

Scholarship, Research and Creative Work

Articles in refereed scholarly journals

1. J. Hannah, S. Stewart and M. Thomas, “Analysing lecturer practice: the role of orientations and goals”, *International Journal of Mathematical Education in Science and Technology* **42** (7) (2011) 975–984.
2. M. Plank, A. James and J. Hannah, “Group by subject or by ability? Tertiary mathematics for engineering students”, *International Journal of Mathematical Education in Science and Technology* **42** (7) (2011) 857–866.
3. “Conventions for recreational problems in Fibonacci’s *Liber Abbaci*”, *Archive for History of Exact Sciences* **65** (2011) 155–180.
4. A. James, C. Montelle, J. Nokes and J. Hannah, “Meeting the needs of our best and brightest: curriculum acceleration in tertiary mathematics”, *International Journal of Mathematical Education in Science and Technology* **42** (3) (2011) 299–312.
5. “False position in Leonardo of Pisa’s *Liber Abbaci*”, *Historia Mathematica* **34** (2007) 306–322.
6. S. Stewart, M. O. J. Thomas and J. Hannah, “Towards student instrumentation of computer-based algebra systems in university courses”, *International Journal of Mathematical Education in Science and Technology* **36** (2005) (7) 741–749.
7. J. Hannah, “Using Connected Curriculum Project Modules in a Differential Equations Course”, *J. Online Math. and its Appl.* **2** (Dec 2001). (Web address: <http://www.joma.org/>)
8. J. Hannah, “Visual confusion in permutation representations”, *CBMS Issues in Mathematics Education* **8** (2000) 188–209.
9. J. Hannah, “A context for introducing vector spaces”, *International Journal of Mathematical Education in Science and Technology* **28** (1997) 893–902.
10. J. Hannah, “A geometric approach to determinants”, *Amer. Math. Monthly* **103** (1996) 401–409.
11. J. Hannah and K.C. O’Meara, “A new measure of growth for countable-dimensional algebras, I”, *Trans. Amer. Math. Soc.* **347** (1995) 111–136.
12. J. Hannah and K.C. O’Meara, “A new measure of growth for countable-dimensional algebras”, *Bull. Amer. Math. Soc.* **29** (1993) 223–228.
13. J. Hannah, “Regular bisimple rings”, *Proc. Edinburgh Math. Soc.* **34** (1991) 89–97.
14. J. Hannah and K.C. O’Meara, “Products of simultaneously triangulable idempotent matrices”, *Linear Alg. Appl.* **149** (1991) 185–190.
15. J. Hannah and K.C. O’Meara, “Depth of idempotent-generated subsemigroups of a regular ring”, *Proc. London Math. Soc. (3rd Series)* **59** (1989) 464–482.
16. J. Hannah and K.C. O’Meara, “Products of idempotents in regular rings II”, *J. Algebra* **123** (1989) 223–239.

17. J. Hannah and K.C. O'Meara, "Nonsingular rings with a countable dimensional annihilator base", *Hokkaido Math. J.* **13** (1984) 277–284.
18. J. Hannah and T.J. Laffey, "Non-negative factorization of completely positive matrices", *Linear Alg. Appl.* **55** (1983) 1–9.
19. J. Hannah, "Quotient rings of semiprime rings with bounded index", *Glasgow Math. J.* **23** (1982) 53–64.
20. J. Hannah, "Homogenization of regular rings with bounded index II", *Pacific J. Math.* **94** (1981) 107–112.
21. J. Hannah, "Ideals in regular self-injective rings and quotient rings of group algebras", *Proc. London Math. Soc. (3rd Series)* **42** (1981) 533–558.
22. J. Hannah, J.S. Richardson and J. Zeleznikow, "Completely semisimple ring semi-groups", *J. Austral. Math. Soc. (Series A)* **30** (1980) 150–156.
23. J. Hannah, "Countability in regular self-injective rings", *Quart J. Math. (2nd Series)* **31** (1980) 315–327.
24. J. Hannah, "Simple quotient rings of group algebras", *J. Algebra* **59** (1979) 188–201.
25. J. Hannah, "Quotient rings of subgroup algebras", *Bull. London Math. Soc.* **10** (1978) 81–83.
26. J. Hannah, "Maximal quotient rings of prime group algebras II. Uniform right ideals", *J. Austral. Math. Soc. (Series A)* **24** (1977) 339–349.
27. J. Hannah and K.C. O'Meara, "Maximal quotient rings of prime group algebras", *Proc. Amer. Math. Soc.* **65** (1977) 1–7.

Invited conference address

"Maple labs for advanced calculus and differential equations", NZMS Colloquium, Auckland, December 2002.

Refereed conference proceedings

1. J. Hannah, S. Stewart, M. O. J. Thomas, "Teaching Linear Algebra: One Lecturers Engagement with Students", Proceedings of the AAMT-MERGA conference, Alice Springs, 324-332, 2011
2. "The language of linear algebra" Proceedings of Southern Right Delta Conference, Capetown, December 2009, 97–105.
3. "Maple labs: Calculus from all angles", Remarkable Delta:03 Communications (Queenstown, 2003) 122-128.

Conference and other presentations

1. (with S. Stewart and M. O. J. Thomas) “Reflecting on teaching linear algebra,” NZMS Colloquium, Dunedin, December 2010.
2. “Meeting the needs of gifted students: acceleration in tertiary mathematics,” (co-authored with Alex, Clemency, Jacqui Nokes), Southern Right Delta Conference, Capetown, December 2009.
3. “Rules of engagement: conventions for medieval recreational problems,” joint AustMS, NZMS meeting, Christchurch, December 2008.
4. “Limits of solvability: unsolvable problems in Fibonacci’s Liber Abaci,” joint NZMS, AmerMS meeting, Wellington, December 2007.
5. “Fibonacci as a model mathematics teacher,” NZMS Colloquium, Hamilton, December 2006.
6. “To prove or not to prove, Fibonacci and False Position,” UC History and Philosophy of Science group, July 2005.
7. “Formulas in Fibonacci’s Liber Abaci,” NZMS Colloquium, Dunedin, December 2004.

Other articles in journals or professional publications

1. *Mathematics in India* by Kim Plofker, Princeton University Press, 2009. Review in *Aestimatio*, **7** (2010) 44-52.
2. “Fibonacci and the method of false position”, *Canterbury Mathematical Association Newsletter*, (September 2005), 2-5.
3. “Fibonacci’s Liber Abaci”, book review in *New Zealand Mathematical Society Newsletter*, **89** (2003) 42-44.
4. “Lengths, Widths, Surfaces. A portrait of Old Babylonian Algebra and Its Kin, by Jens Hoyrup”, book review in *New Zealand Mathematical Society Newsletter*, **86** (2002) 36-39.
5. “Euler - Foundations of Differential Calculus”, book review in *New Zealand Mathematical Society Newsletter*, **82** (2001) 28-30.
6. “Euclid - The Creation of Mathematics by Benno Artmann”, book review in *New Zealand Mathematical Society Newsletter*, **80** (2000) 26-27.
7. “Problem solving: discovering ancient mathematics”, *Canterbury Mathematical Association Newsletter*, (December 1999), 3-9.
8. “Applied Abstract Algebra by Rudolf Lidl and Gunter Pilz”, book review in *New Zealand Mathematical Society Newsletter*, **76** (1999) 22-23.
9. “Visualization: Pictures or Algebra?” abstract of conference talk (San Diego, 1997), *Abstracts Amer. Math. Soc.* **18** (1997) 205.

10. "Linear Algebra Done Right, by Sheldon Axler", book review in *New Zealand Mathematical Society Newsletter*, **69** (1997) 23-24.
11. "The Heritage of Thales, by W. S. Anglin and J. Lambek", book review in *New Zealand Mathematical Society Newsletter*, **69** (1997) 22-23.
12. "Error-correcting codes", *Irish Math. Soc. Newsletter* **22** (1989) 60-65.
13. "Putting coordinates on lattices", *Irish Math. Soc. Newsletter* **8** (1983) 21-28.
14. "Dense right ideals in locally finite group algebras", *Mathematics Department Research Report, University of Melbourne*, 1979.