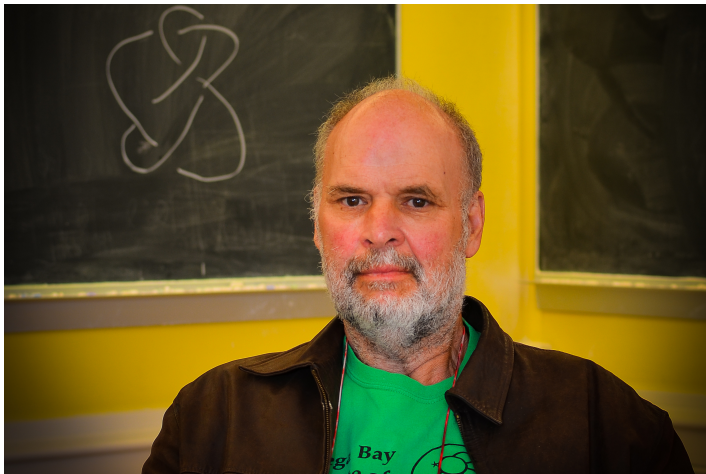


Vaughan Jones (1952–2020)

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This special issue of *L'Enseignement Mathématique* is published in celebration of Vaughan Jones, his mathematical creativity, his life, and his generosity in friendship. This volume begins with one of the last papers posted on arXiv by Vaughan Jones [Jones–20], followed by some comments of the editors. A number of Vaughan's colleagues were happy to contribute the research articles which occupy this special volume, in two instalments.

Vaughan Jones has been an editor of *L'Enseignement Mathématique* since 1998, after having published one article in this journal (see [Jones–94], as well as [Jones–01]). He was strongly involved in both the mathematics and social life of Geneva, where our journal is based. And this from his PhD years, 1974–1979, to his visit in 2019 to celebrate the 40th anniversary of his wedding with Wendy Jones.



Besides Geneva, Vaughan Jones was very active in many places. As a sign of his deep influence everywhere, we refer to some of the memorial tributes to him which have been published recently or which will be in the near future:

- The obituary of the family [Family];
- The *Newsletter of the International Mathematical Union*; and the *Newsletter of the European Mathematical Society* [EvaPo];
- *Le Monde* [Ghys];
- The *Australian Mathematical Society Gazette* [BrGMT];
- The *New–Zealand Journal of Mathematics* [CoDGM];
- The *Notices of the American Mathematical Society* [BiEKP];
- *Celebratio Mathematica* [Harpe];
- The *Biographical Memoirs of Fellows of the Royal Society* [Evans];
- *Pure and Applied Mathematics Quarterly* [Subfactors].

We now essentially reproduce a short text published in the 2020 volume of our journal.

Vaughan was a student in Geneva, first in physics (1974–1976), then in mathematics (1976–1980). In 1979, he completed his doctorate under the supervision of André Haeffliger, with Alain Connes as his informal co-advisor. Since then he was a regular visitor to Geneva, influencing many people through seminars and informal discussions. During many years, he taught so much mathematics to his students, his colleagues and his own teachers. With a great sense of humour, he exuded enthusiasm and generosity, be it about his love of mathematics, music or sport – all in his unique down-to-earth style.

Vaughan Jones was born in Gisborne, New Zealand, on December 31, 1952. After his studies, first in Auckland, then in Geneva, he held appointments at a number of universities in the US (Los Angeles, Philadelphia, Berkeley and Vanderbilt) along with a position at the University of Auckland. His mathematical discoveries were recognised by the awarding of a Fields Medal in 1990.

His mathematical work had a profound impact on a number of fields, including topology, functional analysis and mathematical physics. In 1984 he discovered a remarkable connection between von Neumann algebras and knot theory. This allowed him to define a new invariant of knots which now bears his name, the Jones polynomial, and which has become one of the fundamental objects in knot theory. Other important contributions include the study of knot invariants using ideas coming from statistical physics, results about quantum groups and their representations, and the invention

and development of the theory of planar algebras. More recently Vaughan initiated a programme to connect knot theory with Thompson’s group, an idea currently attracting considerable interest.

References

- [BiEKP] D. BISCH, D. E. EVANS, R. KIRBY and S. POPA, Memories of Vaughan Jones. *Notices Amer. Math. Soc.* **68** (2021), no. 9, 1540–1563. Zbl [1480.01028](#) MR [4323829](#)
- [BrGMT] A. BROTHIER, P. GROSSMAN, S. MORRISON and J. TENER, Vaughan Jones: 31 December 1952 to 6 September 2020. *Austral. Math. Soc. Gaz.* **47** (2020), no. 5, 228–231. MR [4272820](#)
- [CoDGM] M. CONDER, R. DOWNEY, D. GAULD and G. MARTIN, Sir Vaughan Frederick Randal Jones, 31/12/1952 – 6/9/2020. *NZMS Newsletter*, December 2020, no. 140, 21–25; and *N. Z. J. Math.* **52** (2021), Special issue in memory of Vaughan Jones, i–ix.
- [Harpe] P. DE LA HARPE, Vaughan Jones, in Geneva and everywhere else. *Celebratio Mathematica*, 2021, https://celebratio.org/Jones_VFR/article/859/
- [Evans] D. EVANS, Sir Vaughan Jones. 31 December 1952 – 6 September 2020. *Biogr. Mem. Fell. R. Soc.* **73** (2022), 333–356.
- [EvaPo] D. EVANS and S. POPA, Sir Vaughan F. R. Jones (1952–2020). *IMU-Net*, September 2020, no. 103, [IMU-Net103:September2020](#); and *Eur. Math. Soc. Newsl.*, December 2020, no. 118, 57–58. Zbl [1454.01041](#) MR [4226849](#)
- [Family] FAMILY OF SIR VAUGHAN JONES, Obituary. <https://www.dignitymemorial.com/obituaries/brentwood-tn/sir-vaughan-jones-9353933>
- [Ghys] E. GHYS, Vaughan Jones, mathématicien faiseur de noeuds. *Le Monde*, 30 septembre 2020.
- [Jones–94] V. F. R. JONES, A quotient of the affine Hecke algebra in the Brauer algebra. *Enseign. Math. (2)* **40** (1994), no. 3–4, 313–344. Zbl [0852.20035](#) MR [1309131](#)
- [Jones–01] — The annular structure of subfactors. In *Essays on geometry and related topics, Mémoires dédiés à André Haefliger, Vol. 2*, pp. 401–463, Monogr. Enseign. Math. 38, L’Enseignement Mathématique, Geneva, 2001. Zbl [1019.46036](#) MR [1929335](#)
- [Jones–20] — *Bergman space zero sets, modular forms, von Neumann algebras and ordered groups*. 2020, arXiv:[2006.16419](#)
- [Subfactors] Subfactors and related topics. To appear in *Pure Appl. Math. Q.*

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