyleFiles.pdf>;Download (draft) article;A.
- **Subgrid and interelement interactions affect discretisations of stochastically forced diffusion.** A.~J. Roberts. In Wayne Read, Jay~W. Larson, and A.~J. Roberts, editors, *Proceedings of the 13th Biennial Computational Techniques and Applications Conference, CTAC-2006*, volume 48 of *ANZIAM~J.*, pages C168–C187, June 2007.
- **The style files: Appearance affects communication; but not necessarily as you like.** A.~J. Roberts. *The Australian Mathematical Society Gazette*, 34(2):78–80, May 2007. Unrefereed. ;A HREF=<http://www.austms.org.au/Publ/Gazette/2007/May07/078StyleFiles.pdf>;Download (draft) article;A.
- **The style files: Omit redundant words.** A.~J. Roberts. *The Australian Mathematical Society Gazette*, 34(1):20–21, March 2007. Unrefereed. ;A HREF=<http://www.austms.org.au/Gazette/2007/Mar07/20StyleFiles.pdf>;Download (draft) article;A.
- **Computer algebra models the inertial dynamics of a thin film flow of power law fluids and other generalised newtonian fluids.** A.~J. Roberts. Technical report, University of Southern Queensland, February 2007. <http://eprints.usq.edu.au/archive/00002010/>.
- **The inertial dynamics of thin film flow of non-newtonian fluids.** A.~J. Roberts. *Physics Letters~A*, 372:1607–1611, 2007.
- **Fractal landscape method: an alternative approach to measuring area-restricted searching behavior.** Yann Tremblay, A.~J. Roberts, and Daniel~P. Costa. *Journal of Experimental Biology*, 210:935–945, 2007 ;A HREF=<http://jeb.biologists.org/cgi/content/abstract/210/6/935>;Download (draft) article;A.
- **General tooth boundary conditions for equation free modelling.** A.~J. Roberts and I.~G. Kevrekidis. *SIAM J.~Scientific Computing*, 29(4):1495–1510, 2007.
- **Low-dimensional modelling of a generalized Burgers’ equation.** Zhenquan Li and A.~J. Roberts. *Global Journal of Pure and Applied Mathematics*, 3(3):203–218, 2007. <http://arXiv.org/abs/math-ph/0307064>

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(draft) article/A_i.

- **A flexible error estimate for the application of centre manifold theory.** Zhenquan Li and A. J. Roberts. *Global Journal of Pure and Applied Mathematics*, 3(3):241–249, 2007. Download
(draft) article/A_i.
- **Numerical methods for coupled nonlinear problems of dynamic thermoelasticity and shape memory alloys modeling.** R. Melnik, D. Roy Mahapatra, L. Wang, and A. J. Roberts. In E. Onate, M. Papadrakis, and B. Scheffler, editors, *Computational Methods for Coupled Problems in Science and Engineering (Coupled Problems 2007)*, pages 461–464. CIMNE, Barcelona, 2007.
- **Nonlinear dynamics on centre manifolds describing turbulent floods: k-omega model.** D. J. Georgiev, A. J. Roberts, and D. V. Strunin. In Boris Belinskiy, Kunquan Lan, Xin Lu, Alain Miranville, and R. Shivaji, editors, *Proceedings of the 6th AIMS International Conference (Poitiers, France)*, pages 419–428, 2007. Download
(draft) article/A_i.
- Wayne Read, Jay W. Larson, and A. J. Roberts, editors. *Proceedings of 13th Computational Techniques and Applications Conference CTAC-2006*, volume 48(E) of *ANZIAM J.*, 2007. <http://journal.austms.org.au/ojs/index.php>
Download
(draft) article/A_i.
- **Computer algebra derives normal forms of stochastic differential equations.** A. J. Roberts. Technical report, <http://eprints.usq.edu.au/archive/> 2007.
- **Resolve subgrid microscale interactions to discretise stochastic partial differential equations.** A. J. Roberts. Technical report, <http://arxiv.org/abs/math.DS/0601702>, January 2007.
- **The style files: Favour the present tense.** A. J. Roberts. *The Australian Mathematical Society Gazette*, 33(5):313–314, November 2006. Unrefereed. <http://www.austms.org.au/Publ/Gazette/2006/Nov06/stylefiles.pdf>
(draft) article/A_i.
- **The style files: Explicitly avoid false conditionals.** A. J. Roberts. *The Australian Mathematical Society Gazette*, 33(4):241–242, Septem-

ber 2006. Unrefereed. [A HREF=http://www.austms.org.au/Publ/Gazette/2006/Sep06/stylefiles.pdf](http://www.austms.org.au/Publ/Gazette/2006/Sep06/stylefiles.pdf); Download (draft) article; A.

- **The style files: Inform with titles, abstracts and introductions.** A.~J. Roberts. *The Australian Mathematical Society Gazette*, 33(3):169–170, July 2006. Unrefereed. [A HREF=http://www.austms.org.au/Publ/Gazette/2006/Sep06/stylefiles.pdf](http://www.austms.org.au/Publ/Gazette/2006/Sep06/stylefiles.pdf); Download (draft) article; A.
- **The style files: Clarify this.** A.~J. Roberts. *The Australian Mathematical Society Gazette*, 33(2):104–105, May 2006. Unrefereed. [A HREF=http://www.austms.org.au/Publ/Gazette/2006/May06/stylefiles.pdf](http://www.austms.org.au/Publ/Gazette/2006/May06/stylefiles.pdf); Download (draft) article; A.
- **An accurate and comprehensive model of thin fluid flows with inertia on curved substrates.** A.~J. Roberts and Zhenquan Li. *J.~Fluid Mech.*, 553:33–73, April 2006.
- **The style files: Prefer active writing to passive.** A.~J. Roberts. *The Australian Mathematical Society Gazette*, 33(1):22–23, March 2006. Unrefereed. [A HREF=http://www.austms.org.au/Publ/Gazette/2006/Mar06/stylefiles.pdf](http://www.austms.org.au/Publ/Gazette/2006/Mar06/stylefiles.pdf); Download (draft) article; A.
- **Resolving the multitude of microscale interactions accurately models stochastic partial differential equations.** A.~J. Roberts. *LMS J.~Computation and Maths*, 9:193–221, 2006.
- **Accurately model the Kuramoto–Sivashinsky dynamics with holistic discretisation.** T. MacKenzie and A.~J. Roberts. *SIAM J.~Applied Dynamical Systems*, 5(3):365–402, 2006 [A HREF=http://epubs.siam.org/SIADS/05/art'62773.html](http://epubs.siam.org/SIADS/05/art'62773.html); Download (draft) article; A.
- **Computation of short-crested deep-water waves.** M. Ioualalen, M. Okamura, S. Cornier, C. Kharif, and A.~J. Roberts. *J.~Waterway, Port, Coast and Ocean Engrg*, 132(3):157–165, 2006.
- **A normal form of thin fluid film equations solves the transient paradox.** A.~J. Roberts. *Physica~D*, 223(1):69–81, 2006.
- Andrew Stacey, Bill Blyth, John Shepherd, and A.~J. Roberts, editors. *Proceedings of the 7th Biennial Engineering Mathematics and Applications Conference, EMAC-2005*, volume 47(E) of *ANZIAM~J.*, 2006.
- **Computer algebra derives discretisations of the stochastically forced Burgers’ partial differential equation.** A.~J. Roberts.

Technical report, [<http://eprints.usq.edu.au/1322/>], January 2006
 ;A HREF=<http://eprints.usq.edu.au/archive/00001322/>;Download (draft) article;/A;.

- **Predicting the off-site deposition of spray drift from horticultural spraying through porous barriers on soil and plant surfaces.** G.~N. Mercer and A.~J. Roberts. In Graeme Wake, editor, *Proceedings of the 2005 Mathematics in Industry Study Group*, pages 27–52. MISG, Centre for Mathematics in Industry, Massey University, December 2005.
- **Computer algebra resolves a multitude of microscale interactions to model stochastic partial differential equations.** A.~J. Roberts. Technical report, [<http://eprints.usq.edu.au/archive/00001242/>], December 2005.
- **Higher order accuracy in the gap-tooth scheme for large-scale dynamics using microscopic simulators.** A.~J. Roberts and I.~G. Kevrekidis. In Rob May and A.~J. Roberts, editors, *Proc. of 12th Computational Techniques and Applications Conference CTAC-2004*, volume 46 of *ANZIAM~J.*, pages C637–C657, July 2005.
- **Use the information dimension, not the hausdorff.** A.~J. Roberts. Technical report, <http://arxiv.org/abs/nlin.PS/0512014>, July 2005
 ;A HREF=<http://arxiv.org/abs/nlin.PS/0512014>;Download (draft) article;/A;.
- **Linear algebra: a draft proposal.** A.~J. Roberts. Technical report, University of Southern Queensland, April 2005.
- **Nonlinear analysis of rubber-based polymeric materials with thermal relaxation models.** R.~V.~N. Melnik, D.~V. Strunin, and A.~J. Roberts. *Numerical Heat Transfer: Part~A: Applications*, 47:549–569, 2005. <http://taylorandfrancis.metapress.com/link.asp?id=y7hnhm6m0yv76taa>.
- Rob May and A.~J. Roberts, editors. *Proceedings of 12th Computational Techniques and Applications Conference CTAC-2004*, volume 46(E) of *ANZIAM~J.*, 2005.
- **Teach fundamental abstract linear algebra starting from singular value decomposition.** A.~J. Roberts. Technical report, University of Southern Queensland, 2005.

- **Analyse gap-tooth patch boundary conditions with Reduce.** A.~J. Roberts. Technical report, <http://www.sci.usq.edu.au/staff/aroberts/linpbc>. September 2004.
- **A corrected quadrature formula and applications.** Nenad Ujevic and A.~J. Roberts. *ANZIAM~J.*, 45(E):E41–E56, February 2004.
- **Computational models for multi-scale coupled dynamic problems.** R.~V.~N. Melnik and A.~J. Roberts. *Future Generation Computer Systems*, 20(3):453–464, 2004 ;A HREF=[http://www.sciencedirect.com/science/article\(draft\) article/A](http://www.sciencedirect.com/science/article(draft) article/A).
- **Shear dispersion along circular pipes is affected by bends, but the torsion of the pipe is negligible.** A.~J. Roberts. *SIAM J.~Applied Dynamical Systems*, 3:433–462, 2004.
- **The prisoners may be in two minds.** A.~J. Roberts. *Austral. Math. Soc. Gazette*, 31:30–33, 2004 ;A HREF=<http://arXiv.org/abs/math.GM/0303284>;D (draft) article/A.
- **Two-zone model of shear dispersion in a channel using centre manifolds.** A.~J. Roberts and D.~V. Strunin. *Quart. J.~Mech. Appl. Math.*, 57:363–378, 2004.
- **Image processing of finite size rat retinal ganglion cells using multifractal and local connected fractal analysis.** H.~F. Jelinek, D.~J. Cornforth, A.~J. Roberts, G. Landini, P. Bourke, and A. Iorio. In *17th Australian Joint Conference on Artificial Intelligence*, volume 3339 of *Lecture Notes in Computer Science*, pages 961–966. Springer–Verlag Heidelberg, 2004 ;A HREF=<http://www.springerlink.com/index/6UGGTAGMUFK>;D (draft) article/A.
- Jagoda Crawford and A.~J. Roberts, editors. *Proceedings of 11th Computational Techniques and Applications Conference CTAC-2003*, volume 45(E) of *ANZIAM~J.*, 2004.
- **Zero-sum games theory.** A.~J. Roberts. Technical report, University of Southern Queensland, 2004.
- **Check the slowly-varying normal form of thin film fluids.** A.~J. Roberts. Technical report, <http://www.sci.usq.edu.au/staff/aroberts/CA/nff.red>, 2004.

- **A step towards holistic discretisation of stochastic partial differential equations.** A.~J. Roberts. In Jagoda Crawford and A.~J. Roberts, editors, *Proc. of 11th Computational Techniques and Applications Conference CTAC-2003*, volume 45, pages C1–C15, December 2003.
- **Engineering mathematics: time for a core curriculum?** Patricia Cretchley, A.~J. Roberts, and Chris Harman. In R.~L. May and W.~F. Blyth, editors, *Proceedings of the Sixth Engineering Mathematics and Applications Conference*, pages 25–30, July 2003.
- **Holistic discretisation of dynamical partial differential equations.** A.~J. Roberts. Technical report, <http://www.maths.adelaide.edu.au/anthony.r>, apr 2003–2019.
- **Holistic discretisation of shear dispersion in a two-dimensional channel.** T. MacKenzie and A.~J. Roberts. In K. Burrage and Roger~B. Sidje, editors, *Proc. of 10th Computational Techniques and Applications Conference CTAC-2001*, volume 44, pages C512–C530, March 2003.
- **Low Prandtl number fluid convection modelled using symbolic algebra (REDUCE) and Matlab.** Tim Passmore and A.~J. Roberts. In K. Burrage and Roger~B. Sidje, editors, *Proc. of 10th Computational Techniques and Applications Conference CTAC-2001*, volume 44, pages C590–C626, March 2003.
- **Derive boundary conditions for holistic discretisations of Burgers’ equation.** A.~J. Roberts. In K. Burrage and Roger~B. Sidje, editors, *Proc. of 10th Computational Techniques and Applications Conference CTAC-2001*, volume 44, pages C664–C686, March 2003.
- **Dynamics of a turbulent layer generated by velocity jump.** D.~V. Strunin and A.~J. Roberts. In K. Burrage and Roger~B. Sidje, editors, *Proc. of 10th Computational Techniques and Applications Conference CTAC-2001*, volume 44, pages C723–C738, March 2003.
- **Modelling the dynamics of turbulent floods.** Z. Mei, A.~J. Roberts, and Zhenquan Li. *SIAM J.~Appl. Math.*, 63(2):423–458, 2003.
- **Modelling nonlinear dynamics of shape-memory-alloys with approximate models of coupled thermoelasticity.** R.~V.~N. Melnik and A.~J. Roberts. *Z.~Angew. Math. Mech.*, 83:93–104, 2003.

- **A holistic finite difference approach models linear dynamics consistently.** A.~J. Roberts. *Mathematics of Computation*, 72:247–262, 2003 ;A HREF=<http://www.ams.org/mcom/2003-72-241/S0025-5718-02-01448-5>;Download (draft) article;A;.
- **Low-dimensional modelling of dynamical systems applied to some dissipative fluid mechanics.** A.~J. Roberts. In Rowena Ball and Nail Akhmediev, editors, *Nonlinear dynamics from lasers to butterflies*, volume 1 of *Lecture Notes in Complex Systems*, chapter 7, pages 257–313. World Scientific, 2003.
- **Holistic discretise three coupled dynamical partial differential equations.** A.~J. Roberts. Technical report, <http://www.maths.adelaide.edu.au/antho> 2003–2019.
- **Multifractal analysis: a pilot study using rat ganglion cells.** H.~F. Jelinek, A.~J. Roberts, and L. Peichl. *Proc. Austr. Neurosci. Soc.*, 13:152, 2002.
- **Phase transitions in shape memory alloys with hyperbolic heat conduction and differential-algebraic models.** R.~V.~N. Melnik, A.~J. Roberts, and K.~A. Thomas. *Computational Mechanics*, 29:16–26, 2002 ;A HREF=<http://link.springer.de/link/service/journals/00466/bibs/2029001/2029> (draft) article;A;.
- **Coupled thermomechanical dynamics of phase transitions in shape memory alloys and related hysteresis phenomena.** R.~V.~N. Melnik, A.~J. Roberts, and K.~A. Thomas. *Mechanics Research Communications*, 28:637–651, 2002.
- **A lubrication model of coating flows over a curved substrate in space.** R.~Valery Roy, A.~J. Roberts, and M.~E. Simpson. *J.~Fluid Mech.*, 454:235–261, 2002.
- **Computational models for materials with shape memory: towards a systematic description of coupled phenomena.** R.~V.~N. Melnik and A.~J. Roberts. In P.~M.~A. Slood, C.~J.~K. Tan, J.~J. Dongarra, and A.~G. Hoekstra, editors, *Computational Science-ICCS2002*, Lecture Notes in Computer Science, pages 490–499. Springer, 2002.
- **Self-similarity of decaying turbulent jet.** D.~V. Strunin and A.~J. Roberts. In *Proceedings of the fifth biennial engineering mathematics and applications conference, EMAC 2002*, pages 205–210, 2002.

- **Holistic discretisation illuminates and enhances the numerical modelling of differential equations.** A.~J. Roberts. Technical report, <http://www.sci.usq.edu.au/research/workingpapers/sc-mc-0111.ps>, 2002 ;A HREF=<http://www.sci.usq.edu.au/research/workingpapers/sc-mc-0111.ps> ;Download (draft) article ;/A₀.
- **Simple and fast multigrid solution of Poisson’s equation using diagonally oriented grids.** A.~J. Roberts. *ANZIAM~J.*, 43(E):E1–E36, July 2001.
- **A model of weakly vortical interfacial flow.** G.~A. Jarrad and A.~J. Roberts. *ANZIAM~J.*, 42(E):E69–E101, March 2001.
- **Holistic projection of initial conditions onto a finite difference approximation.** A.~J. Roberts. *Computer Phys. Comm.*, 142:316–321, 2001 ;A HREF=<http://arXiv.org/abs/math.NA/0101205> ;Download (draft) article ;/A₀.
- **Holistic discretisation ensures fidelity to Burgers’ equation.** A.~J. Roberts. *Applied Numerical Modelling*, 37:371–396, 2001 ;A HREF=<http://arXiv.org/abs/chao-dyn/9901011> ;Download (draft) article ;/A₀.
- **An accurate lubrication model of contaminated coating flows.** M.~E. Simpson and A.~J. Roberts. *Computer Phys. Comm.*, 142:330–332, 2001.
- **Coupled thermomechanical waves in hyperbolic thermoelasticity.** D.~V. Strunin, R.~V.~N. Melnik, and A.~J. Roberts. *J.~Thermal Stresses*, 24(2):121–140, 2001.
- **Reproductive pair correlations and the clustering of organisms.** W.~R. Young, A.~J. Roberts, and G. Stuhne. *Nature*, 412:328–331, 2001. 19th July.
- **Efficient design of tall tapered feeders.** M.~J. McGuinness and A.~J. Roberts. In J. Hewitt, editor, *Proceedings of the 2001 Mathematics in Industry Study Group*, pages 60–77. 2001.
- **Holistic discretisation illuminates and enhances the numerical modelling of differential equations.** A.~J. Roberts. In V.~V. Kluev and N.~E. Mastorakis, editors, *Topics in Applied and Theoretical Mathematics and Computer Science*, pages 81–89. WSES Press, 2001.

- **Models encompassing hydraulic jumps in radial flows over a horizontal plate.** A.~J. Roberts and D.~V. Strunin. In V.~V. Kluev and N.~E. Mastorakis, editors, *Topics in Applied and Theoretical Mathematics and Computer Science*, pages 31–36. WSES Press, 2001.
- **Modeling dynamics of multilayered SMA actuators.** R.~V. Melnik and A.~J. Roberts. In Ronald A.~Lawes Dinesh K.~Sood and Vasundara~V. Varadan, editors, *Smart Structures and Devices*, volume 4235 of *SPIE proceedings*, pages 117–125, 2001.
- **Holistically discretise the Swift-Hohenberg equation on a scale larger than its spatial pattern.** A.~J. Roberts. Technical report, <http://arXiv.org/abs/math.NA/0110153>, 2001 ;A HREF=<http://arXiv.org/abs/math.NA/0110153> (draft) articlej/Aj.
- **An accurate lubrication model of contaminated coating flows.** A.~J. Roberts and M.~E. Simpson. Technical report, <http://arXiv.org/abs/math.DS/0102207>, 2001 ;A HREF=<http://arXiv.org/abs/math.DS/0102207> Download (draft) articlej/Aj.
- **Complete self-similarity in k - l models of turbulence induced by step-wise profiles of velocity or buoyancy.** D.~V. Strunin and A.~J. Roberts. Technical report, University of Southern Queensland, 2001.
- **Solve differential-algebraic equations in matlab.** A.~J. Roberts. Technical report, <http://www.sci.usq.edu.au/staff/robertsa/dae.dtx>, May 2000 ;A HREF=<http://www.sci.usq.edu.au/staff/robertsa/dae.dtx> Download (draft) articlej/Aj.
- **Dynamics of rubber-like polymers with hyperbolic models of coupled thermoelasticity.** R.~V.~N. Melnik, D.~V. Strunin, and A.~J. Roberts. Technical report, University of Southern Queensland, March 2000.
- **Computing dynamics of copper-based SMA via centre manifold reduction of 3D models.** R.~V.~N. Melnik, A.~J. Roberts, and K.~A. Thomas. *Computational Materials Science*, 18:255–268, 2000.
- **Holistic finite differences accurately model the dynamics of the Kuramoto–Sivashinsky equation.** T. Mackenzie and A.~J. Roberts. *ANZIAM~J.*, 42(E):C918–C935, 2000.

- **Mathematical and numerical analysis of Falk-Konopka-type models for shape-memory alloys.** R.~V.~N. Melnik, A.~J. Roberts, and K.~A. Thomas. *International J.~Differential Equations and Applications*, 1A:291–300, 2000.
- **Computer algebra derives correct initial conditions for low-dimensional dynamical models.** A.~J. Roberts. *Computer Phys. Comm.*, 126(3):187–206, 2000.
- **Numerical modelling of thermoelastic processes using non-linear theories with thermal relaxation times.** D.~V. Strunin, R.~V.~N. Melnik, and A.~J. Roberts. *ANZIAM~J.*, 42(E):C1356–C1378, 2000.
- **Modelling of sample dynamics in rectangular asymmetrical flow field-flow fractionation channels.** S.~A. Suslov and A.~J. Roberts. *Analytical Chemistry*, 72(18):4331–4345, 2000.
- **Dip coating process for hot metal castings.** M.~J. McGuinness and A.~J. Roberts. In J. Hewitt, editor, *Proceedings of the 1999 Mathematics in Industry Study Group*, pages 20–48. 2000.
- **Rigorous zonal modelling of contaminant dispersion in shear flows.** A.~J. Roberts and D.~V. Strunin. In N. Mastorakis, editor, *Recent Advances in Applied and Theoretical Mechanics*, pages 64–70. WSES Press, 2000.
- **The dynamics of reaction diffusion equations lead to a holistic discretisation.** T. MacKenzie and A.~J. Roberts. In R.~L. May, G.~F. Fitz-Gerald, and I.~H. Grundy, editors, *EMAC 2000 Proceedings. Proceedings of the fourth biennial Engineering Mathematics and Applications Conference*, pages 199–202, 2000.
- **Approximate models of dynamic thermoviscoelasticity describing shape memory alloy phase transitions.** R.~V.~N. Melnik and A.~J. Roberts. In D. Stewart and S. Oliveira, editors, *New methods in Applied and computational mathematics (NEMACOM 98)*, volume 38 of *Proceedings of the Centre for Mathematics and its Applications*, ANU, pages 17–32, 2000.
- **Numerical analysis of the behaviour of rubber-like polymers with hyperbolic models of nonlinear thermoelasticity.** R.~V.~N. Melnik, D.~V. Strunin, and A.~J. Roberts. In M. Deville and R. Owens,

editors, *Proc. of the 16th IMACS World Congress on Scientific Computation, Applied Mathematics and Simulation*, pages 1–6, 2000.

- **Rigorous zonal modelling of contaminant dispersion in shear flows.** A.~J. Roberts and D.~V. Strunin. In N. Mastorakis, editor, *Proc. of the WSES Int. Conf. on Applied and Theoretical Mechanics*, pages 2011–2017, 2000. CD-ROM.
- **Branching behaviour of standing waves—the signatures of resonance.** D. Smith and A.~J. Roberts. *Phys. Fluids*, 11(5):1051–1064, May 1999.
- **Stability regimes of finite depth short-crested waves.** M. Ioualalen, C. Kharif, and A.~J. Roberts. *J.~Phys. Oceanogr.*, 29(9):2318–2331, 1999.
- **Differential-algebraic equations deserve more attention.** A.~J. Roberts. *Austral. Math. Soc. Gazette*, 26:75–79, 1999.
- **Advection-dispersion in symmetric field-flow fractionation channels.** S.~A. Suslov and A.~J. Roberts. *J.~Math. Chem.*, 26:27–46, 1999. <http://dx.doi.org/10.1023/A:1019169408365> doi:10.1023/A:1019169408365 |div data-badge-popover="right" data-badge-type="2" data-doi="10.1023/A:1019169408365" data-hide-no-mentions="true" class="altmetric-embed">|i/div
- **Modelling dynamics of shape-memory-alloys via computer algebra.** R.~V.~N. Melnik, A.~J. Roberts, and K. A. Thomas. In V.~V. Varadan, editor, *Mathematics and Control in Smart Structures, Proc. of SPIE*, volume 3667, pages 290–301, 1999.
- **Dynamics of shape-memory-alloys: A reduction procedure for 3d models.** R.~V.~N. Melnik, A.~J. Roberts, and K.~A. Thomas. In W. Wunderlich, editor, *Proceedings of the European Conference on Computational Mechanics: Solids, Structures and Coupled Problems in Engineering*, page 328, 1999.
- **Projection of initial conditions for thin film flow models.** S.~A. Suslov and A.~J. Roberts. In *IUTAM Symposium on Nonlinear Wave Behavior in Multi-Phase Flow*, 1999.
- **Similarity, attraction and initial conditions in an example of nonlinear diffusion.** S.~A. Suslov and A.~J. Roberts. *J.~Austral. Math. Soc.~B*, 40(E):E1–E26, October 1998.

- **An accurate model of thin 2d fluid flows with inertia on curved surfaces.** A.~J. Roberts. In P.~A. Tyvand, editor, *Free-surface flows with viscosity*, volume 16 of *Advances in Fluid Mechanics Series*, chapter 3, pages 69–88. Comput Mech Pub, 1998.
- **The accurate modelling of thin 3D fluid flows with inertia on curved substrates.** Zhenquan Li and A.~J. Roberts. In *Proceedings of Engineering Mathematics Applications Conference: EMAC98*, pages 315–318, 1998.
- **Numerical thin film dynamics.** M. Simpson and A.~J. Roberts. In B.~J. Noye, M.~D. Teubner, and A.~W. Gill, editors, *Computational Techniques and Applications: CTAC-97*, pages 623–630. World Sci. Pub. Co., 1998.
- **Level set methods in free-surface hydrodynamics.** D. Smith and A.~J. Roberts. In B.~J. Noye, M.~D. Teubner, and A.~W. Gill, editors, *Computational Techniques and Applications: CTAC-97*, pages 639–646. World Sci. Pub. Co., 1998.
- **First-order accurate scheme to integrate the ito sde.** A.~J. Roberts. Technical report, <http://www.sci.usq.edu.au/staff/aroberts/sde1.m>, 1998 ;A HREF=<http://www.sci.usq.edu.au/staff/aroberts/sde1.m> ;Download (draft) article ;A_i.
- **LaTeX: from quick and dirty to style and finesse.** A.~J. Roberts. Technical report, <http://www.maths.adelaide.edu.au/anthony.roberts/LaTeX/index>. 1998 ;A HREF=<http://www.maths.adelaide.edu.au/anthony.roberts/LaTeX/index.php> ;Download (draft) article ;A_i.
- **Proper initial conditions for the lubrication model of thin film fluid flow.** S.~A. Suslov and A.~J. Roberts. Technical report, <http://arXiv.org/abs/chao-dyn/9804018>, 1998 ;A HREF=<http://arXiv.org/abs/chao-dyn/9804018> ;Download (draft) article ;A_i.
- **Modelling and simulation.** A.~J. Roberts. *Australasian Science*, 18(3):5–6, sept 1997.
- **Low-dimensional modelling of dynamics via computer algebra.** A.~J. Roberts. *Computer Phys. Comm.*, 100:215–230, 1997.
- **Solution to problem 96-14: An integral.** A.~J. Roberts. *SIAM Review*, 39:pp526–7, 1997.

- **Bow-like free surfaces under gravity.** E. O. Tuck and A. J. Roberts. *Phil. Trans. R. Soc. Lond. A*, 355:665–677, 1997.
- **Parallel algorithms for spatial data partition and join processing.** Yanchun Zhang, Jitian Xiao, and A. J. Roberts. In A. Goscinski, M. Hobbs, and Wanlei Zhou, editors, *Algorithms and architectures for parallel processing*, pages 703–716, 1997.
- **Low-dimensional modelling of dynamical systems.** A. J. Roberts. Technical report, <http://arXiv.org/abs/chao-dyn/9705010>, 1997 [A HREF=<http://arXiv.org/abs/chao-dyn/9705010>; Download (draft) article; A].
- **Internal structure of extreme standing waves in deep water.** D. Smith and A. J. Roberts. *Phys. Fluids*, 8(3):697–703, March 1996.
- **On the low-dimensional modelling of Stratonovich stochastic differential equations.** Xu Chao and A. J. Roberts. *Physica A*, 225:62–80, 1996.
- **On the observability of finite depth short-crested water waves.** M. Ioualalen, C. Kharif, and A. J. Roberts. *J. Fluid Mech.*, 322:1–19, 1996.
- **Low-dimensional models of thin film fluid dynamics.** A. J. Roberts. *Phys. Letts. A*, 212:63–72, 1996.
- **Unbiased estimation of multi-fractal dimensions of finite data sets.** A. J. Roberts and A. Cronin. *Physica A*, 233:867–878, 1996. [a href="http://dx.doi.org/10.1016/S0378-4371(96)00165-3"; doi:10.1016/S0378-4371(96)00165-3; a; div data-badge-popover="right" data-badge-type="2" data-doi="10.1016/S0378-4371(96)00165-3" data-hide-no-mentions="true" class="altmetric-embed"; i; div].
- **The construction of zonal models of dispersion in channels via matching centre manifolds.** S. D. Watt and A. J. Roberts. *J. Austral. Math. Soc. B*, 38:101–125, 1996.
- **Initial conditions for models of dynamical systems.** S. M. Cox and A. J. Roberts. *Physica D*, 85:126–141, 1995.
- **The accurate dynamic modelling of contaminant dispersion in channels.** S. D. Watt and A. J. Roberts. *SIAM J. Appl. Math.*, 55(4):1016–1038, 1995. <http://epubs.siam.org/sam-bin/dbq/article/25797>.

- **Dimensional reduction of a bushfire model.** S.~D. Watt, A.~J. Roberts, and R.~O. Weber. *Mathl. Computer Modelling*, 21(9):79–83, 1995.
- **Equations for turbulent flood waves.** Z. Mei and A.~J. Roberts. In A. Mielke and K. Kirchgassner, editors, *Structure and dynamics of nonlinear waves in fluids*, pages 342–352. World Sci, 1995.
- **The Swift–Hohenberg equation requires non-local modifications to model spatial pattern evolution of physical problems.** A.~J. Roberts. Technical report, <http://arXiv.org/abs/patt-sol/9412002>, 1995 ;A HREF=<http://arXiv.org/abs/patt-sol/9412002> ;Download (draft) article ;/A ;.
- **Fractal and multi-fractal patterns of seaweed settlement.** L.~M. Emmerson and A.~J. Roberts. preprint, 1995.
- **The importance of beings fractal.** A.~J. Roberts. *Australasian Science*, page 23, April 1994.
- **A complete model of shear dispersion in pipes.** G.~N. Mercer and A.~J. Roberts. *Jap. J. Indust. Appl. Math.*, 11:499–521, 1994.
- **The form of standing waves on finite depth water.** G.~N. Mercer and A.~J. Roberts. *Wave Motion*, 19:233–244, 1994.
- *A one-dimensional introduction to continuum mechanics.* A.~J. Roberts. World Sci, 1994.
- **Initialisation and the quasi-geostrophic slow manifold.** S.~M. Cox and A.~J. Roberts. Technical report, <http://arXiv.org/abs/nlin.CD/0303011>, 1994.
- **Estimate generalised fractal dimensions of a set of points.** A.~J. Roberts. Technical report, <http://www.sci.usq.edu.au/staff/aroberts/fdim.sh>, 1994 ;A HREF=<http://www.sci.usq.edu.au/staff/aroberts/fdim.sh> ;Download (draft) article ;/A ;.
- **The invariant manifold of beam deformations. part 1: the simple circular rod.** A.~J. Roberts. *J.~Elas.*, 30:1–54, 1993.
- **An invariant manifold approach to modelling the dynamics of the kuramoto-sivashinsky equation.** D.~I. Oats and A.~J. Roberts. Preprint, 1993.

- **Planform evolution in convection—an embedded centre manifold.** A.~J. Roberts. *J. Austral. Math. Soc.~B*, 34:174–198, 1992.
- **Boundary conditions for approximate differential equations.** A.~J. Roberts. *J. Austral. Math. Soc.~B*, 34:54–80, 1992.
- **A virtual supercomputer from a network of workstations.** A.~J. Roberts. *Austral. Adv. Comp. Newslet.*, 2(2), 1992.
- **A sub-centre manifold description of the evolution and interaction of nonlinear dispersive waves.** A.~J. Roberts. In L. Debnath, editor, *Nonlinear waves*, chapter 9, pages 127–156. World Sci, 1992.
- **The quasi-geostrophic slow manifold.** S.~M. Cox and A.~J. Roberts. In *Proc 11th Austral. Fluid Mech Conf*, 1992 ;A HREF=http://people.eng.unimelb.edu.au/i (draft) articlej/Aj.
- **Extreme standing waves and their stability.** G.~N. Mercer and A.~J. Roberts. In M.~L. Banner and R.~H.~J. Grimshaw, editors, *Proc IUTAM Sym on breaking waves*, pages 383–387. Springer-Verlag, 1992.
- **Slow methods for simple people.** A.~J. Roberts. Technical Report WHOI-92-16, Woods Hole Oceanog. Inst., 1992. pp149–154.
- **Rational mathematical modelling—shear dispersion and planform selection.** A.~J. Roberts. Technical Report WHOI-92-16, Woods Hole Oceanog. Inst., 1992. pp155–166.
- **Centre manifolds of forced dynamical systems.** S.~M. Cox and A.~J. Roberts. *J. Austral. Math. Soc.~B*, 32:401–436, 1991.
- **Standing waves in deep water: their stability and extreme form.** G.~N. Mercer and A.~J. Roberts. *Phys. Fluids~A*, 4:259–269, 1991.
- **Reflection of nonlinear deep-water waves incident onto a wedge of arbitrary angle.** T.~R. Marchant and A.~J. Roberts. *J. Austral. Math. Soc.~B*, 32:61–96, 1990.
- **A centre manifold description of contaminant dispersion in channels with varying flow properties.** G.~N. Mercer and A.~J. Roberts. *SIAM J. Appl. Math.*, 50:1547–1565, 1990 ;A HREF=http://link.aip.org/link/?SN (draft) articlej/Aj.

- **A description of the long-term behaviour of absorbing continuous time Markov chains using a centre manifold.** P.~K. Pollett and A.~J. Roberts. *Advances Applied Probability*, 22:111–128, 1990.
- **Low-dimensionality—approximations in mechanics.** A.~J. Roberts. In J. Noye and W. Hogarth, editors, *Computational Techniques and Applications: CTAC-89*, pages 715–722. Hemisphere, 1990.
- **The utility of an invariant manifold description of the evolution of a dynamical system.** A.~J. Roberts. *SIAM J.~Math. Anal.*, 20:1447–1458, 1989.
- **Appropriate initial conditions for asymptotic descriptions of the long term evolution of dynamical systems.** A.~J. Roberts. *J.~Austral. Math. Soc.~B*, 31:48–75, 1989.
- **Use of implicit and explicit flux-corrected transport algorithms in gas discharge problems involving a non-uniform velocity fields.** P. Stienle, R. Morrow, and A.~J. Roberts. *J.~Comput Phys.*, 85, 1989.
- **A variational approach to the problem of deep water waves forming a circular caustic.** T.~R. Marchant and A.~J. Roberts. *J.~Fluid Mech.*, 194:581–597, 1988.
- **The application of centre manifold theory to the evolution of systems which vary slowly in space.** A.~J. Roberts. *J.~Austral. Math. Soc.~B*, 29:480–500, 1988.
- **The initial flow of liquid in an accelerating tank.** A.~J. Roberts. *J.~Eng. Mech.*, 114:175–180, 1988.
- **Properties of short-crested waves in water of finite depth.** T.~R. Marchant and A.~J. Roberts. *J.~Austral. Math. Soc.~B*, 29:103–125, 1987.
- **Transient free-surface flows generated by a moving vertical plate.** A.~J. Roberts. *Quart. J.~Mech. Appl. Math.*, 30:129–158, 1987.
- **An introduction to the technique of reconstitution.** A.~J. Roberts. *SIAM J.~Math. Anal.*, 16:1243–1257, 1985. <http://dx.doi.org/10.1137/0516089>.

- **Simple examples of the derivation of amplitude equations for systems of equations possessing bifurcations.** A.~J. Roberts. *J.~Austral. Math. Soc.~B*, 27:48–65, 1985.
- **An analysis of near marginal, mildly penetrative convection with heat flux prescribed on the boundaries.** A.~J. Roberts. *J.~Fluid Mech.*, 158:71–93, 1985.
- **Highly nonlinear short-crested water waves.** A.~J. Roberts. *J.~Fluid Mech.*, 135:301–321, 1983.
- **A stable and accurate numerical method to calculate the motion of a sharp interface between fluids.** A.~J. Roberts. *IMA J.~Appl. Math.*, 31:13–35, 1983.
- **Notes on long-crested water wave.** A.~J. Roberts and D.~H. Peregrine. *J.~Fluid Mech.*, 135:323–335, 1983.
- **The calculation of nonlinear short-crested wave.** A.~J. Roberts and L.~W. Schwartz. *Phys. Fluids*, 26:2388, 1983.
- *Nonlinear buoyancy effects in fluids.* A.~J. Roberts. PhD thesis, University of Cambridge, July 1982.
- **The behaviour of harmonic resonant steady solutions to a model differential equation.** A.~J. Roberts. *Quart. J.~Mech. Appl. Math.*, 34:287–310, 1981.
- **Fixed flux penetrative convection.** A.~J. Roberts. Technical Report WHOI-81-102, Woods Hole Oceanog. Inst., 1981. pp177–188.
- **Inverse solutions in free-surface hydrodynamics via solution of a complex differential equation.** A.~J. Roberts. Honours project, University of Adelaide, 1977 ;A HREF=[http://www.maths.adelaide.edu.au/anthony.roberts\(draft\) articlej/Aj](http://www.maths.adelaide.edu.au/anthony.roberts(draft) articlej/Aj).