

BRIEF VITA

Biographical sketch

James G. Oxley was born in Australia. Since 1986, he has been a permanent resident of the United States. He received his undergraduate education in Australia and his Ph.D. from the University of Oxford in 1978 under the supervision of D.J.A. Welsh. Before joining the faculty of Louisiana State University as an Assistant Professor in 1982, he was a Lecturing/Research Fellow at the Australian National University for three years, and a Fulbright Postdoctoral Fellow at the University of North Carolina for one year. At LSU, he was promoted to Associate Professor in 1985, to Professor in 1990, and to Alumni Professor in 1999. He was the principal organizer of the Twenty-Second, Twenty-Seventh, and Thirty-Second Southeastern International Conferences on Combinatorics, Graph Theory and Computing which were held in Baton Rouge in 1991, 1996, and 2001. He has written over one hundred papers in matroid theory and graph theory, given more than fifty conference talks, and written a book on matroid theory. In 1995, as one of the four principal speakers at the AMS/IMS/SIAM Joint Summer Research Conference, *Matroid Theory*, he spoke on *Structure theory and connectivity for matroids* and, with Joseph E. Bonin and Brigitte Servatius, edited the proceedings of that conference. In 1999, he was named LSU's Distinguished Research Master for Engineering, Science, and Technology. In 2001, he was one of the nine principal speakers at the Eighteenth British Combinatorial Conference, and in March, 2002, he presented an invited one-hour address to the American Mathematical Society meeting in Atlanta. From April until July, 2005, he was a Visiting Research Fellow at Merton College, Oxford. He is the matroid theory editor for *Combinatorics, Probability and Computing* and is on the editorial boards for the *Journal of Combinatorial Theory Series B* and for the *SIAM Journal on Discrete Mathematics*. He directed the building of the current LSU combinatorics group, Guoli Ding, Bogdan Oporowski, and Dirk Vertigan. The four members of this group have received eighteen individual federal research grants since 1994. In particular, Oxley has had continuous support since then from the National Security Agency. Twelve students have completed Ph.D.'s under Oxley's direction and he is currently advising two other students. Oxley's research collaborators, Geoff Whittle, Manoel Lemos, and Charles Semple, have made frequent extended research trips to LSU and, since 2000, each of Luis Goddyn and Criel Merino has visited the combinatorics group for at least a semester.

Major publications

1. *Matroid theory*, Oxford University Press, New York, 1992 (532 pages).
2. On connectivity in matroids and graphs, *Trans. Amer. Math. Soc.* **265** (1981), 47–58.
3. A characterization of the ternary matroids with no $M(K_4)$ -minor, *J. Combin. Theory Ser. B* **42** (1987), 212–249.
4. On nonbinary 3-connected matroids, *Trans. Amer. Math. Soc.* **300** (1987), 663–679.
5. (with B. Oporowski and R. Thomas) Typical subgraphs of 3- and 4-connected graphs, *J. Combin. Theory Ser. B* **57** (1993), 239–257.
6. (with G. Whittle), A characterization of Tutte invariants of 2-polymatroids. *J. Combin. Theory Ser. B* **59** (1993), 210–244.

7. (with D. Vertigan and G. Whittle) On inequivalent representations of matroids over finite fields, *J. Combin. Theory Ser. B* **67** (1996), 325–343.
8. (with G. Ding, B. Oporowski and D. Vertigan) Unavoidable minors of large 3-connected matroids, *J. Combin. Theory Ser. B* **71** (1997), 244–293.
9. (with C. Semple and D. Vertigan), Generalized $\Delta - Y$ exchanges and k -regular matroids, *J. Combin. Theory Ser. B* **79** (2000), 1–65.
10. (with M. Lemos) A sharp bound on the size of a connected matroid, *Trans. Amer. Math. Soc.* **353** (2001), 4039–4056.
11. (with Y. Choe, A. Sokal, and D. Wagner), Homogeneous multivariate polynomials with the half-plane property, *Adv. in Appl. Math.* **32** (2004), 88–187.
12. (with C. Semple and G. Whittle), The structure of the 3-separations of 3-connected matroids, *J. Combin. Theory Ser. B* **92** (2004), 257–293.

Graduate students

1. Talmage James Reid, On roundedness in matroid theory, Ph.D., May, 1988. Currently Professor of Mathematics, University of Mississippi.
2. Safwan Akkari, On matroid connectivity, Ph.D., August, 1988. Currently Associate Professor of Mathematics, Indiana-Purdue University at Fort Wayne.
3. Bradley Scott Gubser, Some problems for graph minors, Ph.D., August, 1990. Currently Associate Professor of Mathematics and Director of Institutional Research, Hiram College.
4. Lawrence Alan Wargo, Some results on minors for graphs and matroids, Ph.D., December, 1991. Currently at the National Security Agency.
5. Haidong Wu, Connectivity for matroids and graphs, Ph.D., August, 1994. Currently Associate Professor of Mathematics, University of Mississippi.
6. Sandra Reuben Kingan, Structural results for matroids, Ph.D., August, 1994. Currently Assistant Professor of Mathematics, Clayton State University.
7. Allan Donald Mills, The determination of a matroid's structure from properties of certain large minors, Ph.D., August, 1995. Currently Associate Professor of Mathematics, Tennessee Technological University.
8. John William Leo, Matroid connectivity, Ph.D., August, 1996. Currently Associate Actuary, Milliman Incorporated, Seattle.
9. Zhaoyang Wu, Spikes in matroid theory, Ph.D., August, 1998. Currently Associate Professor of Mathematics, Nanjing University.
10. Pou-Lin Wu, Maximal circuits in matroids, Ph.D., December, 1998. Currently Technology Development Manager with EATELWEB.
11. Galen Ellsworth Turner III, Structure and minors in graphs and matroids, Ph.D., August, 1999. Currently Assistant Professor of Mathematics, Louisiana Tech University.
12. Brian Daniel Beavers, Circuits and structure in matroids and graphs, Ph.D., August, 2006. Currently Assistant Professor of Mathematics, Stephen F. Austin State University.

Grant support

1984. LSU Faculty Summer Research Grant

1985-87. NSF Research Grant

1987-91. Louisiana Education Quality Support Fund Grant to support the LSU combinatorics group. Oxley was the PI for the last two years of this grant.

1991. NSA Grant to support the Twenty-Second Southeastern International Conference on Combinatorics, Graph Theory and Computing

1991. ONR Grant to support the Twenty-Second Southeastern International Conference on Combinatorics, Graph Theory and Computing

1992-94. Louisiana Education Quality Support Fund Grant to support the LSU combinatorics group. Oxley was the PI but received no salary support.

1994-96. NSA Research Grant

1996. NSA Grant to support the Twenty-Seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing

1996. ONR Grant to support the Twenty-Seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing

1997-99. NSA Research Grant

1998-2000. NSA Research Grant

2000. NSA Grant to support the Thirty-Second Southeastern International Conference on Combinatorics, Graph Theory and Computing

2000-02. NSA Research Grant

2003-05. NSA Research Grant (began in January, 2003).

2004-06. NSA Research Grant